

Medication Safety

Medication Reconciliation at Hospital Discharge: Evaluating Discrepancies

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The Joint Commission has recognized the importance of medication reconciliation, making it a requirement for hospital accreditation.¹ Medication reconciliation has been described as the “process of obtaining a complete and accurate list of each patient’s current home medications—including name, dosage, frequency, and route of administration—and comparing the physician’s admission, transfer, and/or discharge orders to that list.”² Effectively and consistently performing medication reconciliation at interfaces of care continues to be a challenge for healthcare professionals; approximately 60% of all medication errors in the hospital occur at admission, intra-hospital transfer, or discharge.³ At these points of care, where responsibility for a patient is transferred between healthcare professionals, a patient may be vulnerable to medication discrepancies that may lead to errors and adverse drug events. Discharge is a particularly vulnerable transitional interface when patients are at a high risk of such medication discrepancies.

Cornish et al.⁴ found that on admission, 53.6% of patients had at least one unintended medication discrepancy. These discrepancies on admission may result in inappropriate medication therapy during the hospital stay, which often carries over to discharge. One report found that 23% of patients discharged

BACKGROUND: Hospital discharge is an interface of care when patients are at a high risk of medication discrepancies as they transition from hospital to home. These discrepancies are important, as they may contribute to drug-related problems, medication errors, and adverse drug events.

OBJECTIVE: To identify, characterize, and assess the clinical impact of unintentional medication discrepancies at hospital discharge.

METHODS: All consecutive general internal medicine patients admitted for at least 72 hours to a tertiary care teaching hospital were prospectively assessed. Patients were excluded if they were discharged with verbal prescriptions; died during hospitalization; or transferred from or to a nursing home, another institution, or another unit within the same hospital. The primary endpoint was to determine the number of patients with at least one unintended medication discrepancy on hospital discharge. Medication discrepancies were assessed through comparison of a best possible medication discharge list with the actual discharge prescriptions. Secondary objectives were to characterize and assess the potential clinical impact of the unintentional discrepancies.

RESULTS: From March 14, 2006, to June 2, 2006, 430 patients were screened for eligibility; 150 patients were included in the study. Overall, 106 (70.7%) patients had at least one actual or potential unintentional discrepancy. Sixty-two patients (41.3%) had at least one actual unintentional medication discrepancy at hospital discharge and 83 patients (55.3%) had at least one potential unintentional discrepancy. The most common unintentional discrepancies were an incomplete prescription requiring clarification, which could result in a patient delay in obtaining medications (49.5%), and the omission of medications (22.9%). Of the 105 unintentional discrepancies, 31 (29.5%) had the potential to cause possible or probable patient discomfort and/or clinical deterioration.

CONCLUSIONS: Medication discrepancies occur commonly on hospital discharge. Understanding the type and frequency of discrepancies can help clinicians better understand ways to prevent them. Structured medication reconciliation may help to prevent discharge medication discrepancies.

KEY WORDS: hospital discharge, medication discrepancy, medication reconciliation.

Ann Pharmacother 2008;42:1373-9.

Published Online, 9 Sept 2008, www.theannals.com, DOI 10.1345/aph.1L190

from a teaching hospital experienced an adverse event, 72% of which were related to medications.⁵ The most common discrepancies that may take place on discharge include incomplete, inaccurate, or illegible discharge instructions⁶ and omission of medications.⁷ Foss et al.⁸

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demonstrated that 48% of all drugs had a discrepancy when medication lists were compared between the hospital and patient immediately following discharge. Furthermore, the likelihood for harm increases if an error remains unresolved after discharge. One study found that 22% of discrepancies could have led to patient harm in the hospital, while 59% of the discrepancies could have potentially caused harm if they remained unresolved after discharge.⁹

Many studies have examined medication discrepancies on hospital admission^{4,7-16} and a number of studies have investigated medication discrepancies and reconciliation at discharge.^{6-8,12,13,15-22} However, only a few published studies have performed a rigorous analysis of medication reconciliation at hospital discharge. For example, a number of the existing studies were restricted by small sample size (≤ 100 pts.).^{8,12,19,22} Furthermore, most of the studies were not focused on the general internal medicine environment,^{6,7,12,19-22} where reconciliation can be especially complex. Some of these studies did not assess the potential clinical impact of discharge medication discrepancies.^{6,13,22} To develop and implement an effective and comprehensive medication reconciliation solution at hospital discharge, a better assessment and characterization of discrepancies at discharge is required.

