

AN AUDIT OF DISCHARGE SUMMARIES

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ABSTRACT

Background: In the continuum of patient care, admission to the department of medicine constitutes a brief yet critical period. Subsequent patient care depends on the discharge summary (DS) and its implementation.

Aim: To evaluate the department of medicine - family physician interface by a discharge summaries audit.

Method: A retrospective study analyzing all admissions and discharges between a department of medicine and a primary care clinic over a period of ten months.

Results: 129 DS were evaluated and compared to 97 available primary care medical charts. Most admissions were due to a medical emergency (95%), the patients were often elderly and 23% lived alone. Hospital stay averaged 4.0 ± 2.4 days, readmission rate was 15.8%. In 73% of the DS at least one new drug was prescribed. The family physician was the one expected to continue treatment in most of the cases, but in over a third of the patients, a referral to further consultation was deemed necessary. The DS was found in 82% of the primary care charts. Median time interval between discharge and consultation with the family physician was three days (range 1-30). Home visits by physicians were documented in eight cases only.

Conclusion: Most discharged patients require further evaluation and newly prescribed medications, making a timely and coordinated continuous care in the community mandatory. A high quality, rapidly available DS is therefore important for the family physician. Whether improved communication will reduce readmissions and improve patient prognosis and quality of care should be clarified by further study.

Key Words: Discharge communication, continuity of care, hospitalization, family physician.

INTRODUCTION

Admission to the department of medicine constitutes a brief, yet critical point in the continuum of patient care. In today's era of cost effectiveness and increasingly competent family physicians, ambulatory investigation, treatment and follow-up have largely replaced prolonged and costly hospitalizations^{1,2}. The hospital admission usually marks a "crisis" in the patient's medical condition. Most admissions focus on the evaluation and treatment of acute states or deal with exacerbations and complications of chronic illnesses. In both, revision of the patient's management is commonly needed during hospitalization; this includes introducing new medications, withdrawing others, making use of non-pharmacological interventions and recommending further studies as indicated. Such management and treatment decisions are also related to more extensive testing and to multi-disciplinary in-hospital consultations. However,

hospital stay is becoming progressively shorter and treatment is continued in the community chiefly by the family physician.

New information gathered during hospitalization should be effectively delivered to the family physician and the modality used is the discharge summary (DS). The DS quality often leaves much to be desired. Frain et. al. noted dissatisfaction among family physicians with the quality of DS. They interviewed a medical senior house officer from each of a hundred hospitals in England and found that only six of them received teaching about DS writing when they were at medical school, and most learnt "by osmosis"³. Over two thirds of the doctors had never received any formal feedback on the quality of their summaries. Thus, the assumption that every hospital physician can write a good DS should be revised. These difficulties

are further highlighted by McWilliam who found that difficulties in communication between members of the health care team in the hospital and in the community created significant problems in the continuity of care⁴.

The interface between discharge from the department of medicine and continuation of care by the family physician is critical. To evaluate it we analyzed hospital admissions and DS as well as the primary care files of patients referred from a primary care clinic to a department of medicine.

Methods

In Israel the family physician is not involved in treatment of hospitalized patients; decisions of admission or discharge is sovereign to in-hospital physicians. There are no regular inward visits by the family physician and direct communication with the physicians of the department of medicine depends exclusively on the family physician initiative.

In a retrospective study, all hospital admissions to the department of medicine of a large, regional teaching hospital over a period of ten months (January to November of 1995) were identified through the hospital computerized admission system. Included in the study were hospitalizations where the patient was discharged to the community. Cases where the patients had been transferred to other departments of the hospital, long term institutions or died in the index hospitalization were excluded.

We have focused on the patients registered in one teaching primary care clinic in the district, with

orientation to academic and research activity and a special focus on documentation and accuracy of the medical records. This clinic serves a population of about 4,000 adult patients by three qualified family physicians.

