

CHAPTER 11

HOSPITAL-TO-GP COMMUNICATIONS: A REVIEW OF DISCHARGE SUMMARIES

Adapted from:

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11.1 Introduction

The re-establishment and maintenance of health following an episode of acute care is partly dependent on continuing medications that may have been modified in hospital, as well as a range of other new issues relating to the hospital admission. Communication between hospitals and general practitioners (GPs) is essential for the continuity of care of patients being transferred from hospital care back into the community. This has become even more important with the increasing number of patients utilising ambulatory care services to continue their recovery at home, reducing their length of inpatient stay and so placing a greater need for information and care with the patients' GPs. GPs are involved in the maintenance of their patients' health.

This study was established to determine the state of the discharge process in the Macarthur Health Service as part of optimising the other interventions tested throughout this thesis. The process of communication with GPs was of particular interest in relation to the introduction of the MACS service and the encouragement of more chronic care in the community by GPs through Enhanced Primary Care¹⁴⁸. As a result, the full process of the hospital discharge summary was studied. The study was designed to capture steps from the production of the discharge summary through to receipt by the General Practitioner. Methods were investigated which could be implemented to improve the quality of the discharge information transfer system.

Historically, the discharge summary has been found to be poorly written^{149,150},

contain inaccurate^{151,152,153} or ineffective¹⁵⁴ information, and received too late^{155,156} to be of any significant value. A number of areas, identified by previous studies, have been found lacking when looking at the quality of the discharge summary. These include inadequacies in medical education¹⁵⁷, level of experience of the discharge summary author¹⁵¹, format of the information¹⁵⁸⁻¹⁶³, content¹⁶⁴, accuracy¹⁶⁰⁻³, legibility¹⁶⁴ and timeliness¹⁶⁵. The study described in this chapter aims to identify problems and where they are occurring in the production and transmittal system. Using this information and Pareto principles, the most significant problems identified in the system can be addressed.

11.2 Methods

Discharge summary review

The study comprised three phases using a retrospective review:

- 1) Production and quality of the discharge summary.
- 2) Transmission and receipt of the summary.
- 3) Effectiveness of the summary in communicating information to the GP.

Review of production and quality of the discharge summary

A sample of medical, surgical, gynaecological, paediatric and aged-care and rehabilitation discharge summaries of patients discharged from Macarthur Health Service was retrospectively audited for the 1999 calendar year. The discharge summary sample was gathered by taking a random selection of 5% of the summaries of patients treated by each of the senior medical officers in the chosen specialities.

Senior Medical Officers are those doctors with admitting rights and include Visiting Medical Officers, Honorary Medical Officers and Staff Specialists. This produced a total of 590 records of which 569 (96%) were audited. The remaining records were unavailable for retrieval from the clinical information department.

A project steering committee was formed with five GPs, two hospital doctors, three hospital managers, and a research officer, and was chaired by the Chief Executive Officer of the GP Division. The author convened and chaired the research sub-committee. The 569 files were audited by a registered nurse / project worker against a set of criteria established by the project steering committee. The reliability of the audit sheet used was tested by another project officer on 20 patient records, and a good inter-rater reliability was determined ($\kappa=0.94$).

A number of different discharge summary formats were found to have been in use during this period which did not follow the format of the audit sheet in all instances. In these cases, the information was recorded as being not applicable. For example, some of the paediatric discharge summary sheets in use did not collect information on patient allergies.

Transmission and receipt of the discharge summary

The second phase involved tracking the discharge summaries from the hospital to the GP. This was achieved by face-to-face interviewing a target group of 20 GPs. These GPs were selected by ranking the number of discharge summaries that had been addressed to them from within the audit sample. This yielded a group of 21

GPs who had more than five patients for whom a completed discharge summary had been written. One GP declined to be interviewed. The interview was conducted in the GP's practice to determine how many of these summaries were received.

A telephone survey of Sydney hospitals was conducted following the first round of GP interviews. This indicated that 10 of the 15 hospitals contacted gave the discharge summary to the patient to deliver to his or her GP. Two hospitals both mailed the GP a copy and gave one to the patient, and one hospital faxed the summary and gave it to the patient as well. Of the remaining two hospitals, one faxed and one mailed the summary. As a result, a second round of interviews were conducted on 11 of the 20 consenting GPs from which the method of delivery (mail, fax or by patient) was also collected.

Quality of information transferred

Phase three collected information from the target group of 20 GPs in relation to legibility, usefulness and timeliness of the information received. A checklist sheet was used to collect this data through a face to face interview process.