The objectives of our study were to prospectively measure the incidence of patients with at least one unintentional medication discrepancy at hospital discharge and to identify the characteristics and potential clinical impact of these discrepancies.

Methods

This prospective study was conducted from March 14, 2006, to June 2, 2006, at Toronto General Hospital, a tertiary care teaching hospital affiliated with the University of Toronto. This study was approved by the institutional research ethics board. All consecutive patients admitted to the general internal medicine service were assessed by clinical pharmacists for eligibility. On admission, patients were excluded if they were transferred from a long-term care facility or another hospital, transferred from another unit within Toronto General Hospital, readmitted, previously included in the study, and/or were unable to communicate in English and had no family or caregiver to act as a substitute. At discharge or transfer from the ward, patients were excluded if they were admitted to the general internal medicine unit for less than 72 hours, discharged with verbal prescriptions, discharged with prescriptions without a copy attached to their charts, transferred to a long-term care facility or another hospital, transferred to an intra-hospital unit, died during hospitalization, and/or left the hospital against medical advice.

At the time of the study, usual care consisted of a number of components. First, a nurse in the emergency depart-

ment documented the drug names on an emergency department nursing assessment form. Then a medical resident obtained and documented a primary medication history in the patient's admission note in the medical chart. After patients were admitted from the emergency department to the ward, a pharmacist may have obtained a secondary patient medication history, known as a best possible medication history (BPMH), or clarified the primary history. A BPMH is a comprehensive medication history obtained by a clinician that includes a thorough history of all regular drug use.²³ This may include assessment of patient medication vials and lists, interviews with the patient and/or caregiver, and communication with the patient's community pharmacy and/or family physician. During the hospital stay, drugs may have been changed, added, or discontinued. At discharge, a physician manually prepared handwritten prescriptions and electronically prepared a medication list as part of a physician discharge summary. The hospital pharmacist may have created a patient discharge medication grid to aid with medication-taking practices at home. This patient aid includes a table containing information on the drugs such as names, dosages, administration times, and indications.

The general medicine clinical pharmacists caring for these patients and a pharmacy resident were the assessors who performed discharge medication reconciliation to identify discharge medication discrepancies. A classification system for categorization of discrepancies was used by each assessor to systematically characterize medication discrepancies. During the discharge period, assessors reviewed patients' preadmission medications, a BPMH when available, and medication alterations made in the hospital to create a best possible medication discharge list (BPMDL). A BPMDL, the most accurate list of discharge medications, accounts for the BPMH and the medications started, discontinued, or adjusted in the hospital. It also accounts for unchanged home medications and new medications intended to be started upon discharge.

A discharge medication discrepancy was defined as any difference seen between the medications listed on discharge prescriptions (along with those listed in the physician discharge summary) and the BPMDL. These discrepancies were systematically identified and categorized by the pharmacist or a pharmacy resident. Identified discrepancies were determined to be either unintended or undocumented intended.²³ The prescriber was consulted if there was confusion over whether or not a discrepancy was intentional or unintentional. An undocumented intentional discrepancy is one that the prescriber intentionally made but that was not clearly documented. These discrepancies may create confusion and the potential for medication errors.

Unintentional discrepancies can be divided into 2 categories: actual or potential. An actual unintentional discrep-

ancy is one that was inadvertently made by the physician to add, change, or omit a medication.²³ Identified actual unintentional discrepancies were intercepted and addressed with the medical team prior to patient discharge when appropriate. Potential unintentional discrepancies occurred when clear patient directions regarding the management of home medications were omitted or not explicitly documented on patient discharge. These discrepancies, causing confusion surrounding the postdischarge status of a preadmission medication, could lead to actual medication discrepancies and patient harm. For example, there may be a question as to whether a preadmission warfarin regimen that was held in the hospital should continue to remain on hold or be reinitiated. If the intent is not addressed clearly and explicitly documented on the discharge prescription or a physician discharge summary, confusion may be created for the patient as to whether or not to continue the medication.

