
ICU Volume 9 - Issue 3 - Autumn 2009 - Cover Story

Pandemic in the ICU

The new world, new technology and new means of transport not only make global cooperation easier, but also the distribution of new diseases. The new influenza A virus variant (H1N1)v, which has rapidly spread worldwide, offers new possibilities for cooperation and an unique opportunity to plan a mutual tactic against the pandemic.

A new influenza A virus variant (H1N1)v has spread rapidly globally since its first appearance in April 2009 (Swine influenza A, MMWR 2009). The World Health Organisation (WHO) raised the level of pandemic alert from phase five to phase 6/6 in June 2009, indicating that an influenza named "pandemic (H1N1) 2009" is under way (ProMed-mail 2009; statement WHO Director-General 2009). This is the first pandemic in 41 years and has spread more rapidly than before possibly due to international travel, which has eased the geographical spread of the new virus throughout the world (New influenza A, WHO weekly 2009; Khan et al 2009).

Today, the medical society and institutions are better prepared to tackle the impacts of a widespread pandemic than ever before owing to better knowledge about influenza epidemiology, diagnostic methods, surveillance systems, antiviral medications, antibiotics, improved influenza vaccine and vaccine production. Simultaneously, healthcare systems worldwide are struggling with higher costs and demands of becoming more cost-effective. Having a capacity for adaption and expansion is one important factor for national/regional preparedness, which in combination with planning must be crucial for the exceptional situation such as a pandemic. Without an ongoing influenza pandemic, hospital-related incidents could jeopardise such preparedness due to insufficient capacities within the emergency institutions (Khorram-Manesh et al 2009). Thus, there should be a concern how the situation will become when the pandemic strikes hard?

During a pandemic, medical care is one of the few areas of the society that definitely will experience an increased demand and work load. Such an increase in demand cannot merely be met through planning only; prioritisation will soon become the lead theme due to scarcity in many areas. The planning in the ICU setting for an extraordinary incidence, like a pandemic has in many senses the same ingredients as in the rest of the society, but also several peculiarities, which need special consideration, most of all, again: scarcity especially of:

- ICU-beds and at least in the beginning of the epidemic, beds with possibilities for isolation or later on in the pandemic, for cohort care;
- Trained staff;
- Equipment, especially for assisted ventilation;
- Pharmaceutical agents (Antibiotics, antiviral, influenza-vaccine), and
- All the above but mainly in a paediatric setting depending on how the pandemic evolves.

Bed shortage at intensive care units will most likely be due to high admission of critically ill patients in need of assisted ventilation. In such a situation a regional coordinating centre to assume command and control on a regional ("gold") level can be inevitable (Cowan et al. 2005, Khorram-Manesh et al. 2009). Other possible ways of increasing numbers of beds or alternative technical set-ups needs to be considered already in the pre-pandemic period. Scarcity of skilled staff, trained not only for ICU activities, but also trained and comfortable with hygienic procedures including practical skills and experience from working in personal or individual protective equipment (PPE/IPE), can be avoided through well in-advance run recruiting and training procedures. Such training has most probably to be extended far beyond the staff of the individual ICU.

Scarcity in so many aspects will eventually, whether we want it or not, lead to increased needs for making priorities among patients, possibly on grounds that we might not be used to or comfortable with. Pre-planning is thus crucial also in this context and must include psycho-social considerations. Risk stratification of patients with influenza related pneumonia and finding appropriate and well-communicated methods for it, is only one aspect that needs to be considered in this planning context. Risk stratification methods also need to be transferred into simple, agreed and well-communicated treatment protocols. Capabilities must of course include more than a list of staff and equipment available, but also a clear comprehension of how fast the resources can be achieved and for how long they can be sustained. Communicating all the reasons for scarcity, the necessary actions taken and priorities made, is all together probably the most intricate issue.

The medical society has never before in history been able to plan so many aspects of the upcoming and unavoidable influenza pandemic. This time we have a unique opportunity to avoid disappointing those expectations we have for our hospitals and departments in this aspect. The ultimate hope is that the old (yet valid) expression from disaster medicine "To fail to plan is to plan to fail" will not be realised.

Published on : Mon, 21 Sep 2009