

## Introduction

### Emergency Room Admissions

The demand for emergency care in Portugal increased by 5.2% between 2013 and 2019 and reached the peak of the last 6 years with 6.4 million episodes. As a result, the pressure on this services and the overcrowding of hospital emergency rooms has increased. In Portugal, it's frequent to go first to the emergency room, instead of search for other services, such as primary care or call SNS 24 helpline.

## Objectives

1. Assess if there are differences in Manchester Triage System between patients referred to the emergency room and walk in admissions.
2. Assess whether a pre-access to a health care service before being admitted to an emergency room reduces the number of non-urgent patients, that is, blues and greens according to the Manchester Triage System, and compare with walk in admissions.

## Materials and Methods

The dataset provided for this analysis was retrieved from the hospital's information system. An observational, cross-sectional study was conducted with all patients admitted to the Adult Emergency Department of São João Hospital during 2019.

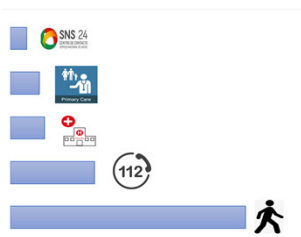


Figure 1: Admissions by Admission Type

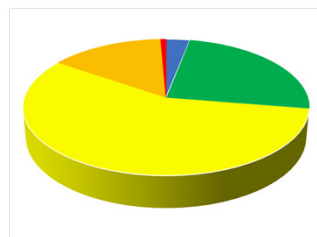


Figure 2: Admissions by Manchester Triage System

## Results and Discussion

Patients who called the SNS 24 helpline and were referred to the emergency room are, on average, more acute than patients who firstly look for alternatives in a primary care facility.

Chi squared test shows that whatever is the Manchester Triage System colour there are differences between walk in admissions and patients who went first to primary care ou called SNS 24 helpline.

Colour	Mesure	Walk in Admissions	SNS 24 Helpline	Emergency Call	Primary Care	Other Institutions
Red	% within Admission Type	0,2	0,2	1,7	0,2	2,1
Orange	% within Admission Type	9,0	10,6	31,3	10,1	19,7
Yellow	% within Admission Type	54,3	65,9	60,1	58,9	62,1
Green	% within Admission Type	32,4	22,3	5,7	26,8	14,8
Blue	% within Admission Type	4,1	1,0	1,1	3,9	1,3

Figure 3: Crosstabulation for Manchester Triage System and Admission Type

Hypothetical definitions for Non Urgent Admissions:

- H1. Sum os all greens and blues according to Manchester Triage System.
- H2. Proportion of greens and blues referred by the SNS 24 helpline as the best proportion for all walk in admissions.
- H3. Use those that would not hypothetically be referred to emergency room by SNS 24 helpline.

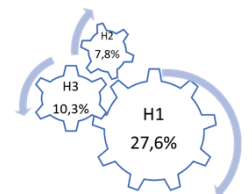


Figure 4: Percentage of non urgent admissions by hypothesis

Identifying all greens and blues in the emergency room as non urgent cases is an excess estimate. If we consider that patients' who were referred to the emergency room are never non urgent, according to third hypothesis we will have 10,3% (17.054 admissions) non urgent patients.

A bias of results is that none of these definitions considers differences between individuals who use or can use the emergency room, that is, it was considered that the characteristics of the subpopulations of each origin were the same.

## Conclusions

- A pre-access to a health care service before being admitted to an emergency room is effective in reducing the number of non-urgent patients.
- Triage is more efficient when is made by SNS 24 helpline than when is made by primary care.
- Impact and function of SNS 24 helpline, as well as other health technologies, should be measured in order to have a greater impact.
- Authorization to be admitted to the emergency room only by referral?