The clinical impact of actual unintentional discrepancies was assessed retrospectively by blinded measurements performed by 3 independent clinicians not involved in the direct care of the study patients, including one general internist (SMHA) and 2 pharmacists (GGW, J-HH). Each clinician categorized medication discrepancies as having unlikely, possible, or probable potential to cause patient discomfort and/or clinical deterioration if the discrepancy was not identified and addressed. This system of assessing the clinical impact of medication discrepancies was adapted from a previously published process.¹¹ Blinded assessments were based on available information in the patient's chart, pharmacy profile, physician discharge summary, and/or data collection form. A majority consensus was required for categorization of each discrepancy.

Since the potential—not actual—clinical harm of unintentional medication discrepancies was assessed, certain assumptions were taken into account. These assumptions included the following¹¹: an omitted drug would not be ordered for 7 days (anticipating that the family physician would reassess medications in the postdischarge period), therapeutically duplicated medications would continue to be taken for 7 days, patients receiving drugs by an inappropriate route would continue on the medication for 7 days, patients with medications requiring refills that were not addressed at discharge would not receive the medication for 24 hours, and patients receiving an incomplete prescription would experience a 24-hour delay in receiving medications.

The sample size for this independent baseline study was derived from a proposed future study evaluating the efficacy of a medication reconciliation strategy. It was predicted that the strategy would reduce the frequency of patients with one or more unintentional medication discrepancies at hospital discharge from 30% to 15%. Using a 2-tailed *t*-test, with $\alpha = 0.05$ and $\beta = 0.20$, the required sample size

was a minimum of 134 patients in the baseline phase. Descriptive and statistical analyses were performed using SAS v8.2 (SAS Institute, Cary, NC). Interrater reliability for assessing the clinical impact of unintentional medication discrepancies was analyzed using a κ score.²⁴

Results

During the study period, 430 patients were screened for eligibility, 280 patients were excluded, and 150 patients were included in the analysis (Figure 1). Patient characteristics are summarized in Table 1. One hundred six (70.7%) patients had at least one actual or potential unintentional discrepancy. A number of patients had both actual and potential unintentional medication discrepancies. Sixty-two (41.3%) had at least one actual unintentional medication discrepancy at hospital discharge and 83 (55.3%) had one or more potential unintentional discrepancies.

In total, there were 1252 BPMDL medications; of these, 322 (25.7%) had a discrepancy. Of the total number of discrepancies, 45 were undocumented intentional discrepancies, 105 were actual unintentional discrepancies, and 172 were potential unintentional discrepancies. Characteristics of the 105 actual unintentional discrepancies are summarized in Table 2. The most common actual unintentional discrepancies were the omission of medications ($n = 24$) and an incomplete prescription requiring clarification, which might result in a patient delay in obtaining medications ($n = 52$). The actual unintended discrepancies were also classified into the following groups of medications: cardiovascular medications (26.7%), gastrointestinal medications (21.9%), antiinfectives (13.3%), analgesics (10.5%), respiratory medications (6.7%), and other (21.0%). Poten-

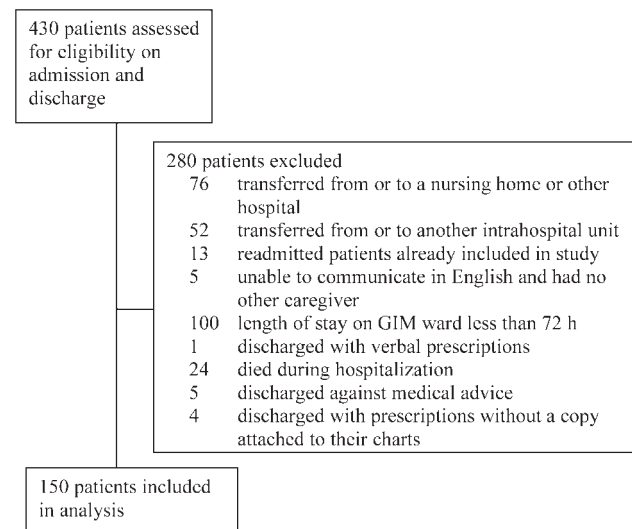


Figure 1. Summary of patient exclusions. GIM = general internal medicine.

