

# Education and debate

## Inappropriately delayed discharge from hospital: What do we know?

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A patient's discharge from hospital can be classed as inappropriately delayed, thus causing bed blocking. However, is the inappropriateness in the hospital rather than in the patient?

Rising demand and a reduction in the number of available beds have greatly increased the turnover in hospital. The pressure to increase this even further has led to the concept of inappropriately delayed discharge. This is not confined to the United Kingdom and has been reported from Israel,<sup>1</sup> United States,<sup>2</sup> Norway,<sup>3</sup> and New Zealand.<sup>4</sup>

I reviewed the evidence from systematic reviews identified through Medline, Embase, and the Cochrane collaboration and other studies identified during the search that appeared to contribute usefully to the debate. I excluded studies in obstetrics, paediatrics, and psychiatric care.

### Questions to be asked?

Discussion of inappropriately delayed discharge must take into account several questions:

- Is the measure of inappropriateness valid and reproducible?
- Is inappropriateness measured in relation to an ideal, where patients should be treated in another facility whether it exists or not; or does it regard patients as inappropriately delayed only when a more appropriate facility is available?
- Is there good evidence that more appropriate facilities, whether theoretical or real, are better in terms of patient outcomes than the existing placement?

### Validity and reproducibility

McDonagh et al systematically reviewed measures used to assess the evidence for inappropriate bed use and hence those patients whose discharge had been inappropriately delayed.<sup>5</sup> They made the point that an objective measure would be superior to subjective decisions. Few of the existing tools have been tested for reliability and validity. The best validated tool, known as the appropriateness evaluation protocol (AEP), originally an American utilisation tool, has been developed for use in Europe.<sup>6</sup>

Although the authors of the systematic review thought that the AEP was the most reliable and valid tool so far, they had marked reservations. In the studies reviewed the AEP identified a wide range in the number of days inappropriately used on acute general

### Summary points

The tools for measuring inappropriately delayed discharge all have poor validity and reproducibility

This is increased when local availability of alternative care is ignored

There is no evidence to show that in cases labelled as inappropriately delayed discharge, patients would have had better outcomes if they had been discharged earlier

Indeed, such patients may be appreciably unwell

wards (24-58%). They concluded that "before definitive conclusions on the inappropriate use of acute beds can be made, future research needs to take into account the methodological problems." In terms of reproducibility the AEP showed 64-85% agreement for days of stay. Validity varied even more widely between 59% and 91%.

The original AEP was developed in 1981<sup>7</sup> and has not altered much since then, despite marked changes in the way that patients are managed over that period. The AEP was adapted for European use in Switzerland.<sup>6</sup> Findings in Switzerland, however, are likely to be different from those in the United Kingdom, given the difference between the per capita funding available for health care in the two settings.

Anderson et al developed a non-validated measure to examine the use of hospital beds and discharge arrangements.<sup>8</sup> However, in their study a general practitioner was involved in only one in 10 patients due for discharge and only a third of patients were given more than 24 hours' notice of discharge. They concluded that better liaison with primary care might reduce the number of inappropriate delays.

### Ideal versus reality

The measures used to detect inappropriate delay are particularly affected by the answer to this question. The AEP, for instance, has an override facility, which allows

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the user to take into account the unavailability of local alternative facilities. This override can considerably alter the measured level of inappropriate use. In two studies of patients in the south west of England Coast et al found that the over-ride reduced the rate of inappropriate use by a half,<sup>9</sup> and others have shown that using an override further reduces the reproducibility of the measure.<sup>10</sup>

If alternative facilities are not available the question of inappropriate delay needs to be addressed by local planners. If a more appropriate facility exists but is unavailable because it is full, questions need to be addressed to the managers of that service. If there are places available the discharge process within the hospital in question needs to be examined.

### Are the alternatives better?

It is often assumed that most inappropriately delayed discharges relate to elderly people who enter hospital as emergencies, are at their worst on admission, and gradually improve. Inappropriately delayed discharge is assumed to be due to poor organisation of a new placement for people who have essentially reached a plateau in their need for care.

No trials have looked at outcome in patients deemed to have been inappropriately discharged and then placed in alternative care compared with those left behind. A small survey of elderly patients in Sweden showed how important such a trial would be, in that medical events or symptoms were noted in half of the patients after they had been classified as medically ready for discharge.<sup>11</sup> Only 10% were independent in daily activities of living.

The complexity of fitness for discharge was underlined by another small study, which explored the functioning of patients on a daily basis.<sup>12</sup> Several of the function scores did not improve between the second day of admission and discharge. The data showed that during a stay in hospital older patients may experience new and worsened functional impairment that improves at a much slower rate than the acute illness that caused them to be admitted.

A group of researchers in the United States questioned a range of hospital staff about delayed discharge.<sup>13</sup> Nurses were more likely than doctors to claim that delays in discharge were due to inadequate communication and ward rounds and other conferences. Physicians, however, were more likely to blame delays in getting the results of investigations and the non-availability of subacute care beds. Almost all doctors said that decisions regarding discharge were made in the morning; over 60% said that discharge orders were usually written before noon. In contrast, none of the nurses thought that orders were usually written before noon.

### How to reduce the problem

**Discharge planning**—There seem to be no robust analyses of discharge planning other than a systematic review of home visits before discharge.<sup>14</sup> The review identified only five studies, all surveys. Although four studies found a possible benefit of home visiting, the overall conclusion of the review was that little evidence exists for the effectiveness of such visits.

**Supported discharge**—Patterson and Mulley carried out a systematic review of randomised trials in the effectiveness of supported discharge.<sup>15</sup> Assessment of the nine included studies showed there was a need for caution in interpreting the results. Despite this the authors thought that the proportion of elderly people at home six to twelve months after admission was greater among those with supported discharge. This was associated with a consistent pattern of reduction in admission to long stay care over the same period, without apparent increases in mortality. There were no good data about functional status or satisfaction and, in consequence, uncertainty about the overall effectiveness of supported discharge.

### Conclusion

Assessment of inappropriately delayed discharge seems to be beset by problems of lack of definition, poor measurement tools, and poor evidence. This is set against a background of rapidly increasing demand and diminishing supply. The prevalence and causes of inappropriately delayed discharge seem to vary greatly, and the topic is dominated by subjectivity especially in relation to elderly patients in acute hospital beds.

Central questions on good measures of inappropriateness, whether inappropriateness refers to local circumstances or an ideal state, and the effectiveness of alternatives to the “inappropriate” setting are often missed. All of these questions need to be tackled if we are to have a sensible approach to policy in this area.

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