ARTICLE

Assessment of a Seamless Care Prescription/Discharge Notes Form

Kilby Rogers, Mike Tierney, Avinder Singh, and William McLean

ABSTRACT

Objectives: To evaluate the use of a standardized Prescription/Discharge Notes form for completeness, potential drug-related problems, and usefulness.

Methods: The study was a nonrandomized, sequential review of 29 days' use of a standardized Prescription/Discharge Notes form by a general medicine team at a tertiary care centre. The following data were collected: sections of the form completed, number of potential drug-related problems identified, and significance of potential drug-related problems. In addition, patients, community pharmacists, and family physicians were surveyed for feedback.

Results: Twenty patients were enrolled in the study. Some sections of the form were always completed, whereas others were rarely completed. Twenty-one potential drug-related problems were identified: 10 rated as somewhat significant, 7 rated as significant, and 4 rated as very significant. Eighty-eight percent of patients who responded to the survey (15/17) remembered receiving a Prescription/Discharge Notes form, and 62% (10/16) thought it helped them. Only 12% of patients (2/16) remembered receiving medication counselling before discharge. Of the 10 community pharmacists who responded to the survey, 5 (50%) used the forms to counsel patients. One pharmacist found some aspects of the form confusing, and 3 had to contact the physician before dispensing a patient's medication. All 7 family physicians who recieved the Prescription/Discharge Notes form found it useful and felt that they were well informed about their patients' hospital stay.

Conclusions: The Prescription/Discharge Notes form provided an effective and efficient way to transfer patient information to community health care providers. Modifications to the form and education regarding its use could reduce the number of potential drug-related problems.

Key words: seamless care, discharge prescriptions, continuity of care, drug-related problems

RÉSUMÉ

Objectifs : Évaluer les formulaires standardisés de notes d'ordonnance/de sortie (Prescription/Discharge Notes) afin de déterminer leur degré d'exhaustivité, leur pertinence et leur utilité pour identifier les problèmes pharmacothérapeutiques potentiels.

Méthodes : Étude non randomisée avec évaluation séquentielle sur 29 jours de l'utilisation par une équipe médicale multidisciplinaire d'un centre de soins de santé tertiaires, de formulaires standardisés de notes d'ordonnance/de sortie. Les données suivantes ont été recueillies : sections du formulaire remplies, nombre de problèmes pharmacothérapeutiques potentiels identifiés et gravité des problèmes pharmacothérapeutiques potentiels. De plus, les commentaires des patients, des pharmaciens communautaires et de médecins de familles en question ont été sollicités.

Résultats : Au total, 20 patients ont été inscrits à l'étude. Certaines sections du formulaire étaient systématiquement remplies, contrairement à d'autres. En tout, 21 problèmes pharmacothérapeutiques potentiels ont été identifiés. De ce nombre, 10 ont été cotés comme relativement graves, 7 comme graves et 4 comme très graves. Au total, 88 % de patients (15/17) se rappellent avoir reçu une note d'ordonnance/de sortie et 62 % (10/16) l'ont estimée utile. Seulement 12 % des patients (2/16) se rappellent avoir reçu des conseils sur leurs médicaments avant leur sortie. Des dix pharmaciens communautaires qui ont répondu au sondage, 5 (50 %) ont utilisé le formulaire pour prodiguer des conseils aux patients ; 1 a trouvé que certains aspects du formulaire portaient à confusion; et 3 ont dû communiquer avec le médecin avant de remettre les médicaments au patient. Les 7 médecins de famille qui ont reçu le formulaire de notes d'ordonnance/de sortie ont estimé qu'il était pertinent et qu'il les renseignait bien sur le séjour de leurs patients à l'hôpital.

Conclusions : Le formulaire de notes d'ordonnance/de sortie constitue un moyen efficace et efficient de communiquer de l'information sur le patient aux professionnels de la santé en milieu communautaire. Des modifications au formulaire et la formation relative à son utilisation pourrait réduire le nombre de problèmes pharmacothérapeutiques potentiels.

