

Discrepancy between information provided and information required by emergency physicians for long-term care patients

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ABSTRACT

Objectives: The primary objective of this study was to identify information included in long-term care (LTC) transfer documentation and to compare it to the information required by local emergency department (ED) physicians to provide optimal care and make decisions for LTC patients.

Methods: A retrospective chart review was conducted for a sample of LTC residents transferred by ambulance to the ED of an academic, tertiary care hospital over a 1-year period. All emergency physicians working at the institution were invited to complete an online questionnaire about information included in LTC transfer documentation and information required by emergency physicians to provide care for LTC patients.

Results: Of the 200 charts reviewed, the most common information transferred to the ED with the LTC patient was the patient's past medical history (n = 184, 92.0%), name of family physician (n = 182, 91.0%), a list of known allergies (n = 179, 89.5%), the reason for transfer to the ED (n = 155, 77.5%), the patient's emergency contact information (n = 152, 76.0%), and medication administration record (n = 150, 75.0%). From a physician's perspective, the most frequently requested pieces of information included reason for transfer, past medical history, cognitive status, advanced directives for level of care and resuscitation, and the patient's emergency contact information. This information was provided 77.5% (n = 155), 92.0% (n = 184), 24.0% (n = 48), 62.0% (n = 124), and 76.0% (n = 152) of the time, respectively.

Conclusions: Our study demonstrates a clear discrepancy between information provided and information required by emergency physicians for LTC patients. Quality improvement initiatives at the local level may help reduce this discrepancy.

RÉSUMÉ

Introduction: L'étude avait principalement pour buts de relever les renseignements fournis dans la documentation en vue de la mutation des patients en soins de longue durée

(SLD), et de comparer ces éléments d'information avec les renseignements recherchés par les médecins aux services des urgences (SU) locaux afin qu'ils puissent donner les meilleurs soins possible et prendre des décisions éclairées à leur sujet.

Méthode: Il s'agit d'un examen rétrospectif, d'une durée d'un an, de dossiers d'un échantillon de pensionnaires en SLD, transportés en ambulance au SU d'un hôpital universitaire, de soins tertiaires. Tous les urgentologues travaillant dans l'établissement ont été invités à remplir un questionnaire en ligne sur les renseignements fournis dans la documentation en vue de la mutation des patients en SLD et les renseignements recherchés pour traiter les patients en question.

Résultats: Sur les 200 dossiers examinés, les éléments d'information fournis le plus souvent aux urgentologues sur les patients en SLD étaient les antécédents médicaux (n = 184; 92,0 %), le nom du médecin de famille (n = 182; 91,0 %), une liste d'allergies connues (n = 179; 89,5 %), le motif de mutation au SU (n = 155; 77,5 %), les renseignements concernant les personnes à joindre en cas d'urgence (n = 152; 76,0 %) et la fiche de médicaments administrés (n = 150; 75,0 %). Quant aux médecins, les renseignements recherchés le plus souvent étaient le motif de mutation, les antécédents médicaux, l'état cognitif, les instructions préalables sur le degré de soins à donner et les manœuvres de réanimation ainsi que les renseignements sur les personnes à joindre en cas d'urgence. Ces éléments d'information ont été fournis dans 77,5 % (n = 155), 92,0 % (n = 184), 24,0 % (n = 48), 62,0 % (n = 124) et 76,0 % (n = 152) des cas, respectivement.

Conclusions: Les résultats de l'étude font ressortir une nette différence entre les renseignements fournis aux urgentologues et les renseignements recherchés par ceux-ci pour les patients en SLD. Des initiatives d'amélioration de la qualité à l'échelle locale pourraient aider à combler les lacunes.

Keywords: documentation, emergency department, geriatric, long-term care, transfer

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INTRODUCTION

Long-term care (LTC) patients in the emergency department (ED) are complex. They are more likely to have multiple comorbidities, to use ED services, to be on multiple medications, and to be admitted to the hospital compared to the general older population.¹⁻³ Because many LTC residents have cognitive impairment, they are often unable to provide an accurate history.^{3,4} Therefore, the complexity of this population requires timely and high-quality communication between the patient's primary and ED health care providers.