tial unintentional discrepancies accounted for 62.1% of the 277 unintentional discrepancies.

The assessment of the clinical impact of actual unintentional discrepancies is summarized in Table 3. Of the 105 actual unintentional discrepancies, 31 (29.5%) had the potential to cause possible or probable patient discomfort and/or clinical deterioration if the discrepancy was not identified or resolved. Twenty-two (14.7%) patients had at least one actual unintentional medication discrepancy with the potential to cause possible or probable patient discomfort and/or clinical deterioration. Agreement between the 3 clinicians assessing the clinical impact of actual unintentional medication discrepancies was substantial. Pairwise κ scores ranged from 0.72 to 0.80 (mean 0.76). Complete agreement between clinicians would have yielded a κ score of 1.²⁴

Age (y), mean (range)	65.9 (14–93)
Sex, n (%)	
male	74 (49.3)
female	76 (50.7)
Length of stay (days), median (range)	5.5 (3–47)
Medications on BPMDL (n), median (range)	8 (1–22)
Prescription medications on discharge (n), median (range)	4 (0–18)
Patients receiving a BPMH, n (%)	113 (75.3)
Patients receiving a discharge medication grid, n (%)	53 (35.3)
Primary diagnosis, n (%)	
infection	37 (24.7)
gastrointestinal bleeding or other gastrointestinal-related disease	18 (12.0)
congestive heart failure	18 (12.0)
cancer	14 (9.3)
chronic obstructive pulmonary disease or dyspnea	8 (5.3)
acute coronary syndrome, angina, chest pain	13 (8.7)
electrolyte imbalance	5 (3.3)
cirrhosis or other liver-related disease	5 (3.3)
other	32 (21.3)
BPMDL = best possible medication discharge list; BPMH = best possible medication history.	
^a N = 150.	

Discussion

Medication reconciliation at hospital admission and at discharge are 2 very distinct processes. Admission medication reconciliation requires a straightforward comparison of a comprehensive list of a patient's preadmission medications with admission orders. In comparison, discharge medication reconciliation requires multiple comparisons between different pieces of information, including medica-

Type of Discrepancy	n (%)
Drug	
omission	24 (22.9)
no indication ^b	1 (1.0)
therapeutic duplication ^c	3 (2.9)
inappropriate route	4 (3.8)
needs prescription for refill not addressed	3 (2.9)
inappropriate duration	3 (2.9)
Dose	
incorrect	5 (4.8)
not renally adjusted	1 (1.0)
Frequency	
incorrect	9 (8.6)
Incomplete prescription that may lead to delay in starting a medication	52 (49.5)
missing limited-use code ^d	31 (29.5)
misspelled drug name	1 (1.0)
omission of formulation	1 (1.0)
omission of dose	4 (3.8)
omission of frequency	3 (2.9)
illegible order	1 (1.0)
quantity missing	8 (7.6)
repeats on narcotics	3 (2.9)
^a n = 105.	
^b Medication no longer required was reordered on hospital discharge by physician.	
^c Discharge medications that were therapeutic duplications of preadmission medications as a result of automatic medication substitutions.	
^d Ontario drug reimbursement code for medications reimbursed by the government formulary when specific clinical criteria/conditions have been met.	