Mots clés : transparence des soins, ordonnances de sortie, continuité des soins, problèmes pharmacothérapeutiques

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INTRODUCTION

Seamless care can be defined as the flow of information among health care professionals in a manner that allows the best care for patients. It has been discussed in the literature for many years, and these discussions have focused mainly on ways to improve the transfer of such information.[1-8] Practitioners in many disciplines, including physicians, nurses, pharmacists, and social workers, have attempted to facilitate the transfer of information between the community and hospital settings.[1,2] The idea seems simple, but the ideal process for a coordinated effort by a multidisciplinary team has yet to be established and documented.

As hospital stays become shorter, many health issues are unresolved at the time of discharge, and follow-up in the community is required. Such follow-up necessitates good communication between hospital and community health care providers. The challenge is to ensure that accurate patient information is accessible to all health care providers who need it, when they need it.

On general medicine wards at the authors' institution, physicians are responsible for completing discharge prescriptions and summaries. This documentation is done manually, without the aid of computers, and results in a written document that nurses give to patients. The patient transfers this health information from the hospital to the community. Three copies of the form are produced; 2 are given to the patient (one for the pharmacist [the official prescriptions] and one for the family physician), and one copy becomes a permanent part of the patient's chart. Other disciplines such as home care, nursing, and social work become involved in specific patient cases on a referral basis, but to date, the standard of practice does not include routine involvement of a pharmacist in the discharge process. Many pharmacists attempt to counsel patients before they leave the hospital, but workload constraints and unknown discharge times can limit this activity. At this time, there is no requirement for documentation of hospital pharmacists' activities to be passed on to their community colleagues.

Other institutions have implemented pharmacist-directed pharmacy discharge plans, pharmaceutical care summaries, and pharmacists' discharge letters.[3,4] All of these seamless care initiatives have the potential to increase community pharmacists' and, in some cases, family physicians' knowledge regarding their patients' medication issues while in hospital.[3-5] Overall, such efforts have facilitated the flow of patient information and have potentially decreased the number of adverse drug reactions and drug-related problems.[3-5] One assessment of the impact of pharmacists writing the discharge prescriptions found a trend toward fewer adverse drug reactions and lower cost for prescriptions.[6]

In 1995, the Ottawa-Carleton Working Party on Seamless Care initiated the development of a prescription discharge form that was then implemented at The Ottawa Hospital—General Campus.[2] A preliminary review[2] of this seamless care tool (used on an orthopedic ward) revealed that the "Notes to Caregivers" section was completed on 75% of the forms. For 62% of patients, the review identified drug-related problems, the majority in the section indicating which drugs were to be continued after discharge.[2] This form, known as the Prescription/Discharge Notes (P/DN) form (Appendix 1), has now been in use on a campus-wide basis for 5 years. The purpose of this study was to determine how the form is being used on a general medicine ward and whether patients, community pharmacists, and family physicians view it as an effective tool for seamless care.

METHODS

This nonrandomized retrospective study was completed at The Ottawa Hospital—General Campus from April to June 2001, with the approval of the institution's Research and Ethics Board. A pharmacy resident (K.R.) collected the data.

Patients admitted to Team B of the General Medicine service at The Ottawa Hospital—General Campus were eligible to participate in this project if they were discharged between April 17, 2001, and May 15, 2001, and met other eligibility criteria. A pharmacist assigned to the General Medicine service provided pharmaceutical monitoring for patients throughout their hospital stay. All patients were approached by the investigator before discharge regarding participation in the study and were enrolled if they provided written consent. Patients to be discharged were identified through consultation with ward clerks, through twice-daily (at 1000 and at 1300) checks by the resident of the "Progress Notes" section of patients' health records, and through post-round updates from the pharmacist covering the service. Upon notification of a patient's impending discharge, the pharmacy resident met with the patient to request written consent. Patients were excluded if they could not speak English or French, if they were being discharged to a nursing home or long-term care facility (follow-up in such cases was deemed too complicated for the resources available and

a suitable contact person at the facility was usually unknown), or if they, or their primary caregivers at home, were unable to respond to the follow-up survey for any reason (e.g., no telephone, unable to communicate by telephone, or illness too severe to allow participation).