Multiple studies have demonstrated that the information accompanying LTC residents to the ED is incomplete.^{3,5-9} Emergency physicians have identified reason for transfer, baseline cognitive function, and communication ability as information necessary for providing care.³ Beyond these two components, the requested information is variable, including medication lists, allergies, code status, contact information, and requested investigations.³ Information gaps can lead to poor outcomes, adverse drug effects,^{5,7,10} and extended ED length of stay.¹¹

The primary objective of this study was to identify information included in LTC transfer documentation and to compare it to the information required by local emergency physicians to provide optimal care and make decisions for LTC patients. Although there was no formal, pre-specified study hypothesis, it was suspected that there would be information gaps in LTC transfer documentation compared to the information sought by local emergency physicians to provide care and make decisions for LTC patients.

METHODS

Retrospective review

A retrospective medical record review was conducted for a random sample of adult LTC residents transferred by ambulance to the ED of an academic, tertiary care hospital in Toronto, Ontario, over a 1-year period (January to December 2015). The Mount Sinai Hospital ED receives approximately 200 patients per day, 1.0% of whom are residents in LTC facilities. All transfer documentation of LTC residents is received in paper form and scanned into the hospital's electronic medical record upon patient discharge.

Using a computerized, structured, data abstraction form, trained research personnel reviewed the medical records and extracted patient age and a Canadian Triage and Acuity Scale (CTAS) score, which categorizes ED patients from 1 (resuscitative) to 5 (non-urgent). Research personnel also recorded whether any of the following 18 variables were included in the information sent with the patients from the LTC facility: reason for transfer (including number of words); level of mobility (indication of baseline, change, or both); cognitive status (indication of baseline, change, or both); name of LTC facility; contact number of person initiating the transfer; name and contact information of an appointed substitute decision maker or next of kin; whether next of kin or substitute decision maker had been notified of the transfer; medication administration record/list of medications; allergies; past medical history; name of family physician; investigations completed in the last 14 days; nursing notes within the last 72 hours; previous hospital discharge summaries; consultation notes from medical specialists; number of vital signs (heart rate, blood pressure, respiratory rate, oxygen saturation, temperature) at time of transfer; advanced directives for level of care and resuscitation; and a government-mandated do not resuscitate (DNR) confirmation form. If an advanced directive form was present, the following information was also obtained: number of months since the last update and the name of the person who signed the form and that person's relationship to the patient. The list of 18 variables was created by the investigators based on a review of relevant literature as well as a consultation with emergency physicians, geriatric emergency nurses, care of the elderly fellows, and a clinical epidemiologist.

Physician survey

All emergency physicians working in the Mount Sinai Hospital ED in Toronto, ON were invited to complete a brief, seven-item, online questionnaire. Participants were asked whether they received all of the information needed to provide optimal care and make decisions for most patients transferred to the ED from LTC. The respondents were asked to select the top five most helpful pieces of information from the items listed previously, with the exception of the name of the LTC facility. Participants were also asked about standardized transfer forms, advanced care directives, DNR forms, and suggestions for improvements in the transfer

documentation accompanying patients transferred to the ED from LTC facilities.

Survey questions were created by the investigators based on a review of relevant literature as well as consultation with emergency physicians, geriatric emergency nurses, care of the elderly fellows, and a clinical epidemiologist. Prior to distribution, the questionnaire was peer reviewed by emergency physicians and nurses unrelated to the study and tested for ease of comprehension. Participation was voluntary and anonymous. The study protocol for both the medical record review and survey was approved by the institutional research ethics board.

Data analysis

Data were entered directly into a study-specific Microsoft Excel database (Microsoft Corporation, Redmond, Washington). Descriptive statistics were summarized using means with standard deviations (SD), medians with interquartile ranges (IQR), or frequencies where appropriate. All statistical analyses were conducted using SPSS 22.0 (IBM Corporation, Armonk, NY).