Probability of Patient Discomfort and/or Clinical Deterioration ^b	Discrepancies, n (%)	Examples
Unlikely	74 (70.5)	pt. admitted for liver cirrhosis was started on domperidone 3 times daily and at bedtime in hospital; on discharge, a prescription for domperidone 3 times daily was written
Possible	22 (21.0)	pt. admitted for right upper quadrant abdominal pain; levothyroxine dose was increased from 0.10 mg to 0.15 mg in hospital; no prescription was written on discharge for the new dose
Probable	9 (8.6)	pt. admitted to hospital with lung cancer and was started on gabapentin 600 mg 3 times daily in hospital for pain; upon discharge, the prescription was unintentionally omitted
^a n = 105.		
^b If discrepancy was not identified/unresolved.		

tions on the BPMH, medications prescribed in the hospital (adjusted, new, discontinued), unchanged home medications, and medications to be started at discharge, which makes this process complex. The process of discharge reconciliation on a general medicine service is especially critical given the complex needs of the patients involved (eg, multiple comorbidities and medications). Few studies have focused on discharge medication reconciliation; many of these had a small sample size, were not focused on the general medicine patient population, did not delineate unintentional discrepancies, and did not measure the potential clinical impact.

Recent studies have found that discrepancies occur more frequently on hospital discharge than on admission.^{15,16} Our results demonstrated that 41.3% of patients had at least one actual unintentional medication discrepancy on hospital discharge. This was consistent with the findings of previous studies that demonstrated that discrepancies occur frequently on hospital discharge; 41.0–56.3% of the patients in those studies had a medication discrepancy on discharge.^{12,17} Previous studies have shown that incomplete prescriptions⁶ and omission of a medication^{12,17} were the most common discharge discrepancies, which also correspond with our findings.

The largest category of medication discrepancies was found to be that of potential unintentional discrepancies. Lack of information on discharge prescriptions about medications represcribed without changes or discontinued during hospital stay was the main source of discrepancies in one study.¹⁹ Vira et al.¹² found that 51% of unintended medication discrepancies were attributed to the lack of discharge instructions on a medication changed in the hospital; this is comparable with our result of 62.1%. In our findings, the issue of potential unintentional discrepancies is further highlighted by the gap between the median number of BPMDL medications (8) and prescription medications (4). These potential unintentional discrepancies are significant, as they may lead to confusion for patients and community clinicians on the status of preadmission medications and eventually result in actual discrepancies. In order to prevent these discrepancies from occurring, the status of preadmission medications on discharge must be clearly documented and communicated to the patient. This category of discrepancies has not been previously highlighted, and future studies need to include this important category in their analysis.

Our results showed that 29.5% of actual unintentional medication discrepancies on hospital discharge had the potential to cause possible or probable patient discomfort and/or clinical deterioration if the discrepancy was not identified or resolved. The clinical impact was assessed only for actual unintentional discrepancies, as a methodology for assessing potential unintentional discrepancies has

not yet been developed. Nickerson et al.¹⁷ found that, on discharge, 90.9% of discrepancies had a potentially significant or very significant clinical impact, while Vira et al.¹² reported that 14.9% of discrepancies were clinically important. This wide range in results may be due to the fact that different patient populations, evaluation methodologies, and evaluators were used in each study. Interestingly, Kwan et al.,¹¹ who performed an admission medication reconciliation study on patients undergoing elective surgery, found that 66.2% of medication discrepancies on admission had the potential to cause possible or probable patient discomfort and/or clinical deterioration. This percentage is larger than the one found in our study, possibly because we did not evaluate the clinical impact of potential unintentional discrepancies.

There were a number of limitations in our study. Although patients were assessed prospectively, final reconciliation coding was completed retrospectively within a few days of discharge for a number of patients due to time constraints. This timeframe allowed the assessor to speak with the physician or pharmacist caring for the patient on whether a discrepancy was intentional or unintentional. A BPMH was completed for 75.3% of patients, which reflected usual care provided during the study period. This may have limited the ability to create a BPMDL, which may have led to an underestimation of discrepancies. There may also have been variability among assessors evaluating medication discrepancies. We attempted to minimize this by using a systematic approach to identify and classify medication discrepancies. The potential clinical impact of actual unintentional discrepancies was assessed retrospectively. The results may vary in institutions that implement different processes of generating discharge prescriptions and other documents. Patients transferred from or to another facility or medical service were excluded from our analysis, which may limit the ability to generalize the results to these populations. In addition, only actual unintentional discrepancies were assessed for clinical impact; future studies are needed to assess the patient impact of potential unintentional discrepancies.

