

A Perspective About the Construction of the “Hospital de Campanha Porto.”

Uma Perspetiva Acerca da Construção do “Hospital de Campanha Porto.”



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INTRODUCTION

In December of 2019, in Wuhan, China, a novel single-stranded RNA virus was identified, from the family of *Coronaviridae*, designated as severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), contagious between humans, mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. It has become known as the cause of the COVID-19 disease.¹⁻³

The first human case allegedly occurred in November 2019. On 30th January 2020, the World Health Organization declared a Public Health Emergency of International Concern,⁴ and on March 11th 2020 it was confirmed as a pandemic.⁵

In Portugal, the first patient was diagnosed in Porto, on the 2nd March 2020, but cases quickly emerged all over the country.^{6,7}

Recognizing the critical evolution of the pandemic, the North Section of the Portuguese Medical Association, along with the Porto City Hall, the Centro Hospitalar Universitário de São João (CHUSJ) and the Centro Hospitalar Universitário do Porto (CHUP), anticipated the need to organize and structure a complementary response in Porto. Several factors prompted this decision, namely (1) according to the fast transmission of SARS-CoV-2, the estimated capacity of hospitals in the city of Porto was thought to be insufficient to respond to the growing needs in terms of hospital admissions and Intensive Care Units; (2) the urge to isolate all positive patients for SARS-CoV-2, symptomatic and asymptomatic, regardless of the severity of disease; (3) the lack of conditions in a large number of patient's homes to fulfill the isolation criteria; (4) the need to treat decompensated comorbidities in hospitalized symptomatic and asymptomatic patients.

In order to respond to these urgent local needs in a short period of time and to support the main hospitals in the city, the “Hospital de Campanha Porto.” was created. It was a field hospital that was meant to be a health unit of medical support to reinforce the capacity of local hospitals to re-

spond to the pandemic.

THE HOSPITAL DE CAMPANHA PORTO.

“The Hospital de Campanha Porto.” was built inside Super Bock Arena – Pavilhão Rosa Mota, a multi-purpose structure mainly used as a concert hall in Porto. All the infrastructures were developed in 17 days and it started its activity on the 14th April, 2020.

In that day, our health authority reported 17 448 positive cases, with 10 302 in northern Portugal.

The hospital had 320 beds, split between two floors. The beds were set up by the Army, and the structure was equipped with medical and support equipment that guaranteed logistical autonomy (Fig. 1). The mounting and logistical support were supervised by Porto City Hall, the clinical and medical support was provided by the involved hospitals and thousands of donations were made by individuals, private companies and from a public campaign driven by a national Portuguese television.

The North Section of the Portuguese Medical Association guaranteed all the human resources: doctors, nurses, medicines and medical support team, clinical manager, and insurance for all the professionals involved. The CHUSJ and the CHUP guaranteed logistic support, medical equipment, laboratory tests, pharmaceutical support, and religious support. The Porto City Hall guaranteed all the meals, cleaning and disinfection of the entire building, laundry, all hospital and dangerous waste treatment, and security, with fire brigade and local police available 24 hours a day. Several guidelines for medical, nurse and support teams were elaborated to train and standardize practices.

More than 400 volunteers offered their help. From these, 275 were called: two front-office support team members, 50 medical support team members, 53 nurses and nursing students, 160 doctors and medical students, six pharmacists and a team of four volunteers for the management and logistical support team. Volunteers worked in three shifts

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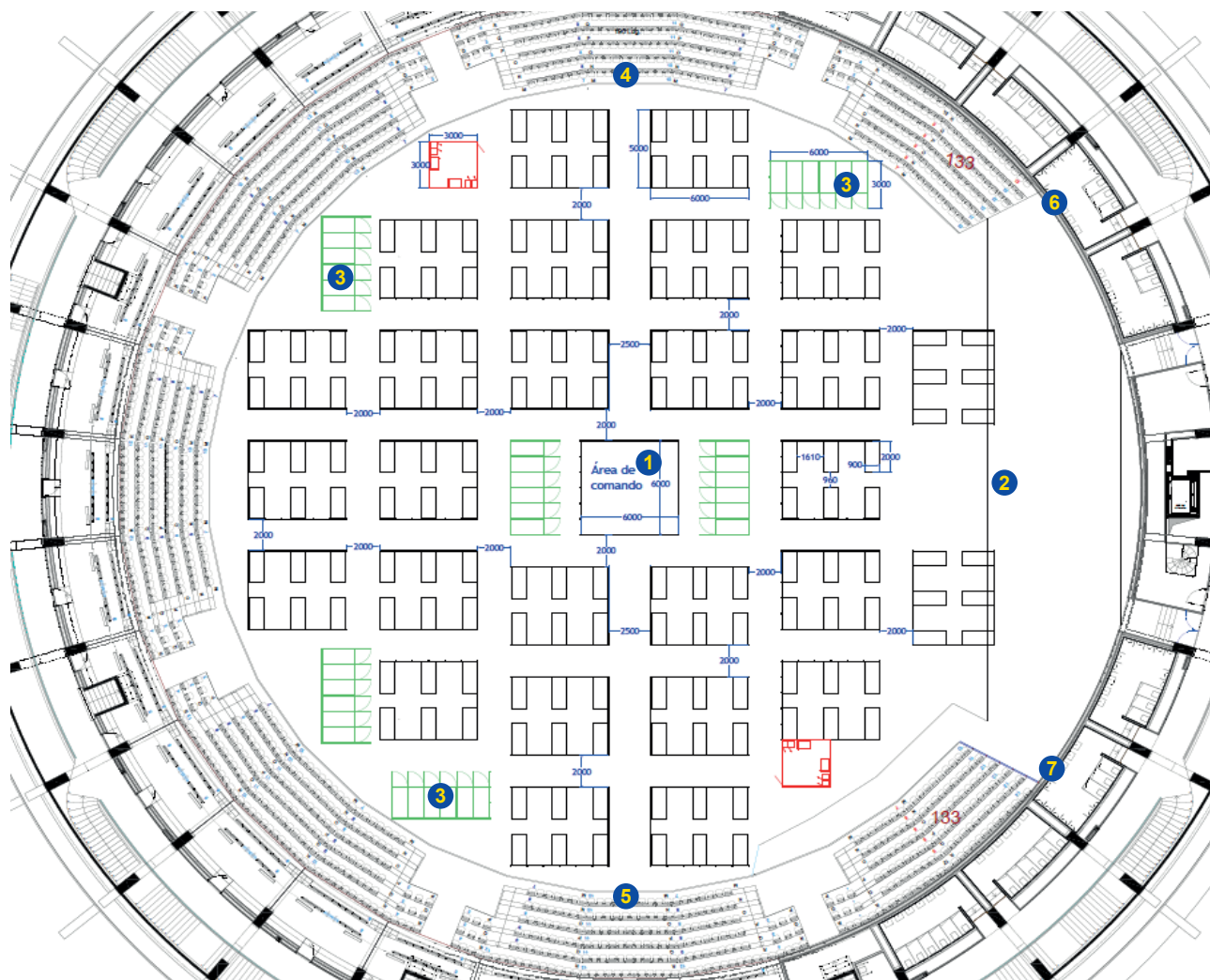


