Is "boarding" appropriate to reduce crowding in A&E?

Moving patients to corridors outside full wards allows hospitals to take new emergencies, say **Adrian Boyle** and **Peter Viccellio**. But **Chris Whale** wants a more comprehensive response to inefficient patient flow

thebmj.com

- News: Increased A&E pressure and agency staff costs put foundation trusts further into red (*BMJ* 2015;350:h1021)
- News: Learn from business and test drive new ideas to improve A&E efficiency (*BMJ* 2014;348:g161)
- News: Rescue boards are set up in England to deal with "significant deterioration" in A&E departments (*BMJ* 2013;346:f3065)

RGB VENTURES/SUPERSTOCK/ALAMY

Adrian Boyle consultant emergency physician, Cambridge University Hospitals Foundation Trust, Cambridge, UK **boylea@doctors.org.uk**
Peter Viccellio attending emergency physician, Stony Brook University Hospital, New York, USA

YES

Which is better: having multiple unassessed patients waiting in ambulances outside a full emergency department or having one or two selected, assessed, and treated patients waiting in the corridor of their final but full destination ward? We think the latter.

An emergency department's full capacity protocol may involve sending assessed patients to wait in the corridors of final destination wards before a bed is available. This "boarding," which is recommended by the UK Royal College of Emergency Medicine,[1] is used in a small number of UK hospitals but occurs more widely in North America. Boarding has been widely, inaccurately, and negatively reported in the UK press[2]; for this reason hospitals may not publicise the practice, and data on its prevalence are limited.

Problems with crowded emergency departments throughout the United Kingdom last winter were well publicised. Crowding is associated with increased mortality and poor patient and staff experience: for example, a study in California concluded that emergency department crowding was associated with 300 excess deaths in 2007.[3-5] And several UK hospitals have declared crowding a "major incident," in which ambulance trusts reported an increasing lack of capacity that delayed the offloading of patients, with a consequent reduced ability to attend emergency calls.

Emergency departments can become crowded for many reasons, but a lack of inpatient bed capacity and the resulting "exit block" from the emergency department is usually a key factor. A full emergency department usually reflects a full hospital, but experience shows that the coordination of inpatient bed capacity is often poor. For example, emergency departments tend to start to fill up from mid-morning, but inpatient beds often become available late in the afternoon or early in the evening.

Understanding the process

Imagine that an emergency department is boarding 30 admitted patients—completely congesting the department, maximising staff demand, and impeding the care of

Chris Whale consultant physician and clinical director, Acute Medicine Business Unit, Derby Teaching Hospitals NHS Foundation Trust, Derby, UK
chris.whale1@nhs.net

NO

Removing "exit block" is a priority in reducing the crowding in emergency departments that compromises patient safety and contributes to poor health outcomes, including excess mortality, but insufficient data have been collected to quantify these.[10 11]

"Boarding"—moving patients from emergency departments to corridors of wards that are full to help spread the burden—has been offered as a solution in the United Kingdom in the past couple of winters, but this approach fails to tackle the problem and is likely to compromise our ability to deliver dignified, high quality care within the hospital system.[12] There is a paucity of formal evidence in this controversial area, though.

Exit block can be solved by creating a better flow of patients through acute hospitals; this is difficult, however, particularly in an ageing population with increasing dependence, rising levels of health comorbidity, and dwindling social care budgets. For patients who need admission, emergency departments require smooth pathways into admission units; these need wards to create capacity and, in turn, this needs receptive and responsive support from the community. Emergency departments depend on colleagues in social care to achieve this flow, and all community services need to work consistently and in harmony with hospital services.

"Pull" from the community

Constant and rising pressure on the front door means that the back door needs to revolve at the right rate. The system needs synchronisation so that, every day from Monday to Sunday, there is a "pull" from the community to help move patients out of acute beds, as well as a "pull" from wards to move patients out of assessment areas and emergency departments.

Imagine that the culture in your health community is a synchronised early morning "pull" of appropriate patients from assessment areas and emergency departments and that this is complemented by a "pull" of patients out of the acute hospital into appropriate community locations. And imagine that these "cogs" turn consistently and predictably through the day and through the week. We don't yet have that synchronous harmony. We don't have wards and community services working optimally to consistently "pull" patients through the

Ambulances can return to the front line more quickly rather than waiting outside the emergency department for a bed

newly arriving emergency patients. Either the department stops seeing new arrivals (potentially endangering them), or it continues to see new patients with increasingly stretched staff and space.

To mitigate this acute danger the emergency department, using the full capacity protocol, asks each inpatient unit in the hospital to take no more than one or two of the least sick patients, leaving 15 or more of the sickest patients in the emergency department. The additional burden on the inpatient unit is small, but the relief to the emergency department is substantial. Patients who have been boarded have the right specialised staff caring for them and better nursing ratios than in the emergency department. And 15 beds in the emergency department are now free for newly arriving acute emergencies.