Findings from our study support the need for the multidisciplinary practice of discharge medication reconciliation. This process should explicitly clarify the status of medications the patient was taking prior to admission. It must also appropriately account for new medications started in the hospital, discontinued medications, adjusted medications, and new medications to be started upon discharge.²³ It should lead to the creation of a BPMDL, which should then be compared against discharge prescriptions and, if available, a physician discharge summary medication list. The best possible medication discharge plan is a comprehensive plan that must account for new medications started in the hospital, new medications started on discharge, preadmission and hospital medications held

during the hospital stay, and automatic hospital formulary substitutions, as well as discontinued, adjusted, and unchanged preadmission drugs. Discharge medication reconciliation should be performed in collaboration with physicians, nurses, and pharmacists and incorporated into standard-of-care practices, such as discharge medication counseling and creation of discharge prescriptions/medication lists for patients.

A structured, multidisciplinary, integrated medication reconciliation practice model should be developed. Processes should be performed in a synchronized manner to coordinate the efforts of all clinicians involved in a patient's care. A computerized system that can facilitate electronic collection and transfer of medication information from the time of admission to discharge to facilitate integrated admission and discharge medication reconciliation could aid in the process.

This study focused on the discharge interface of care while the patient was still in the hospital. Future research could assess the effects of discharge medication discrepancies after a patient is discharged from the hospital and investigate the proportion of discrepancies that lead to actual adverse drug events, as well as develop a clear methodology for assessing the clinical impact of potential unintentional discrepancies.

Conclusions

Medication discrepancies occur commonly on hospital discharge. Understanding the type and frequency of discrepancies can empower clinicians to better understand ways to prevent them. This study highlights the need for structured medication reconciliation to prevent discharge discrepancies.

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Presented as a poster at the 2006 American College of Clinical Pharmacy Annual Meeting, St. Louis, MO, October 27, 2006, and at the 2007 Canadian Society of Hospital Pharmacists Professional Practice Conference, Toronto, Ontario, January 28, 2007.

We thank Kristie Small BScPhm, Stephanie Ong BScPhm, Jeff Nagge PharmD, Kelly Lane BSc, and Tim Tripp BSc MLIS for their contributions; Maxine Lau BScPhm, Karen Ng BScPhm, Erica Om BScPhm, Sonia Mota BScPhm, Derek Leong BScPhm, Janet Sio BScPhm, Anita Jakovic BScPhm, and Jill Westlund BScPhm for assisting with data collection; and Emily Musing BScPhm MHS, Executive Director of Pharmacy, University Health Network, for supporting the study.

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Reconciliación de Medicamentos al Momento del alta del Hospital: Evaluando las Discrepancias

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Ann Pharmacother 2008;42:1373-9.

EXTRACTO

TRASFONDO: El alta del hospital es un interfaz en el cuidado del paciente en el cual éstos están a riesgo de discrepancias en cuanto a sus medicamentos en su transición desde el hospital al hogar. Estas discrepancias son importantes pues contribuyen a los problemas relacionados con medicamentos, a los errores en la medicación, y a los efectos adversos.

OBJETIVOS: Este estudio tuvo como objetivo identificar, clasificar, y evaluar el impacto clínico de las discrepancias no intencionales de medicamentos al momento del alta del hospital.

MÉTODOS: Se evaluaron de forma prospectiva, todos los pacientes de medicina interna admitidos al menos durante 72 horas en un hospital de enseñanza de nivel terciario. Se excluyeron los pacientes que fueron dados de alta con prescripciones verbales, los que murieron durante la hospitalización, los que fueron transferidos desde o hacia un asilo, otra institución u otra unidad del hospital. El criterio principal de valoración fue determinar el número de pacientes con al menos una discrepancia no intencional de medicamentos al momento del alta. Las discrepancias de medicamentos fueron evaluadas mediante una comparación con una lista del mejor medicamento posible al momento del alta y las prescripciones reales de los medicamentos al momento del alta. Los objetivos secundarios fueron clasificar y evaluar el potencial impacto clínico de las discrepancias no intencionales de medicamentos.

