Attending physicians believe that hospitalized patients are treated at the appropriate level of care: A qualitative study

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Abstract

The purpose of this paper is to investigate the appropriateness of hospitalized patients’ level of care as assessed by their treating physicians. The study was conducted as a qualitative study, based on a questionnaire. The study suggests that physicians generally believe that patients who occupy in-hospital beds are cared for at the appropriate level of care. It is worth to note that a relatively large fraction of patients have had their medical needs attended to, but remain hospitalized while waiting for municipal action. Successful downsizing of in-hospital bed-capacity assumes that either a segment of patients who are inappropriately hospitalized exists and could be identified, or that viable alternatives to in-hospital care exist and are available. The results of the present study argue against the first statement. However, we have identified a segment of patients who experience an unnecessarily long in-patient length of stay due to waiting times for municipal action and other post-discharge follow-up measures. Alternatives to in-hospital care which deserve further attention are supporting services in the outpatient setting.

Keywords: Hospital overcrowding, Patient flows, Delayed discharge

Introduction

Background

Since the 1990s, healthcare reforms in Sweden have been characterized by the implementation of production-based logic, management-led mergers, and downsizing of hospitals.1 Such logic is often driven by a belief that overhead costs can be managed through the reduction of in-hospital bed space and faster care-processes.2 Some production methods derived from this logic, such as lean management, have been shown to increase efficiency within specific processes and to raise process awareness within the organization.3 However, it is well known in the field of optimization, that there are tradeoffs between optimizing a constituent process and optimizing the total. Other studies suggest that top-management-led mergers and radical organizational changes in healthcare are difficult and complex and that they often result in unforeseen disruption in services4 as well as hospital overcrowding.5 Overcrowding has in turn been shown to cause negative impacts on Emergency Department throughput6–9 and decreased mental health in medical personnel.10 It has also been shown to cause adverse patient outcomes through delayed treatment.11 While radical change such as mergers and downsizing aims at controlling costs and improving administrative efficiency, accelerated, top-down change in this form can also be organizationally risky and difficult to implement,4 especially when healthcare demand is high. Furthermore, the logic of downsizing builds on the assumption that patients are being unnecessarily hospitalized or that they experience an unnecessarily long in-patient length of stay. It also assumes that there are sufficient alternative care-options immediately available to the patients who are diverted from the in-patient setting.

The aim of the present study is to investigate the appropriateness of the level of care of hospitalized patients as assessed by their attending physicians in a questionnaire.
Methodology

Study design
The present study was conducted as a qualitative study, based on a questionnaire. One thousand and hundred and seventy-eight questionnaires, one per available hospital bed, were distributed to the attending physicians of all in-hospital wards of three hospitals within the hospital administrative zone of Skånevärd Sund in Southern Sweden. The physicians received verbal instructions about the aim of the study and as how to complete the questionnaires beforehand. At each of the hospitals, the same person was responsible for the delivery and collection of the questionnaires to and from the participating hospital wards. During two separate morning rounds, a single questionnaire was to be completed for each patient occupying an in-patient bed. The total bed-capacity of these three hospitals is 589 beds. The surveys were counted and delivered to the wards on the evening preceding the relevant morning round. They were then counted and collected by the same individual in the afternoon following the relevant round.

Research tool
The questionnaire was divided into three parts, so that the attending physician could categorize patients into one of three distinct categories: those admitted to the in-patient hospital setting based solely on medical factors (hereafter abbreviated category 1 patients), those admitted to the in-patient hospital setting based on a combination of medical factors and social or other factors (hereafter abbreviated category 2 patients), and those admitted to the in-patient hospital setting based solely on social or other factors (hereafter abbreviated category 3 patients). The categories were determined before the construction of the questionnaire, by a senior consultant. This initial set of data would provide insight into the physicians' appreciations of the appropriateness of hospitalization for each case.