11.3 Results

Production and quality of the discharge summary

The examination of 569 medical records yielded 481 (84.5%) discharge summaries available for audit, leaving 88 medical records with no evidence of a discharge summary. See Table 11.1.

Table 11.1 **Discharge summary audit results showing percentages and numbers with accurate information**

Information criteria present in Discharge Summary	Discharges Summaries Audited; n=481		
	Yes % (n)	No % (n)	N/A* (n)
Ward	73.6 (354)	26.4 (127)	-
Registrar	59.1 (163)	40.9 (113)	(202)
Presenting Problem	81.3 (364)	18.7 (84)	(33)
GP	42.0 (202)	58.0 (279)	-
Principal Diagnosis	89.6 (429)	10.4 (50)	(2)
Other Diagnosis	62.8 (302)	37.2 (179)	-
Allergies / Reactions	58.4 (226)	41.6 (161)	(93)
Results Pending	35.2 (167)	64.8 (308)	(6)
Operations / Procedures	55.8 (268)	44.2 (212)	(1)
Complications	40.9 (174)	59.1 (251)	(56)
Medications on Discharge	79.3 (380)	20.7 (100)	(1)
Discharged to	62.0 (240)	38.0 (147)	(93)
Follow Up	86.1 (414)	13.9 (67)	-
Accuracy	63.6 (306)	36.4 (175)	-

* N/A, not applicable. A number of different discharge summary forms were found to have been in use during this period, and some did not follow the format of the audit sheet.

It was found that 175 (36.4%) of the discharge summaries contained information which did not reflect the information recorded in the patient notes. These inaccuracies could be divided into four groupings: medication (17.5%), clinical (17.3%), follow up (14.4%) and clerical (2.5%).

Medication errors included incorrect medications recorded, medications omitted from the summary, and omission of dose or frequency. Clinical errors included error or omission of allergies, results, management, diagnosis, and operations/procedures.

Follow-up errors included both those of omission and inaccuracy of appointments and clerical errors included incorrect ward, and incorrect admission/discharge dates.

The recording rate of medications on discharge was 79.3% (380). This indicates that in 21% (101) of summaries, there was no indication of whether there were any variations in the existing medications or indeed any medications at all.

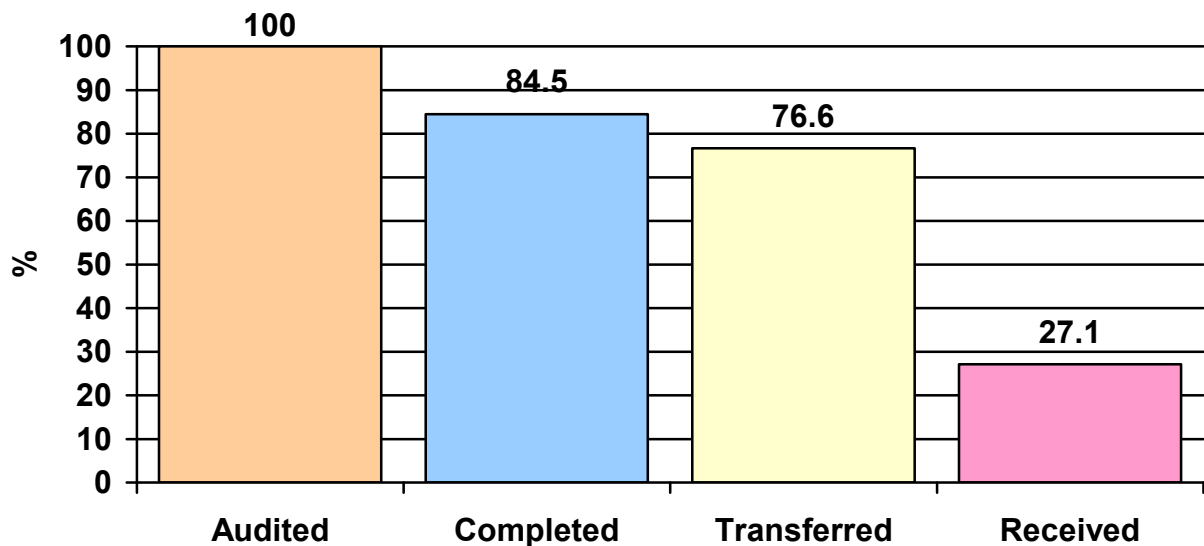
Transfer of summary data

Forty five discharge summaries, of the 481 summaries produced, were simply left in the patients' hospital notes. This effectively reduced the number of summaries available to the GP to 436 (76.6%). The target group of 20 general practitioners yielded a group of 99 patient discharge summaries, which was 22.7% of available summaries.