For each P/DN form, the resident completed a Pharmaceutical Assessment form using information obtained from the chart, from the clinical pharmacist, and from the physician if required. This form documented general patient information, medication changes, and medical problems arising in hospital. The information was compared with information obtained from patients, pharmacists, and family physicians once the patient was back in the community setting. Once the Pharmaceutical Assessment form had been completed, the pharmacy resident used a standard form to evaluate the P/DN form for completeness and number and type of drug-related problems. Also noted was whether the clinical pharmacist covering the service or other members of the team (including nurses, occupational therapists, respiratory therapists, physiotherapists, dietitians, or social workers) had provided documentation on the P/DN form.

The following potential drug-related problems were identified by the resident on review of the P/DN forms:

- Drug was prescribed for which there was no clear indication.
- Patient required drug therapy but prescription was not written.
- Prescription specified too little of the drug (e.g., dose, interval, or duration).
- Prescription specified too much of the drug (e.g., dose, interval, or duration).
- Patient experienced an adverse drug reaction while in hospital that was not recorded on the P/DN form.
- Patient was at risk of experiencing a drug–drug or drug–disease interaction.
- Patient was at risk of therapeutic duplication.
- Other.

For each potential drug-related problem, a Drug-Related Problem Assessment form was completed, and a copy was provided to each member of an independent evaluation panel consisting of 2 clinical pharmacists and 1 General Medicine physician. Members of the evaluation panel were not part of the General Medicine Team B during the period of data collection. The panel members independently assessed the potential significance of each drug-related problem using a standard evaluation scale with 5 categories: not significant, somewhat significant, significant, very significant, and extremely significant. Panel members were instructed in use of the scale during a 30-min session, to ensure comparable baseline understanding of the definitions. In the event that panel members' evaluations differed by more than one rating unit for any specific drug-related problem, the panel members met to discuss the problem and determined, as a group, a final significance ranking.

One week after each patient's discharge, the pharmacy resident conducted a follow-up telephone interview with the patient regarding the prescribed medication regimen and the perceived impact of the P/DN form on the return home. At the conclusion of the interview, the pharmacy resident requested the name and telephone number of the community pharmacy where the patient had filled the prescriptions listed on the P/DN form. With the patient's permission, the resident contacted the community pharmacy. The community pharmacist was asked to provide the medication profile for all active medications. This list was compared with the P/DN form. If the patient used more than one community pharmacy, the resident contacted only the pharmacy where the P/DN prescriptions had been filled.

The pharmacists who filled the P/DN prescriptions were surveyed regarding the usefulness of the P/DN form in the provision of seamless care.

If the patient had been to see his or her family physician for follow-up, a questionnaire was sent by fax to the family physician (if the patient consented). Family physicians were asked to return the questionnaire by fax within 48 h of receiving it, although a maximum of 30 days was allowed for the return of these questionnaires.

In the event of a discrepancy between the P/DN form and the regimen that a patient was taking at home and in the event of discovery of a significant drug-related problem, the pharmacist who had followed the patient in hospital was advised of the situation and appropriate follow-up was left to his or her discretion.

RESULTS

Twenty patients consented to participate in the study, and one refused. Many other potential participants were excluded because they were discharged to long-term care facilities, were transferred to community hospitals, or had no permanent address or contact telephone number. The 20 consenting subjects (14 women and 6 men) ranged in age from 20 to 91 years (mean 61 years). Four patients were discharged with no new medications, but the discharge

Table 1. Medication Use in 20 Study Patients as Indicated by the Prescription/Discharge Notes Form

Characteristic of medication use	Total	Per Patient (Mean and Range)	
No. of medications before admission	83	4.2	(0–15)
No. of new medications at discharge	46	2.3	(0–8)
No. of medications stopped while in hospital	11	0.6*	(0–3)
No. of medications to be continued	52	3.1*	(0–9)

*Based on 17 patients taking medications before admission.