The benefits are multiple. Small decompressions such as these can have considerable safety and operational benefits for the ambulance service and emergency department. Ambulances can return to the front line more quickly rather than waiting outside the emergency department for a bed to become available.[6] The right patient goes to the right ward, and the overall hospital stay is one day shorter.[7] Inpatient wards are stimulated to improve their discharge processes and to increase the use of discharge lounges. Clinical risk is diffused and reduced throughout a hospital, rather than concentrated and multiplied in the emergency department. The problem of emergency department crowding is now an institutional problem, requiring institutional solutions. Studies have shown that boarding is safe and that patients prefer it to boarding in emergency department hallways.[8 9]

Any kind of change in healthcare meets with resistance. Unsubstantiated claims that boarding is unsafe ignore a wealth of literature that documents the harms of boarding in the emergency department.[8 9] To clog up the emergency department—to delay emergency care and to overwhelm staff rather than redistribute the necessary care tasks for these patients over a broader area, in smaller aliquots—defies common sense, which is largely why the published literature has little to say on the harms of boarding in wards.

The four hour wait

Boarding should not be done with the primary intention of meeting performance targets, and it is unlikely to help UK hospitals stay within the four hour waiting time target, which has become a proxy measure of exit block in emergency departments. And patients should not be sent to already crowded acute assessment units, because this only shifts the problem downstream. Patients are best served by being taken to their final destination ward. Individual ward managers, alarmed at the increased risk and workload, must understand that the additional burden from this is small and that, from an institutional point of view, it must be balanced against the risks to the patient of boarding in the wrong place, with inadequate staff and space and competing for attention with newly arriving emergencies.

Opponents of full capacity protocols that include boarding tend to underestimate the dangers of emergency department crowding and to overestimate its harms. They note that, since the introduction of the four hour target in the UK, waiting times are among the shortest in the world. This may be true, but staffing and the built environment are often considerably inferior.

system. But, if we all recognise that this is the solution, we could achieve it.

"Pushing" patients from emergency departments to board on other wards at an early stage of their acute admission is likely to mean more patients in imperfect locations. The wrong patient on the wrong ward has a deleterious effect on the length of stay and adds to exit block.

Emergency departments need to work with wards to encourage appropriate flow. Boarding does not foster better working relationships, and it will not encourage wards to harmonise their routine to help emergency departments. Boarding disrupts the efforts of a ward to achieve discharges—soaking up scarce nursing, medical, and administrative time that could otherwise be spent managing patients in beds and creating the necessary capacity.

All wards should strive to optimise the length of stay, to discharge more patients earlier in the day, and to ensure that they consistently create capacity and encourage flow. Boarding hinders these efforts.

High bed occupancy in hospitals is also detrimental to quality indicators.[12 13] We accept that crowding in emergency departments is hazardous, but we also need to recognise that crowding within the whole hospital is hazardous and that it hinders flow.

How do we know that boarding is safe? How do we assess safety? To undermine the whole concept it would take only a few unwitnessed arrests from ventricular fibrillation among boarded patients who seemed stable in the emergency department.

Whole system transformation

We need to find a solution rather than simply to shift the problem. Boarding fails to tackle the root cause of crowding; whole system transformation to improve patient flow is the solution, and we need to work with commissioners, primary and social care colleagues, community providers, mental health teams, ambulance services, and the voluntary sector to achieve this. We also need to work with patients, carers, and families to ensure that everyone has a sense of responsibility for this flow. And we need to educate all health and social care staff so that everyone works to unblock the system and release the right beds for the right patients.

The UK has clear geographical differences in the proportion of avoidable hospital admissions, and we need effective ambulatory pathways and assessment areas to eliminate unwarranted variation and to ensure that only appropriate patients are admitted.[14] We

To undermine the whole concept of boarding, it would take only a few unwitnessed arrests from ventricular fibrillation among boarded patients

also need to avoid unnecessary internal and external waits and to expedite investigations, assessments, opinions, and services, because about a quarter of adult general hospital beds may be occupied by patients without acute care needs.[15]

There is no short term fix, but I'd prefer to see the Royal College of Emergency Medicine promote system-wide transformation, integrated escalation policies, and early warning systems that get hospital and community "cogs" whirring more quickly as the pressure starts to rise.

We need consistency among wards, and they each need adequate senior clinical decision makers supported by the right multidisciplinary team (within and beyond the hospital) to ensure appropriate discharges from hospital beds, seven days a week. This approach will create capacity, and a complementary, synchronised pull through the system will mean that boarding becomes a bad idea consigned to history.

Cite this as: *BMJ* 2015;350:h2249