The Model 2 Hospital: Role and Challenges

Abstract:

The reconfiguration of the Irish hospital service in the National Acute Medicine Programme describes four generic model hospitals. Model 1 (primary care district hospital), Model 2 (general hospital) and Model 4 (tertiary referral hospital) are all familiar features on the Irish medical landscape, the Model 2 hospital is a novel development and one that poses new challenges and difficulties. What is a Model 2 hospital for? These hospitals will provide in-patient and out-patient care for differentiated, low-risk medical patients, who are not likely to require full resuscitation. Patients with a significant risk of clinical deterioration should be referred to Model 3 or Model 4 hospitals. However, patients should not be transferred if a Do Not Resuscitate order is made and/or if patients make an informed decision to remain in the Model 2 hospital. Since no ICU will be available, a national early warning score will be used to determine whether admission is appropriate in the first instance and to track patients throughout their hospital stay for deterioration and the need for transfer.

Can the national early warning score determine when a patient is low risk?
The lowest risk patients admitted to hospital are young people who are intoxicated with alcohol or other recreational drugs; whilst the highest risk patients are invariably older people with any diagnosis.

Early warning scores, were designed to detect patients with an imminent risk of death. All these scores perform well in identifying patients with sepsis, bleeding and other forms of severe hypotension. They perform poorly, however, in assessing the risk of other commoner conditions such as unstable coronary artery disease. Indeed more than one fifth of in-hospital deaths within 30 days occur in patients admitted with low early warning scores that seriously ill patients are more likely to deteriorate and less likely to improve than those with mild illness. This, however, is not the case. Regardless of the condition on admission approximately 12% of patients deteriorate within 24 hours of admission and these patients have a far worse outcome than those who improve. The patients who are most likely to deteriorate after admission are those admitted from a nursing home and those with heart failure.

There are some important implications from these findings. First, although it is often implied that Model 2 hospitals should mainly contain older people, on the basis of risk alone these hospitals should be more focussed on younger people! Secondly, even with the best clinical judgement, some people will deteriorate after admission and require interventions that are not available on-site. In most cases, they will be transferred successfully; it is probably inevitable that in some cases, they won’t. Finally, patients will need to be told of and to understand the limitations of and to make an informed decision to remain in a Model 2 hospital, especially if medical advice is in favour of transfer.

Do Not Resuscitate orders and the need for advance care planning

Clearly admission to a Model 2 hospital is inappropriate for patients who want everything possible to be done to keep them alive. However, the benefits of high tech interventions may not be as great as the public imagines. Intubation, ventilation, renal dialysis, tube feeding and cardiopulmonary resuscitation (CPR) are much less likely to benefit the very frail patient suffering from an acute exacerbation of one of their multiple co-morbid conditions, and there is a greater risk that such patients will have prolonged suffering at the end of life as a result of such interventions. Moreover, there is considerable evidence that many such patients themselves, if asked, would prefer to forego invasive interventions such as CPR; this is particularly true of the very old.

Hospital admission, especially for the elderly, is often a seminal event. More than a quarter of patients over 65 years of age are dead within a year of hospital admission. It is, therefore, important to recognize patients at risk of imminent decline and mortality, to provide education about the likely outcome and the benefit, if any, of any interventions and to make decisions in their values with preferences, including, if appropriate, any limitations on the interventions to be provided such as writing a do-not resuscitate order. While such decisions often can and are made during hospitalization, it would be preferable if advance care planning were to take place prior to admission, and, given that significant chronic illness is often the trigger suggesting the need for such discussions, this should usually be possible. This might take place in the outpatient clinic or before the patient was discharged from the previous admission, but in many cases the doctor best placed to have such discussions, because of their often long and close relationship and their understanding of the patients circumstances, is the family doctor.

Discussions and decisions about end of life care are often sensitive and demanding and it is not ideal that they be conducted in a pressurised environment. The advent of the Model 2 hospital creates a new challenge since the decision whether or not to admit or transfer a patient may depend on the outcome of the discussion on the appropriate level of care to be provided. Advance care planning, making such decisions at the door when an unwell patient presents to a Model 2 hospital seems the least satisfactory approach. The Model 2 hospital poses new challenges and difficulties both for patients and for the medical profession. Further debate and education about the limitations of trying to identify low risk patients and about the need for effective and appropriate advance care planning for those approaching the end of life are required to lessen these problems.

References
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