RESULTADOS: Del 14 marzo–2 junio 2006, 430 pacientes fueron evaluados por concepto de elegibilidad y 150 pacientes fueron incluidos en el estudio. En general, 106 (70.7%) pacientes tuvieron al menos una real o potencial discrepancia no intencional. Sesenta y dos pacientes (41.3%) tuvieron al menos una discrepancia de medicamentos real no intencional al momento del alta del hospital y 83 pacientes (55.3%) tuvieron al

menos una discrepancia potencial no intencional. Las más comunes discrepancias no intencionales fueron prescripciones incompletas que requirieron clarificación, algo que puede resultar en un retraso para el paciente al obtener sus medicamentos (49.5%), y la omisión de medicamentos (22.9%). De las 105 discrepancias no intencionales, 31 (29.5%) tuvieron el potencial de causar posibles o probables incomodidades y/o deterioro clínico del paciente.

CONCLUSIONES: Las discrepancias de medicamentos comúnmente ocurren al momento del alta del hospital. Entender el tipo y la frecuencia de las discrepancias puede ser útil para ayudar al profesional clínico a mejor entender las maneras de prevenirlas. Una reconciliación de medicamentos estructurada puede ayudar a prevenir las discrepancias de medicamentos al momento del alta.

Traducido por Rafaela Mena

La Réconciliation des Médicaments à la Sortie de l'Hôpital: L'Évaluation des Écarts

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Ann Pharmacother 2008;42:1373-9.

RÉSUMÉ

MISE EN CONTEXTE: C'est au congé de l'hôpital que les patients sont au plus haut risque d'une erreur dans leur bilan de médicaments. Cette non-conformité peut être significative car elle peut conduire à des problèmes reliés aux médicaments, des erreurs médicamenteuses, et des effets indésirables.

OBJECTIFS: Identifier, caractériser, et évaluer l'impact clinique de la non-conformité du bilan des médicaments au congé de l'hôpital.

MÉTHODES: Tous les patients admis à l'unité de médecine interne pour au moins 72 heures dans un hôpital de soins tertiaires ont été évalués. Les patients étaient exclus s'ils ont reçu une ordonnance verbale à leur congé, s'ils sont décédés durant l'hospitalisation ou s'ils ont été transférés dans une autre unité de soins. L'issue primaire était de déterminer le nombre de patients avec au moins une non-conformité non-intentionnelle lors du congé. Le bilan des médicaments a été effectué à l'aide d'une comparaison de la liste des médicaments au congé et de l'ordonnance de départ. Les objectifs secondaires étaient de caractériser et évaluer l'impact clinique de la non-conformité.

RÉSULTATS: Quatre cents trente patients ont été évalués pour participer à l'étude entre mars–juin 2006 et 150 patients ont été inclus dans l'étude. Cent six (70.7%) des patients avaient au moins une non-conformité réelle ou potentielle. Soixante-deux (41.3%) des patients avaient au moins une non-conformité lors du congé et 83 (55.3%) avaient au moins une non-conformité potentielle. La cause la plus commune était une ordonnance de départ nécessitant une clarification pouvant résulter à un délai dans la délivrance des médicaments (49.5%) ou à un oubli de médicaments (22.9%). Dans les 105 cas de non-conformité, 31 (29.5%) avaient le potentiel de causer des torts au patient ou une détérioration clinique.

CONCLUSIONS: Les erreurs dans le bilan des médicaments sont fréquentes lors du congé de l'hôpital. La connaissance du type et de la fréquence de ces non-conformités peuvent aider les cliniciens à les prévenir. Un bilan des médicaments structuré pourrait aider à prévenir ce type d'erreurs.

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