Figure 1 – Main floor of the pavilion's Red Zone. 1. Command room; 2. Food court; 3. Warehouses; 4. Patients' entrance and exit; 5. Healthcare professionals' entrance and exit; 6. Clean products entrance; 7. Dirty products exit.

of eight hours each, and ensured assistance 24 hours a day, seven days a week, in a hierarchical structure, with a manager for all the structure and shift managers. The training of all staff was considered essential and it was given initially to all and repeated whenever considered necessary, and included theoretical and practical components, especially regarding the donning and doffing of personal protective equipment (PPE). As a basic health care structure, the purpose of its creation was to admit positive, asymptomatic, mild symptomatic or convalescent SARS-CoV-2 patients, who did not have conditions for isolation in their homes or who needed to compensate mild and/or moderate organ failures other than respiratory failure, thus freeing first-line hospitals to deal with the most problematic cases.

We treated a total of 28 patients (men = 14; female = 14). The patient's age ranged between 35 and 92 years old, with a median age of 70. The patients were transferred from Lar Joaquim Kopke (n = 4), CHUP (n = 15) and from CHUSJ (n = 9). The length of hospital stay ranged from 1 day to 27 days, with a median time of 14 days. From this group of patients, 13 were discharged home fully recovered and 15

were transferred to their hospitals of origin (10 patients with multiple comorbidities due to deterioration of the respiratory status, and five patients due to the closing of the Hospital).

The "Hospital de Campanha Porto." suspended its activity, after agreement of all parties involved, on the 15th May 2020 and closed on the 16th July 2020, after sixteen days of no new cases reported in Porto. None of the professionals involved were contaminated and no accidents occurred.

A PERSPECTIVE FOR THE FUTURE

In perspective, in times of a serious public health problem with social and economic repercussions, such as a pandemic, it is possible for committed citizens to build a field hospital to help the main acute hospitals in a geographical area in less than 15 days, especially if they have the support of these hospitals and of the mayor of the city. This solution is facilitated if we can also count on the support of the army, to borrow and set up the project's portable structure (beds and dividers) and specialists in the creation of dirty and clean circuits, as well as in the practical training of all healthcare personnel involved.

It was important that the physical structure stood in a complex close to one of the referral hospitals, as it greatly facilitated both the urgent transfer of patients whose clinical condition deteriorated, as well as the supply of pharmaceutical drugs and laboratory tests.

It is also possible to effectively involve a large number of volunteers - from doctors and students, to nurses and nursing students, to other support professionals - and to underpin all the work on these trained volunteers. Of course, this recruitment can be facilitated if the associations that represent each professional sector are involved. On the other hand, this was only sustainable because many professionals were being shielded from the workplace or experiencing a period of 'lay-off', which allowed them to dedicate themselves to this other cause. Training was paramount, particularly for support professionals, as they could be recruited from multiple professions, with many not even related to healthcare. In addition to safety, another concern was to ensure the coverage of a balanced team of professionals, particularly regarding the ratio of the number of doctors and nurses versus the number of students.

The funding of similar structures can be carried out by the intervening entities and complemented by a fundraising campaign, and it is possible that the fundraising can cover

all the expenses.

The existence of spokespersons in both referral hospitals was important for the selection of patients to be transferred to "Hospital de Campanha Porto." and, when necessary, to send patients back in case of clinical deterioration.

"The Hospital de Campanha Porto." proved that it is possible to build, from scratch, a support structure for first-line hospitals, in a critical phase of a pandemic, based only in volunteer work and without increasing the expenses for the public treasury. However, volunteering was only achieved due to the special conditions that were experienced at the time, making it difficult to maintain this regimen once social conditions improved and there was a progressive return to work. Nevertheless, the commitment, the dedication, the camaraderie, the willingness of all people involved, allowed this project to proceed without any major problem. In the end, everyone felt euphorically satisfied because of their participation in this meritorious cause. This experience also proved, like some authors have already stated, that health interventions at regional level, involving several local stakeholders, have the potential to better shape population health and its circumstantial needs especially when coordinating and managing the frontline of this crisis.^{8,9}

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