From the 99 discharge summaries followed up, only 35 (35.4%), were received by the GP (as nominated by the patient on admission to hospital). It can be extrapolated, with only 76.6% of summaries available for transfer, that the overall proportion of discharge summaries received was 27.1% (Figure 11.1).

Twenty six of the 35 summaries received were delivered by the patient, as would be expected, as this is the method used by the hospital to disseminate their discharge summaries. The other method of receipt was mail (n=5), with four summaries having an unknown delivery method.

Figure 11.1 **Discharge summary percentages vs level of process**



Note: The proportion of discharge summaries found at each level of process. *Audited:* records audited; *Completed:* records with a completed discharge summary; *Transferred:* discharge summaries available for transfer to the general practitioner, i.e. where the original GP-addressed top copy of the discharge summary was not still in the file; *Received:* discharge summaries received by the general practitioner.

Usefulness of summary

The target group of GPs also commented on timeliness, usefulness and legibility of discharge summaries. Summaries were considered to have arrived in a timely manner, in regards to effective patient management, in 23 out of the 35 summaries received. The usefulness of the summary was measured on a 5-point scale. Four summaries were identified as useless, four were next to useless, one was of minimal use, sixteen were found to be of some use, and ten were deemed to be very useful by the GP. Legibility was also measured on a 5-point scale. None were identified as illegible, 1 as mostly illegible, 7 as partly legible, 18 mostly legible and 9 as legible.

11.4 Discussion and conclusions

This study supports past research and opinions, confirming that a new approach to discharge summary production and transfer is required. The major problem identified in the study was the breakdown in transmittal of information to the general practitioner. The current method used, in which the patient delivers the discharge summary to his or her GP, is clearly not effective with GPs receiving summaries for only 27.1% of discharged patients.

Eleven of the twenty GPs questioned were asked about their preferred method of delivery of discharge summaries through a phone interview. The preferred method nominated was fax (9), combined with giving a copy to the patient (2), to ensure that if the patient visited a GP other than that nominated at admission, then appropriate information could be passed on. While email might be considered a good way to transfer information, no GP chose email as the primary method of transfer. It is clear from our interviews that many GPs had not embraced this new method of communication at the time of the study (in 2000).

The preferred method of fax transmission is a practical option where admission and discharge details can be automatically generated from within the hospital patient registration system without any human intervention. The latest generation of software with options for automatic fax (DOCFAX™) or e-mail (DOCMAIL™) transmission has been implemented in a number of health districts in New South Wales (Wingecarribee, Hunter, Illawarra)¹⁶⁶. The option of an electronic health record, which can be accessed by both hospital units and GPs, has also been the

subject of much discussion regarding secure access, confidentiality, transmission and storage^{167, 168}.

The second identified problem was that of accuracy of the information contained within the summary, with 36.4% of audited summaries containing errors or inaccuracies. The high turnover of junior medical officers in our hospitals has suggested that alternative methods of summary production should be investigated.

The Macarthur Health Service has an average of 20,000 discharges per year. If just 10 minutes per summary is allocated it would require a total of 3334 hours to produce these summaries. The amount of wasted time, based on 72.9% of summaries not reaching the intended destination, would convert to 2431 hours. At an average wage of \$21.65/hr for junior medical staff, \$52,641 is spent, in one public hospital, on producing discharge summaries that never reach GPs. The telephone survey of 15 public hospitals within NSW indicated that 10 of the 15 hospitals gave the discharge summary to the patient to deliver to their GP. Assuming that the percentage of discharge summaries reaching the intended destination is similar for other hospitals with patient-delivery systems, the cost involved becomes increasingly more significant. If this is combined with the increased cost to the health system of patient re-admissions resulting from poor follow-up after discharge, due to inadequate information being available to the GP, there is clearly a major problem confronting the health system.

Communications from hospitals to general practitioners is in an unacceptable state,

and to continue with the current system of discharge summaries appears futile. There are valuable resources consumed in the production of summaries, 72.9% of which never reach the intended destination. Clearly alternate transmittal arrangements and mechanisms to improve the quality and accuracy of information to GPs are needed.

The use of a software program such as DOCMAIL™ to automatically notify GPs of their patient's admission or discharge could provide sufficient information so that only patients with complex care issues would require a formal discharge summary. This would reduce the resources invested into discharge summary production, by reducing the number of discharge summaries required, and may prove advantageous when looking at alternative methods of discharge summary production.

The development of a universal identifier and the acceptance of the electronic health record is an alternative solution. Patient data needs to be shared between primary and secondary health care providers to provide continuity of care where there is in fact no "discharge" but rather a transfer of care from one health professional to another.