Following the initial categorization, attending physicians were asked to answer a range of questions relating to whether or not the patient was being treated at the correct department and level of care, whether or not the patient could have been managed in the outpatient setting from the onset and if the patient was waiting for supporting services or was in need of further hospital care. The main reason for asking these questions was to get an idea of whether an in-patient admission was avoidable or not. The questions were constructed by the committee mentioned before and tested on three independent senior consultants before being approved for inclusion in the questionnaire and data collection was initiated. This secondary data set served to provide an understanding of unnecessary hospitalization and delayed release within each patient category. As category 3 patients by definition lacked medical factors requiring hospitalization, medical questions were not relevant and were therefore omitted for this group. The questions for category 1 and category 2 patients were, however, identical (see appendix).

Response rate
In order to ensure a high-response rate, a single individual was made responsible for the physical distribution and collection of questionnaires at each participating hospital. Distribution took place on the evening preceding morning rounds where questionnaires were completed. Each of the attending physicians received instructions regarding how to complete the questionnaire at a meeting, which took place before the questionnaires were distributed. This verbal instruction was delivered through a standardized protocol before questionnaire delivery as instructed by the above-mentioned design committee.

Response
The questionnaire was completed by hand. Each question had the response options ‘yes’, ‘no’, or ‘not relevant’. Additional space was provided for free comments. In order to maintain patient anonymity, no data were collected that could be traced back to any individual patient, but only concerned the appropriateness of the patient’s hospital stay.

Processing
Once collected, questionnaires were divided into the three categories after which the answers were coded as follows: ‘yes’ (code 1) ‘no’ (code 2), or ‘not relevant’ (code 0). Following coding, a frequency analysis was conducted, the results of which can be found below. Additional comments were not analyzed further. During verbal consultation with the Regional Ethical Review Board in Lund it was made clear that no ethical approval was needed for the study, since no personal data were registered or processed.

Results
Out of 1178 distributed questionnaires, 940 were answered, yielding a response rate of 79.8%. Physicians assessed that a total of 886 patients (out of 940) had medical factors as the sole reason for admission to the in-patient hospital setting. Fifty
patients were admitted to the in-patient setting because of both medical- and social factors. Four patients were assessed as entirely lacking medical factors. A total of eight questions distributed between four questionnaires (three category 1 patients and one category 2 patient) were left unanswered and were therefore censored. The unanswered questions were all from the same ward and date and pertained to questions regarding planning and discharge.

It follows that physicians’ estimate that most patients fall into category 1. The categorization of patients, in total and separated by date, is presented in Table 1.

| Category      | First round (%) | Second round (%) | Total (%) |
|---------------|-----------------|------------------|-----------|
| Category 1    | 93.1            | 95.4             | 94.3      |
| Category 2    | 6.5             | 4.1              | 5.3       |
| Category 3    | 0.4             | 0.5              | 0.4       |

In short, the results show that physicians consider most category 1 and 2 hospitalizations unavoidable, but that they often are extended due to waiting times for municipal- or other actions (especially in category 2 patients). Specific results are reproduced in Figs. 1–3.

Discussion

Study results show that the physicians participating in the study considered most of the admitted in-patients to be at an appropriate level of care. It is noteworthy that a total of 19% of category 1 patients were waiting for further planning and had received all necessary in-hospital care. Most physicians who completed the questionnaire did not consider available outpatient options viable even when considering category 2 patients (who were admitted with social or other factors contributing to hospitalization). According to a comprehensive evaluation performed by the Swedish Medical Association, hospital capacity today is already stretched and intense debate concerning in-patient capacity has dominated healthcare media coverage during the last few years. Given
In this context, we suggest that further reductions in in-hospital bed-capacity should be accompanied by improved structures for follow-up and outpatient care. Governmental bodies and caregivers should work to facilitate healthcare innovation processes, in order to make outpatient care convenient and affordable both from a service- and technical point of view. The 16% of category 1 patients who were not cared for at the appropriate department are most likely a reflection of the full-capacity protocols taking an effect when in-hospital beds are scarce. The matter further stresses the complexity involved in capacity reduction and hospital mergers.