Table 2. Completeness of Prescription/Discharge Notes Form for 20 Patients

	Status; No. (and %) of Forms			
Element	Complete		Incomplete	
General information				
Patient address plaqued or written	19	(95)	1	(5)
Date	18	(90)	2	(10)
Adverse reactions	6	(30)	14	(70)
Information for medications after discharge (*n* = 16)*				
Generic name	16	(100)	0	(0)
Brand name	12	(75)	4	(25)
Strength	16	(100)	0	(0)
Dosage	15	(94)	1	(6)
Indication	2	(12)	14	(88)
Quantity	4	(25)	12	(75)
Days of therapy	16	(100)	0	(0)
No. of refills	1	(6)	15	(94)
Interval of refills	0	(0)	16	(100)
Preadmission medications (*n* = 17)†				
To be continued	9	(53)	8	(47)
To be discontinued	11	(65)	6	(35)
Physician information				
Signature	20	(100)	0	(0)
Name printed	19	(95)	1	(5)
Ontario registration number	5	(25)	15	(75)
Telephone number	1	(5)	19	(95)
Pharmacist information				
Notes to caregiver	20	(100)	0	(0)
Signature	14	(70)	6	(30)
Discharge diagnosis	20	(100)	0	(0)

*Four forms had no new medications listed.
†Three patients had no medications before admission.

summary and diagnosis sections of the P/DN form were completed anyway. On average, patients were admitted to hospital on 4.2 medications (range 0 to 15) and were discharged with 2.3 new medications (range 0 to 8) (Table 1). The mean number of medications stopped in hospital was 0.6 (range 0 to 3). The total number of medications before admission for all patients was 83. At discharge, 11 of those medications had been stopped and 52 were to be continued. The 20 "missing" medications were accounted for by incompleteness of the P/DN sections for medications to be continued (8 patients) and medications to be discontinued (6 patients). No drug-related problems resulting from this discrepancy were identified.

Several trends in the completion of the P/DN form emerged from the review (Table 2). Several sections, specifically drug name (either generic or brand, although not necessarily both), drug strength, number of days of treatment, physician's signature, notes to caregivers, and discharge diagnosis, were always

Table 3. Classification of 21 Potential Drug-Related Problems Detected in Review of Prescription/ Discharge Notes Form

Potential Drug-Related Problem	No. of Forms
No indication given for prescribed drug	1
No prescription written for indication	3
Too little drug prescribed	1
Too much drug prescribed	2
Adverse drug reaction not recorded	0
Drug–drug or drug–disease interaction	3
Therapeutic duplication	5
Other*	6

*Five instances of limited-use form not being completed and one instance of frequency not being indicated.

situation in which the outcome of the drug-related problem could be neutral, although filling the prescription might be delayed), significant (defined as a situation in which a more acceptable and appropriate standard of practice is available), and very significant (defined as a situation with the potential for an adverse reaction or major organ dysfunction) (Table 4). None of the potential drug-related problems were assessed as extremely significant (defined as a life-or-death situation).

At the 1-week follow-up, 18 patients were contacted. Two participants could not be reached, one

Table 4. Significance of 21 Potential Drug-Related Problems as Assessed by 3 Independent Evaluators

Drug-Related Problem	Evaluator; Rating*		
	Evaluator 1 (Pharmacist)	Evaluator 1 (Pharmacist)	Evaluator 1 (Physician)
No indication for medication (furosemide)	C	C	B
No prescription for a documented indication			
No prescription for iron in anemic patient	C	C	B
No prescription for depression in a patient with depression	C	C	C
No prescription written for specific indication	C	C	C
Too little drug prescribed	C	C	B
Too much drug prescribed			
Dose too high	D	D	D
Dose not adjusted for renal function	B	B	B
Interaction			
Triamterene, rofecoxib	B	B	A
Potassium, enalapril	D	C	C
NSAID prescribed for patient with renal failure	D	D	D
Therapeutic duplication†			
Antibiotic therapy	B	B	B
Metoprolol and atenolol	D	D	C
Diazepam, flurazepam	D	D	C
Ranitidine, lansoprazole	C	C	B
Lorazepam, alprazolam	B	B	B
Other			
No instructions provided for prescribed medication	B	B	B
Special form not used (5 cases)	B	B	B