The patient's hospital charts as well as their medical files in the primary care clinic were then retrieved and reviewed by two family physicians according to pre-planned criteria, with special emphasis on the discharge summary (DS). When disagreement occurred between the two physicians the file was further analyzed by a third physician and a consensus by all three was reached. The information extracted included the following:

- a) Demographic data of patients.
- b) Main diagnosis of the hospital admission, coded according to the ICPC coding system.
- c) DS recommendations regarding medication prescriptions - number of medications, chronic vs. short term, newly prescribed vs. continued use.
- d) DS general recommendations - recommendations regarding further evaluation and follow up.
- e) Inclusion of the DS in the primary care medical chart and the time interval between discharge and the first examination by the primary care physician.
- f) In the primary care medical file: problem list and chronic medications list (before and after admission) and actions of the primary care physician as a result of the DS (home visits, further tests, consultations etc.).
- g) Readmissions - defined as a new admission less than a month from the previous discharge.

Descriptive statistical analysis was performed using a commercial spreadsheet.

Table 1: Main discharge diagnoses of 129 admissions to the department of medicine from one regional primary care clinic over a period of ten months

Cardiac causes - 56 (43%)	Chest pain - 9 Unstable angina pectoris - 15 Acute myocardial ischemia - 9 Acute myocardial infarction - 3 Pulmonary edema or congestion - 9 Atrial fibrillation - 5 Syncope - 5 Cardiac catheterization - 1
Infectious diseases - 37 (29%)	Pneumonia - 11 Exacerbation of chronic obstructive lung disease - 10 Urinary tract infection - 8 Gastroenteritis - 3 Cellulitis - 1 Acute febrile diseases - 4
Other diagnoses - 36 (28%)	Cancer - 7 Anemia - 6 Diabetes, metabolic complications - 5 Cerebrovascular accident or transient ischemic attack - 4 Varied other conditions* - 14

* - *Dyspnea, leg edema, epigastric pain, general deterioration, acute bronchial asthma exacerbation, chronic renal failure, jaundice, cirrhosis, dysphagia, drug abuse, suicide attempt.*

Results

Over the period of the study 136 patients from our primary care clinic had a total of 190 admissions to the department of medicine. Their age was 63.9 ± 15.4 (mean \pm S.D.); 41% of the patients were >70 years old; 54% females and 23% living alone (widowers - 19%, divorced - 3%, unmarried - 1%). Hospital stay averaged 4.0 ± 2.4 days (range 1-15 days). The vast majority of admissions followed an acute referral from the community to the emergency room (95%). Other patients have been transferred to the department of medicine from the coronary care unit or from other departments in the hospital. Readmission within a month from previous discharge rated 15.8%.

The discharge summaries (DS) of 172 admissions were retrieved. Eight patients died during hospitalization and another 26 were transferred to other departments or geriatric institutions. For the remaining 138 admissions, 129 DS were written (nine pairs of closely related admissions were covered by a single DS), and were issued for further analysis. Primary care medical charts concerning 75% (97/129) of the DS were found. Most of the remaining patients moved to another location or to another primary care clinic, or subsequently died, and their files were therefore unobtainable.

Main discharge diagnoses as reflected by DS analysis are listed in table 1. A new medical condition was the main diagnosis in 35% of the DS. In the others an exacerbation or deterioration of a known problem was the main DS diagnosis.

The DS recommendations included 3.1 ± 1.4 general recommendations (range 0-8) and 4.0 ± 2.5 medication prescriptions (range 0-12). In 73% of them at least one new medication was prescribed. Table 2 lists the recommended follow up modalities as reflected in the DS. The family physician was the one expected to continue the treatment and follow the discharged patient in most of the cases (64%). Ambulatory evaluations recommended included: echocardiography, exercise stress tests, thallium cardiac scans, X-ray and CT scan imaging or blood analyses.

The DS was found in 82% of the 97 charts. The mean time interval between discharge and presentation to the family physician was 3.5 days (median 3.0 days, range 1-30 days). The main actions taken by the family physician included revision of the patient's problem list, asking for a consultation or a test and ordering laboratory checks. Home visits were documented in eight cases only.