One key finding in this study is that there is a time lag between when patients are ready for discharge and when they actually leave the in-hospital setting. According to our study, this lag is due to the organization gap existing between municipal bodies and hospitals. According to the previously mentioned report from the Swedish Medical Association, around 8% of in-patients were ready for discharge and waiting for municipal action. In our study, this number was 12% for category 1 patients and 40% for category 2 patients. The problem is accentuated during national holidays, when municipalities are unable to participate in planning and when staffing issues arise. The 19% of category 1 patients who were waiting for additional planning suggest that earlier discharge would have been appropriate from a medical perspective, given that adequate post-discharge follow-up had been available. It is important to emphasize that the consequences of this organizational gap mean time lags and inefficiency. There is a growing body of research examining the impact of cross-organizational cooperation, which indicates that such cooperation reduces both costs and lengths of stay. Studies also suggest that cross-organizational cooperation enables more efficient resource allocation for complex human services. A better understanding of how and when municipal bodies and other depending steps cooperate with hospital administration would constitute an important foundation to initiatives aimed at facilitating the discharge process.

**Importance**

Successful downsizing of in-hospital bed-capacity assumes that either a segment of patients who are inappropriately hospitalized exists and could be identified, or that viable alternatives to in-hospital care exist and are available. The results of the present study argue against the first statement. However, we have identified a segment of patients who experience an unnecessarily long in-patient length of stay due to waiting times for municipal action and other post-discharge follow-up measures. Alternatives to in-hospital care which deserve further attention are supporting services in the outpatient setting, e.g. home palliative care. Evidence which suggests that effort is already being put into referring patients to outpatient care-options as often as possible exists. It is important that outpatient care-options are appropriately developed, in order to avoid exposing patients to unnecessary risks. A positive side effect of developing outpatient care-options is that they often require cooperation with other organizations and hence may serve as a foundation for developing communication and cooperation with other societal instances. It is worth to note that the attitudes of the patients were not addressed in the study. Moreover, it may happen that physicians have been influenced by the debate surrounding decreases in bed-capacity in Sweden and were inclined to under-report the number of avoidable hospitalizations. No adjustments have been made for cases where the same physician has answered
questionnaires at both test occasions. It is also worth noting that the question pertaining to continued care in an outpatient setting is somewhat ambiguous in that the response could refer to either the patient’s medical status or the organizational ability to care for the patient in an outpatient setting.

**Conclusion**

In conclusion, the study suggests that physicians generally believe that patients who occupy in-hospital beds are cared for at the appropriate level of care. It is worth to note that a relatively large fraction of patients have had their medical needs attended to, but remain hospitalized while waiting for municipal action.

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**Disclaimer statements**

**Contributors** All authors have taken an active role in analyzing and interpreting data as well as writing and editing. K.I. is responsible for conceiving and designing the study. M.B. is responsible for obtaining any ethical approval (none was needed). I.M. is responsible for data collection and presentation.

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**Ethics approval** None.

**Appendix**

**Questions for category 1 and category 2 patients**
1. Is the patient being cared for at the appropriate department?
2. Is the patient being cared for at the appropriate level of care?
3. Is there an accurate and updated care plan and has it been made available to all involved parties, including the care team, patient, and relatives?
4. Could hospitalization have been avoidable in this case?
5. Could the patient successfully be cared for in the outpatient setting from now?
6. Is the patient awaiting further planning?
7. Is the patient ready for discharge and waiting for municipal action?

**Questions for category 3 patients**
1. Does the patient have an accurate and updated care plan and has it been made available to all involved parties, including the care team, patient, and relatives?
2. Is the patient awaiting further planning?
3. Is the patient ready for discharge and waiting for municipal action?
4. Could the patient have been treated at home with municipal assistance in this instance?

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