NSAID = nonsteroidal anti-inflammatory drug.
*A = not significant, B = somewhat significant, C = significant, D = very significant, E = extremely significant.
†Patient was receiving one drug before admission, and the second drug was prescribed during hospital stay.

completed. By contrast, indication for the drug, quantity, number of and interval for refills, physician's Ontario registration number, and physician's telephone number were completed infrequently.

Twenty-one potential drug-related problems were identified during the review (Table 3). The 3 most common potential problems were drug interactions, lack of a prescription for specific indications, and therapeutic duplication. The most frequent ratings of drug-related problems (agreed upon by 2 or more assessors) were somewhat significant (defined as a

because the telephone had been disconnected and the other because there was no response to telephone calls (for the latter patient, follow-up was attempted for a period of 3 weeks). Another patient withdrew from the study at the time of follow-up. Thus, 17 participants completed the follow-up survey (Table 5). Of these, most remembered receiving a P/DN form at discharge; however, 4 did not give the form to the community pharmacist (Table 5). When asked if they knew the names of their medications, 10 patients knew the names without looking at the vials. Two participants reported

Table 5. Results of Survey of 17 Patients*

Question	Response; No. (and %) of Patients							
	Yes		No		Unsure		NA	
Do you remember receiving a Prescription/Discharge Notes form when you were leaving the hospital?	15	(88)	1	(6)	1	(6)		
Responses based on 16 patients who answered Yes or No to first question								
Do you know the medications you are currently taking?	10	(62)	6	(38)	0			
Are these medications different than those you were taking before your hospital stay?	12	(75)	4	(25)	0			
Were any of your medications stopped in the hospital?	7	(44)	9	(56)	0			
Did anyone talk to you about your medications while you were in the hospital or before you left the hospital?	2	(12)	14	(88)	0			
Do you think the Prescription/Discharge Notes form you received at discharge helped you organize your new medication schedule?	10	(62)	3	(19)	3	(19)		
Do you remember giving one copy of the Prescription/ Discharge Notes form to your community pharmacist?	11	(69)	1	(6)	0		4†	(25)
Did your community pharmacist counsel you about your prescriptions?	11	(69)	1	(6)	0		4†	(25)
Do you feel your community pharmacist knew more about your condition after receiving the discharge summary?	5	(31)	3	(19)	2	(12)	6	(38)
Do you get all your prescriptions at the same pharmacy?	10	(62)	3	(19)	3	(19)		
Have you been to see your family doctor since your discharge?	10	(62)	6	(38)	0			
Did you give a copy of the Prescription/Discharge Notes form to your family physician?	10	(62)	6	(38)‡	0			

NA = not applicable.
*Results obtained between April 25 and June 8, 2001.
†Patients did not give Prescription/Discharge Notes form to community pharmacy (3 patients had no new prescriptions, and 1 patient had new prescriptions rewritten by the family physician).
‡Patients did not follow up with their family physicians before the time of the survey.

Table 6. Results of Survey of 10 Community Pharmacists*

Question	Response; No. (and %) of Pharmacists					
	Yes		No		Unsure or Did Not Receive Form	
Are you the pharmacist who originally filled the prescription?	10	(100)	0		0	
If yes, did you refer to the discharge summary when providing patient counselling?	5	(50)	4	(40)	1	(10)
Was there anything confusing about the discharge summary?	1	(10)	5	(50)	4	(40)
Is there any additional information you require for the provision of optimal patient care?	5	(50)	4	(40)	1	(10)
Did you feel you were better informed about your patient's recent hospitalization?	7	(70)	1	(10)	2	(20)
Did you need to contact the physician as a result of this prescription?	3	(30)	6	(60)	1	(10)

*Results obtained between April 25 and June 8, 2001.

being counselled about their new medications while in hospital, although no patients recalled being counselled by a pharmacist. Ten patients believed that the P/DN form helped with the transition from hospital to home, and 5 felt the form helped the community pharmacist know about their hospital stay.

