

Comparisons of emergencies attended in pre-pandemic and post-pandemic summers: 2017-2019 and 2022

Comparación de las urgencias atendidas los veranos de pre-pandemia y post-pandemia por COVID-19 (2017-2019 y 2022)

The objective of emergency departments (EDs) is to respond rapidly, safely, and effectively to life-threatening situations within the population.¹ In the summer of 2022, emergency services across Spain were overwhelmed—whether due to the massive influx of patients for various reasons, including the lack of follow-up for certain diseases during the COVID-19 pandemic or the shortage of healthcare personnel. The aim of EDs is to respond to life-threatening conditions promptly, safely, and with quality care.¹

The care overload experienced by these services during the COVID-19 pandemic waves and the extreme heat of the summer of 2022 increased mortality rates. One of the causes of this strain on EDs, according to the 2022 SESPAS report,³ was the delay in initial diagnoses and lack of follow-up of chronic diseases, a situation that led to increased morbidity and mortality in this patient group.

To better understand the epidemiological characteristics of patients seen in an ED, we designed this study to compare emergency department visits during the summers before and after the pandemic.

We conducted a retrospective study with patients who attended the ED of *Hospital Universitario Arnau de Vilanova* (Lleida, Catalonia, Spain) between June 1 and September 30 of 2017, 2018, 2019, and 2022. Clinical, sociodemographic, and acute-episode management variables were analyzed. A descriptive analysis was performed using absolute and relative frequencies for qualitative variables and quartiles for quantitative variables with non-normal distribution. The bivariate analysis included the chi-square test for qualitative variables and the Kruskal-Wallis test for quantitative variables. Statistical significance was set at $P < .05$. The project was approved by the Research Ethics Committee (REC) of the Biomedical Research Institute of Lleida (IRBLLEIDA).

Table 1 shows the emergency visits recorded during each study year. The age of patients treated in 2022 was significantly higher than in 2017 ($P < .001$), with a significantly greater proportion of men ($P < .001$).

In the summer of 2022, there was an increase in patients presenting for respiratory and mental health issues. Patients attending for trauma were those most frequently discharged home, while oncology and respira-

tory patients required the highest admission rates. In fact, in 2022, there was an increase in patients requesting voluntary discharge or leaving the ED without notice ($P = .052$).

Table 2 shows the length of ED stay. In 2022, the number of patients staying more than one day in the ED increased significantly ($P < .001$), with internal medicine being the department that received the highest number of admissions, also statistically significant.

Table 3 illustrates the triage levels of patients attended during the study period. Notably, in 2022, patient severity increased, with a decrease in less severe classifications (from 42.7% in 2017 to 35% in 2022), and 54.4% of patients had potential life-threatening conditions. In that year, although the percentage of hospitalizations rose, 83.2% of patients attended returned home.

In the first summer following the pandemic, we observed that, despite no overall increase in patient numbers, the average age of patients rose, leading to longer ED stays to resolve their medical issues. This trend in older patients requiring more resources has also been described by other authors over the past few years.⁴

This situation has caused patients to require longer ED stays before discharge, with a significant increase in those spending more than 24 hours in the ED and more hospitalizations. This has created difficulty man-

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Table 1. Sociodemographic variables

	2017	2018	2019	2022	Total	P Value
Mean age	51.0	52.0	52.0	57.0	53.0	< .001
Gender						
Male	12,079 (49.9%)	12,513 (50.7%)	13,219 (51.5%)	12,467 (52.9%)	50,278 (51.2%)	< .001
Female	12,148 (50.1%)	12,184 (49.3%)	12,430 (48.5%)	11,099 (47.1%)	47,861 (48.8%)	

Table 2. Length of emergency departments stay (in days)

Days	2017	2018	2019	2022	Total	P Value
0	18,056 (74.5%)	18,429 (74.6%)	19,135 (74.6%)	16,108 (68.4%)	71,728 (73.1%)	.001
1	6,114 (25.2%)	6,242 (25.3%)	6,482 (25.3%)	7,393 (31.4%)	26,231 (26.7%)	
2	54 (0.22%)	21 (0.09%)	29 (0.11%)	62 (0.26%)	166 (0.17%)	
3	3 (0.01%)	3 (0.01%)	2 (0.01%)	1 (0.00%)	9 (0.01%)	
4	0 (0.00%)	2 (0.01%)	1 (0.00%)	2 (0.01%)	5 (0.01%)	

Table 3. Comparison of triage levels by year

Triage level	2017	2018	2019	2022	Total	P Value
No selection	715 (2.95%)	355 (1.44%)	445 (1.73%)	461 (1.96%)	1,976 (2.01%)	< .001
Non-urgent	2,533 (10.5%)	2,282 (9.24%)	2,433 (9.49%)	1,343 (5.70%)	8,591 (8.75%)	
Less urgent	7,800 (32.2%)	7,786 (31.5%)	8,699 (33.9%)	6,903 (29.3%)	31,188 (31.8%)	
Urgent	10,856 (44.8%)	11,896 (48.2%)	12,127 (47.3%)	12,822 (54.4%)	47,701 (48.6%)	
Emergency	2,205 (9.10%)	2,247 (9.10%)	1,832 (7.14%)	1,813 (7.69%)	8,097 (8.25%)	
Resuscitation	118 (0.49%)	131 (0.53%)	113 (0.44%)	224 (0.95%)	586 (0.60%)	

aging admitted patients, resulting in an increased number of patients waiting for a hospital bed within the ED.

The aging population has changed the profile of patients presenting to emergency departments.⁵ This shift has led to greater case complexity and, therefore, higher demand for hospital and human resources, which, in turn, causes delays in admitting new patients and increased operational strain in the ED.

Another factor experienced in Spain during the summer of 2022 was an increased number of patients requiring attention. Although this remained stable in our center, it is worth noting that we were emerging from two years of the pandemic (with fewer but more complex cases) and that 2019 had recorded the highest number of emergency visits in the previous decade. We believe this indicates that the pandemic did not change the pattern of ED use but rather that it returned to

the usual—though not ideal—usage. In fact, 50% of patients seen were not potentially severe cases and could have been managed in other health-care settings.

This increase in patient volume and complexity has led to rising burnout levels among emergency professionals,⁶ who show greater emotional exhaustion compared with other professional groups. This is a key factor in preventing new generations of health care workers—particularly future emergency physicians—from joining departments with high burnout levels.

We believe that an additional contributing factor in the summer of 2022 was the multiple heat waves across Spain. Climate change is driving an increase in global average temperatures, and heat exacerbates many conditions, especially among older adults.⁷

In conclusion, in the first summer following the COVID-19 pandemic,

EDs received older, more complex patients requiring longer stays in the ED. However, the continued use of EDs for low-acuity conditions persisted. It is essential to expand and adapt emergency services to the evolving patient population, particularly in the context of climate-related challenges and limited health care resources.⁸

Note of the editors: This is a BOWMAN-generated English translation of the officially indexed Spanish-language article, which should be cited as *Rev Esp Urg Emerg.* 2024;3:125-126. In this translated version, the editors have supervised the process; however, it cannot be ruled out that some errors resulting from the artificial intelligence translation process may have gone unnoticed.

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