

## New influenza A (H1N1): role of the emergency department as a watchtower and frontline in epidemic outbreaks

JUAN GONZÁLEZ DEL CASTILLO

Emergency Department. Hospital Universitario Fundación Alcorcón. Madrid, Spain.

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The emergence of a new outbreak of influenza A/H1N1 has tested our ability to adapt and respond to an epidemic. Since the 16th century, more than 30 pandemics causing numerous deaths have been reported<sup>1</sup>. In the 20th century alone, there were three pandemics, all of them caused by influenza virus type A. In the 1918-1919 pandemic, caused by the H1N1 subtype, 25-30% of the world population was infected and more than 40 million people died in less than one year (some experts even estimate a resulting mortality of 100 million)<sup>2</sup>. Most victims were young and previously healthy. This pandemic outbreak was probably the greatest medical calamity and the most devastating natural disaster in human history. Estimated mortality due to the 1957-1958 pandemic was 2 million people<sup>3</sup>. There were fewer deaths, not only because of reduced virulence of the virus, but also because health systems were better prepared. The third major pandemic of the twentieth century, occurring in 1968, was also less aggressive than the previous one, with 1 million deaths<sup>4</sup>. Although the current outbreak seems, in principle, to show low severity and mortality, we should not underestimate nature's capacity to test us. Currently, cases of infection are primarily distributed among young people at low risk of complications, but the behavior of influenza A/H1N1 is unknown in the high risk group<sup>5</sup> whom we deal with.

The Emergency department (ED) is the main gateway for patients to access the health system on a daily basis. What should be an exceptional resource in the healthcare chain has become the first when any citizen is ill, which is both our weakness and our strength. The high demand for at-

attention to which we are subjected has become a common everyday fact. We have first-hand experience of seasonal common influenza epidemics every year, with greater or lesser incidence, and that has helped us to know how to solve the problems posed by such demand and how to adapt, hour by hour and minute by minute, in this new scenario. Such adaptability, flexibility and versatility are highlighted in the article by Miró et al<sup>6</sup>. Undoubtedly, in the event of a major epidemic, the ED would be where the population went for attention. Centralization of attention would also mean better control of the epidemiological chain, as well as facilitating the diagnosis and appropriate treatment of infection.

EDs play a fundamental role in any epidemic and are doing so now. This is evident from the article by Miró et al<sup>6</sup> as well as the view provided by Saldaña et al<sup>7</sup> from Mexico, both at the beginning of the epidemic and during its evolution; firstly, adapting triage systems to the needs of the situation. Specific questions should be made to establish immediate suspicion of a case. Rapid identification of suspect cases avoid exposure of patients with common diseases to infection. This allows us to differentiate habitual seasonal influenza from new influenza epidemic, and therefore create two circuits of parallel healthcare, thus avoiding inter-human contagion. Moreover, the ED is vital for obtaining samples for definitive diagnosis, establishing the patient's prognosis and the initiation of adequate treatment. The reporting of suspect cases and surveillance are fundamental tasks also undertaken by the ED. Finally, another role of the ED is to decide on the final destination of the patient in terms of discharge or admission.

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**CORRESPONDENCE:** Juan González del Castillo. Jefe de Urgencias. Hospital Universitario Fundación Alcorcón. C/ Budapest, 1. 28922 Alcorcón. Madrid. Spain.

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Proper coordination between the ED and public health institutions is necessary to prevent ED overcrowding and to establish the necessary modifications in human and material resource assignment required for adequate care. As ED professionals, we must have complete knowledge of the epidemiological situation, the changing level of alert and the existing guidelines on action. We must work closely with other departments (Preventive Medicine, Infectious Diseases, Microbiology etc.) and the health authorities. We must actively participate or even take a leading role in the drafting of contingency plans for possible epidemics or pandemics<sup>8</sup>. Proper knowledge of the protocols elaborated is essential for swift action and appropriate use of existing resources. Another problem we must face is the adequate isolation of patients, which is often complicated by the architecture of our hospitals, but vital to prevent the spread of the disease.

In our daily work, we are accustomed to assigning priority to certain cases over others, and this does and should not raise moral problems since most visits to the ED are not in fact emergencies. This situation may change in the event of a pandemic with high rates of mortality. Saldaña et al<sup>7</sup> refer to another important aspect in these circumstances – the fear of professional being infected and its consequences. We must be aware of our obligations as health professionals and top le-

vel information for all members of staff is essential, regarding both personal protection and medical aspects related with infection.

Lastly, the final problem is not so much the care we provide, but, as usual, the final destination of the patient. We must provide solutions for patient care, with more or less delay depending on severity, without forgetting that patients requiring admission must be evacuated from the ED area. Every minute that a physician or a nurse spends with a patient awaiting admission is a minute of delay in attending new patients requiring our attention.

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