Discussion

Most of the patients included in our study were admitted via the emergency room and their diagnoses indicate that hospitalizations resulted from urgent acute problems. Our patients' demographics and their medical complexity further highlight the importance of continued medical care. Significant changes in treatment and ambulatory work-up were indicated in most patients. A high quality DS which is made available to the family physician and implemented as soon as possible is essential for a proper continuous treatment.

The DS often reach the primary care physician at a late date and sometimes, not at all. Furst found that only 46% full case summaries of his discharged patients were eventually obtained, and moreover, the time lapse between the patient's discharge and arrival of the DS was unacceptably long⁵. Bragner et. al. compared traditional and electronic data interchange for admission/discharge reports between the hospital and family physicians. Whereas reports arrived after a median of 2-4 days interval via paper mail, electronic communication made all reports available to the family physician within one hour of their generation⁶. Thus, the traditional DS constitute a vital but often imperfect link in the patient care.

In recent years, prohibitive costs of hospitalizations in conjunction with large number of admissions per bed in the medical wards in our medical center have resulted in increasingly shorter hospital stays. This most likely increased the burden on family physicians in the community. It is also may be related to a relatively high number of readmissions. Other, previously identified factors which influence

Table 2: Recommended follow-up modalities in 129 discharge summaries

Family physician	83 (64%)
Hospital internal medicine clinic	7 (5.5%)
Other hospital clinics	22 (17%)
Consultants in the community	18 (14%)
No follow-up recommended	20 (15.5%)
Total	150*

* More than one recommendation per patient is possible

readmission rate are the quality of the relationship with the family physician⁷, the status of the closest family caregiver⁸ and the need for social and nursing services prior to admission⁹. All these seem of rather secondary importance when the very short hospital stay of medically complex elderly patients is considered. Thus, it is even more crucial that the family physician should be well informed in detail about the patient's hospital course. Furthermore, the DS should be available to the family physician as soon as possible. We found a high proportion of the DS in the primary care medical files (82%), as compared to 14-63% reported by others^{5,7}. The three days (median) interval between discharge and consultation with the family physician in our series was similar to that reported by Bragner et al.⁶ and shorter by half than the seven days documented by Williams⁷. However, it may be too long in many cases. Using electronic means of communication will shorten this interval to few hours⁶. However, this would obviously not replace the need for a carefully generated DS compiled by trained hospital physicians.

Burns et al. found that one in four elderly patients did not have his new prescription issued eight days (median) after discharge¹⁰. This is a further demonstration of the vulnerability of the period between discharge and actual implementation of the discharge recommendations. It also supports the need to make this period shorter and better supervised. One important way to achieve it, are home visits which can be carried out either by the family physician, a nurse or a social worker. Yet even a study which noted a relatively high rate of home visits (about 50%) revealed that most were initiated by patients and their families and not by the family physician⁸. When a nurse had made a home visit on the day after discharge and the family physician within two weeks, after one year of follow-up, significantly less patients who were monitored have been admitted to nursing homes, in comparison with a control group¹¹. A recent study however, demonstrated that contrary to all expectations, an intensive follow up at home by experienced medical personnel did not result in any significant benefit to the patients¹², casting doubt on the advisability of a too rigorous home monitoring program¹³. In our data, few home visits by physicians were recorded. This is partly explained by visits made by nurses which we were not able to trace. At any rate, our results may reflect the decline of house calls by physicians¹⁴.

In conclusion, our study shows that admissions to the department of medicine are mainly due to acute disease states and the average hospital stay is very short. Most patients require further evaluation and newly prescribed medications, making timely, well-informed and properly coordinated continuous care in the community an absolute necessity. A high quality, rapidly available discharge summary is therefore an important tool for the family physician. Whether these measures will reduce readmissions and improve patient

prognosis and quality of care should be clarified by further study.

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