Thirteen community pharmacists were contacted, of whom 10 were able to complete the follow-up survey (Table 6). One pharmacist was unable to find the P/DN form, one patient had received new prescriptions from her family physician without having the P/DN prescriptions filled, and one pharmacist declined to participate. Of the 10 respondents, 5 used the P/DN form when counselling patients, and 5 identified additional information that would have been useful to them, including the indications for all drugs, the history of treatment while in hospital, and the patient's height, weight, and specific allergic reactions. Some did not understand the abbreviations used in the discharge summaries. Despite these problems, most pharmacists felt that they were better informed regarding the patient's hospital stay because of the P/DN form. Three

Table 7. Results of Survey of 8 Family Physicians*

Question	Response; No. (and %) of Physicians			
	Yes		No	
Were you aware that The Ottawa Hospital—General Campus provided a Prescription/Discharge Notes form to patients before discharge?	7	(88)	1	(12)
Did your patient provide you with a Prescription/Discharge Notes form?	7	(88)	1	(12)
Did you find the information useful for your clinical follow-up?†	7	(100)	0	(0)
Was there additional information you would have found useful?†‡	6	(86)	0	(0)
Was there anything confusing about the Prescription/Discharge Notes form?†	0	(0)	7	(100)
Did you feel you were well informed about your patient's recent hospitalization because of the Prescription/Discharge Notes form?†	7	(100)	0	(0)

*Results obtained between May 1 and June 8, 2001.
†Based on the 7 family physicians who received the Prescription/Discharge Notes form.
‡One respondent left this section blank.

of the pharmacists had to contact the physician before they could fill the prescription(s). Four community pharmacists indicated that their patients were unaware that the P/DN form represented a prescription, 3 pharmacists said that the imprint from the name and address plaque was often illegible, 6 mentioned that the physician copy was unclear so they returned the original discharge summary portion of the P/DN form to the patient and kept nothing for their own records, 2 indicated that it was difficult to contact the hospital physician, and 1 felt that discharging patients on Friday or Saturday made it difficult to obtain uncommon medications in a timely manner.

Eleven patients visited their family physicians within 1 to 2 weeks of discharge, of whom 10 remembered giving the P/DN form to the doctor. Follow-up questionnaires were sent to these 10 family physicians by fax, and 8 responses were returned. Of these respondents, 7 were aware that The Ottawa Hospital—General Campus provided a P/DN form to patients on discharge, and the same number remembered receiving a copy from their patient or patients (Table 7). All responding family physicians found the information useful for their clinical follow-up and felt they were well informed regarding their patients' hospital stay. Among their general comments were reports that patients were unaware that they should bring this form to the family physician, requests to be notified when their patients are admitted to hospital, and concerns about discharges on the weekend with instruction for follow-up and blood work on Monday because it can be difficult to schedule these tests on short notice.

DISCUSSION

The Ottawa Hospital's P/DN form is being used regularly on the hospital's General Medicine ward (General Campus). Most sections, especially the "Notes to Caregivers" and "Discharge Diagnosis", were completed consistently. Interestingly, the "Notes to Caregivers" section was completed on all forms analyzed in this study, an improvement over the 75% rate of completion when the form was introduced in 1997.[2] The reason for this improvement is unknown, but it may relate to physicians' and residents' increasing familiarity with the form. Another possibility is a difference in approach between services; that is, practitioners in the general medicine service (analyzed here) may feel a greater need than those in the orthopedic service (analyzed previously[2]) to use the form. The sections legally required for a prescription to be filled were seldom left blank, although there were several occasions on which community pharmacists had to contact the prescribing physician before they could fill the prescription. In contrast, the "Indication" section, which could have provided valuable information to community caregivers, was rarely completed. Two other important sections, "Medications To Be Continued" and "Medications To Be Discontinued" after discharge were both completed appropriately on just over half of the forms. Paquette-Lamontagne and others[R9] found that when the corresponding sections on their form were completed, the conformity of community pharmacy patient profiles with hospital profiles was significantly better, which would increase the chance that patients would be taking the proper medications at home. The Ottawa Hospital's P/DN form was designed by a working group of physicians and pharmacists who deemed the information contained within it to be very valuable to community health care providers. It is therefore important that a process be developed to ensure the proper use of all sections of this form.

