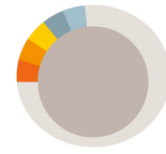


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### ***Critical care planning for flu***

**Carl Waldmann, President, Intensive Care Society, UK**

#### **Are we ready? And are we ready to act together?**

First, it should be emphasised that UK critical care units very frequently face situations of bed scarcity, and consequently cases in which resources are limited are not a theoretical view exclusively linked to the risk of an influenza pandemic.

According to Charles Sprung<sup>1</sup>, the requirement for critical care beds (and the necessity to ventilate patients) will more than double during a pandemic. Clearly methods of prioritisation (by an agreed process of triaging, or possibly even by lotteries) will be essential.

According to Dr Andrew Lawson<sup>2</sup>, a medical specialist with specific expertise in ethics, during the peak of a pandemic up to 4.5 million cases may be affected in the UK, an estimated 50,000 of whom may need intensive care. With fewer than 3,500 intensive care beds available the demand for these beds would exceed existing capacity by more than 5 times. Thus, we will face the denial of potential life-saving treatment on a scale far greater than in any previous winter bed shortages. Moreover, if available ICU beds are being used for patients with respiratory failure, then they will not be available for any other use.

How will healthcare professionals react? A survey was conducted among doctors in Nottingham<sup>3</sup> which generated many elements of interest:

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<sup>1</sup> Charles Sprung is both an intensive care specialist and also qualified in law. He is at the head of a major project intended to make many countries (mostly in Europe) deal together with the pandemic risk.

<sup>2</sup> A Lawson. JICS 2008.

<sup>3</sup> Clin Med. 2008 Feb;8(1):49-52. Related Articles, Links Ethical planning for an influenza pandemic. Barr et al.

- 79 % of responding healthcare workers would continue to work despite high risk to themselves;
- 83 % of them thought it "unprofessional" for doctors to leave work;
- 54 % of them chose the same patient (from a list of theoretical potential referrals) for the last ICU bed;
- A wide diversity of opinions was found regarding resource allocation of ICU beds.

We have to keep in mind that disparity prevails among countries considering ICU bed resources, with the UK lagging behind most other Western world countries in this context. All we can do today is to worry about what could happen tomorrow, keeping in mind what happened in the past. We should not however focus on pandemic influenza only, as plans for this particular disaster will be useful for a range of other potential catastrophic events.

Ideally we should work together to tackle the pandemic risk. Nevertheless, if the first wave were to strike in Ireland, people would not necessarily benefit from the same facilities in Northern Ireland as in the Republic of Ireland. In the domain of healthcare, we have to take into account that cross-border behaviours exist today.

The WHO has urged every country to develop or maintain an up-to-date national influenza preparedness plan, and has provided guidance on the contents of these. Despite the perceived imminence of this threat, the WHO estimated that as of December 2005, only 40 countries had effectively produced written strategies.

### **Some preparedness related fears**

The lack of ICU beds is a key issue considering disaster preparedness. We published a paper<sup>4</sup> in order to increase awareness that the relatively limited number and high occupancy rates of critical beds in the UK will require reliable and coordinated response to increase capacity in order to maximize the number of patients who can receive mechanical ventilatory support. A lottery selection may be necessary in case several appropriate referrals could not all receive care due to insufficient bed capacities. Phase 3 of the Swiss plan mentions "*triage as used in war or disaster situations. Priority is given to those who are expected to have the best chance of survival as a result of treatment*".

The Canadian plan gives very high responsibility to those who have been trained to act in disaster situations. Nevertheless, after the SARS experience, reciprocal obligations have been established for healthcare workers. They are at the front line and they consequently have high priority for immunization during a pandemic.

In Belgium, the plan could also prevent the requisitioning of healthcare workers practising outside their native countries, a prospect that could leave other countries facing an even worse shortage of healthcare workers

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<sup>4</sup> Critical care contingency planning: phased responses and triaging framework. B Taylor, V Kemp, D Goldhill, C Waldmann

In the United States, the worry about a potential shortage of ventilators was highlighted publically<sup>5</sup>, as a result of which California bought some 7,200 ventilators, at a cost of nearly 100 million dollars. This amount is almost double the number the federal government was to purchase for the entire nation.

### **The state of preparedness of a British hospital and some remaining uncertainties**

According to FluSurge, peaks in critical care occupancy and ventilator use will occur about 8-12 weeks after the beginning of the pandemic.

Are we adequately prepared? We don't know. Of course this is a key question, which has to be raised in context. My hospital in Reading stands about 30 miles west of Heathrow airport. It has 8 fully staffed intensive care beds and this capacity can be quickly extended to 11 beds. In Reading Hospital ICU beds represent roughly 1.5 % of the total. It must be emphasized that a pandemic influenza would particularly affect children, which raises important questions about our capabilities to treat children in general intensive care units.

How can our state of preparedness be summed up? If a pandemic were to occur, we would institute triage procedures and designate flu and palliative care wards. We should be able to extend our ICU capacity to 25 beds. We have set up an ethics committee. We have negotiated mutual aid agreements with private hospitals, and would also plan to use medical students.

In our region (Berkshire) a plan has been shaped enabling 6 autonomous authorities to establish procedures that suit their individual communities. An agreement has been reached on the matter of personal protection equipment usage. Three levels of risk-exposure have been designated (no close-contact with infected patients; close-contact (less than 3 feet away); aerosol generating procedure).

As yet we have not stockpiled masks, partly due to shortages of storage space. A lack of clear understanding of what the requirements are has to be mentioned too.

When the initial British Pandemic Influenza strategy was released by the Department of Health in 2005 only one occurrence of the word "critical care" was found...

Of course a lot of topics of uncertainty remain. First, will fuel be available for vehicles? How will we keep our infrastructure running? Will drivers be available to fulfil hospitals' needs? Will public transportation work? Hospitals are not remote institutions – they deeply depend on outside services. That is why the issue of volunteering is crucial.

Over and above, critical care resources are very expensive. Certain technologies may be of interest to ensure the best possible adaptation to a pandemic scenario (Novalung for instance). Lastly, the potential problems of allegations of suboptimal outcomes or medical errors - and the resulting costs - shouldn't be avoided.

To conclude, I will recall our fundamental potential dilemmas. If 100 hundred patients need ventilator support and about 30 beds are available, what will we do? Should priority be given to the mother of a 15 day old baby whose father just died? Will the son or daughter of a staff member be

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<sup>5</sup> New York Times, 12th of March 2008.

privileged? Will notoriety, wealth, fame, matter? Will personal history of patients be taken into account (for example former suicide attempts)? A completely randomised allocation of beds could be advocated<sup>6</sup> in order not to take age or other parameters into consideration. At least, identical rules of priority for access to ICU should apply everywhere in Europe.

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<sup>6</sup> Peterson M. Bioethics. 2008 Jul;22(6):321-7. Epub 2008 Apr 23