Of some concern was the number of potential drug-related problems identified on the P/DN forms. On average, there was one drug-related problem on each P/DN form, but this number could be an underestimation because it was impossible to ascertain any potential drug-related problems resulting from the 8 incomplete "Medications To Be Continued" sections and the 6 "Medications to Be Discontinued" sections. The potential drug-related problems ranged from somewhat significant to very significant. These results suggest that a change in the discharge process should be considered to improve patient outcomes and to decrease the number of potential drug-related problems. Many studies have shown that having a pharmacist involved in the writing or reviewing of discharge prescriptions decreases the number of drug-related problems[1,3,6,7] and can even decrease drug costs.[6] Consideration should be given to making seamless care a priority.

Most patients who took part in this study were knowledgeable about their medication regimens. For 75% of the patients (12/16), changes were made to the drug regimen while in hospital, and all of these patients continued taking the proper medication once at home. Interestingly, no participant could recall being counselled by a pharmacist before discharge, although 2 remembered discussing their medications, one with a physician and the other with a nurse. Given that, on average, each patient who participated in this study started 2 new medications while in hospital, there is a real opportunity for hospital pharmacists to get involved at discharge. For example, discharge prescriptions could be verified for appropriate dosages and intervals, counselling could be given, or a note could be written to the community pharmacist indicating the need for counselling. Parameters for monitoring therapeutic outcomes could also be documented on the P/DN form. Data from this study confirmed that the P/DN form provides an efficient method of information transfer between the hospital and the community, since most patients delivered the form to their pharmacists and their family physicians. Now, the challenges include getting the appropriate members of the hospital health care team to document the appropriate information on the P/DN form and decreasing the number of potential drug-related problems.

As a group, the community pharmacists found it difficult to find time to answer the survey questions. In some cases, it took 3 weeks to identify the pharmacist who had filled the prescription and to set up an appropriate time for the interview. Once they began answering the survey questions, though, most became very interested in how their answers could be used to improve the way in which they receive information from the hospital. Interestingly, only half of the community pharmacists used the "Notes to Caregivers" to counsel their patients, yet most identified additional information that they could have used. This presents an opportunity for hospital pharmacists to communicate better with their community colleagues, by using the P/DN form to supply additional information specific to drug therapy.

The family physicians' responses were positive. Most were aware that The Ottawa Hospital—General Campus provides discharge summaries for patients leaving the hospital. They saw this document as an excellent way to communicate briefly the details of patients' hospital stay and to bridge the gap until they received the full discharge report. Overall, family physicians were satisfied with the information contained on the form, although one physician suggested that family doctors be notified at the time of a patient's admission.

On the basis of data from this study, several changes could be implemented. Minor modifications to the P/DN form could facilitate its completion. Removing the section for refills (which was completed on just one form) would extend the space available for the prescription details and would create the need for a follow-up visit with the family physician to evaluate the outcome of therapy and to obtain refill prescriptions if the desired effect was seen. Routinely scheduled orientation sessions for medical students and new residents regarding the use of the P/DN form could decrease the misuse of certain sections. Nurses could be given a brief in-service on the need to emphasize to patients the importance of bringing one copy of the P/DN form to the community pharmacy and the second copy to the family doctor. Community pharmacists reported that some patients were not aware that this form is a prescription. Patients could be reminded of this fact when given the form, and this information could be incorporated into the form. All hospital health care providers could be encouraged to use the "Notes to Caregiver" to identify any issues that need to be followed up by community health care providers. Hospital pharmacists could use the P/DN form to document new medications started in hospital and their indications, modifications to medications taken before admission, monitoring parameters, and plans for increasing or reducing doses, as well as to indicate whether counselling has been given or if it is required from community pharmacists. This information would be useful to community pharmacists as well as family physicians.

The major limitation of this study was its small sample size. For unknown reasons, there were very few discharges during the first 2 weeks of enrollment and most of the discharged patients were sent to community hospitals or long-term care facilities or had no permanent address. The exact number of patients discharged during the enrollment period is unknown, partly because of the suboptimal method of identifying eligible patients. Another limitation was that a third-party reviewer not directly involved in patient care identified the potential drug-related problems. Therefore, some potential drug-related problems may have gone undetected. Also, unvalidated surveys and rating scales were used because no applicable validated tools could be identified. Despite these limitations, these data can be used to improve the seamless care process.

Seamless care has been the goal of many disciplines. The P/DN form facilitates this process at the authors' institution. In particular, the "Discharge Diagnosis" and "Notes to Caregivers" sections help many family physicians to provide better care to their patients when they return home. In contrast, community pharmacists require different information, which is not always available on the form. A possible solution would be to have hospital pharmacists become involved with seamless care activities pertaining to their area of expertise and provide the appropriate medication information to their community colleagues through the P/DN form or another seamless care form. Given the changes to patients' medication regimens during hospital stays (additions, deletions, and modifications), counselling patients at the time of medication dispensing or patient discharge should be a priority. Despite the use of the P/DN form, the flow of information between community and hospital health care providers is still less than optimal. Pharmacists should seize this opportunity to become involved in seamless care activities because of the great potential to prevent drug-related problems and improve patients' transition from hospital to home. The effect of pharmacists' involvement on the discharge process should be the subject of further study.

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Kilby Rogers, BScPharm, was, at the time of this study, a Pharmacy Resident at The Ottawa Hospital—General Campus, Ottawa, Ontario. She is now a Staff Pharmacist at Westboro Pharmasave, Ottawa, Ontario.

Mike Tierney, MSc, is Director of Pharmacy, The Ottawa Hospital, Ottawa, Ontario.

Avinder Singh, BScPharm, is a Hospital Pharmacist, General Medicine, The Ottawa Hospital—General Campus, Ottawa, Ontario.

William McLean, PharmD, is Head of the Pharmaceutical Outcomes Research Unit, The Ottawa Hospital—General Campus, and Adjunct Professor of Pharmacology, University of Ottawa, Ottawa, Ontario.

Address correspondence to:
Kilby Rogers
Westboro Pharmasave
30 Richmond Road
Ottawa ON
K2A 0E8

e-mail: kilbyrogers@rogers.com

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Appendix 1. The Prescription/Discharge Notes Form in Use at The Ottawa Hospital—General Campus

The Ottawa Hospital | L'Hôpital d'Ottawa

ORDONNANCES/NOTES AU DÉPART
PRESCRIPTION/DISCHARGE NOTES

℞

Date:

Réactions nocives-Adverse reactions

Les médicaments suivants seront continués après la sortie de l'hôpital-The following medications are to be taken after discharge from the hospital

Nom générique Generic Name	Force Strength	Posologie Dosage	Indication	Quantité Quantity	Jours Days	Renouvellement Refills Nº/No.	Fréquence Interval
1-							
2-							
3-							
4-							
5-							
6-							
7-							
8-							

Médicaments préadmission à continuer-Pre-admission medications to be continued

Médicaments supprimés-Discontinued medications

Signature (médecin-physician)	Nom en caractères d'imprimerie-Name printed	Nº de permis de l'Ontario-Ontario registration no.

Pharmacien : Veuillez mettre à jour la carte du client-Pharmacist: Please update the wallet card

Notes aux professionnels de la santé-Notes to care-givers

SIGNATURE: TÉL.-TEL. NO.

Diagnostic au congé-Discharge diagnosis

PHA 10 (09/98) Cat: 412530 **COPIE 1- PATIENT-PATIENT'S COPY**