RESULTS

Retrospective review

A total of 628 consecutive LTC patients were transferred to the ED over the 1-year study period. Of these, 200 patients from 38 LTC facilities were selected for study inclusion using a computer-based random number generator. Mean (SD) age was 80.3 (12.9) years, and 127 (63.5%) were female. Patients were categorized as CTAS 1 ($n = 3$, 1.5%), CTAS 2 ($n = 67$, 33.5%), CTAS 3 ($n = 113$, 56.5%), and CTAS 4 ($n = 17$, 8.5%). The information most commonly transferred to the ED with the patient was past medical history ($n = 184$, 92.0%), name of family physician ($n = 182$, 91.0%), a list of known allergies ($n = 179$, 89.5%), the reason for transfer to the ED ($n = 155$, 77.5%), patient's emergency contact information ($n = 152$, 76.0%), and medication administration record ($n = 150$, 75.0%) (Table 1). Of the 155 (77.5%) records that included information regarding the reason for transfer to the ED, 43 (27.7%) descriptions contained less than 10 words (Table 2).

One hundred twenty-four (62%) patients arrived to the ED with an advanced directive. Of those patients, the median (IQR) number of months since the directive

was last updated was 9 (4, 13.5) months; 82 (41.0%) patients were transferred to the ED with a DNR form. The median (IQR) number of months since the DNR form was updated was 17.5 (7, 34.2) months.

Physician survey

Of the 30 emergency physicians invited to participate, 30 (100%) completed the online survey. Years of emergency medicine experience varied from < 5 years (36.7%), 5–15 years (16.7%), and > 15 years (46.7%). Of the 30 respondents, 25 (83.3%) did not believe that they received all of the information needed to provide optimal care and make decisions for most patients transferred to the ED from LTC. One respondent stopped completing the questionnaire after the second question, so the remaining results are from 29 emergency physicians.

The top five pieces of information that emergency physicians identified as required to provide optimal care and make decisions for LTC patients were 1) reason for transfer, 2) past medical history, 3) cognitive status, 4) advanced directives for level of care and resuscitation, and 5) the patient's emergency contact information (see Table 1). This information was provided 77.5% ($n = 155$), 92.0% ($n = 184$), 24.0% ($n = 48$), 62.0% ($n = 124$), and 76.0% ($n = 152$), respectively. Within the top five domains, the between-site variability was as wide as 6.7% to 71.0% (cognitive status).

Twenty-four (82.8%) respondents agreed that a standardized form would be helpful in improving care of patients transferred from LTC to the ED. When asked about advanced directives, 18 (62.1%) emergency physicians reported that directives should be reviewed and updated by the patient or his or her substitute decision maker at least once per year. When asked for suggestions for improvements of the transfer documentation accompanying patients from LTC facilities, multiple physicians identified that better documentation regarding baseline cognitive and functional status and a more detailed description of reason for transfer would be useful.

DISCUSSION

Our study identified information included in LTC transfer documentation and compared it to the information required by local emergency physicians to provide care for LTC patients. Our results demonstrate that there is wide variation in the information

Table 1. Information most helpful to emergency physicians in providing optimal care and making decisions for patients from long-term care homes

Variable	Required by emergency physicians (n = 29)	Provided by LTC facilities (n = 200)	Variability across top 5 LTC facilities				
			Site A (n = 45)	Site B (n = 15)	Site C (n = 15)	Site D (n = 14)	Site E (n = 13)
Reason for transfer	75.9% (57.9, 87.8)	77.5% (71.2, 82.7)	75.6% (61.3, 85.8)	80.0% (54.8, 93.0)	100% (79.6, 100.0)	85.7% (60.0, 96.0)	92.3% (66.7, 98.6)
Past medical history	72.4% (54.3, 85.3)	92.0% (87.4, 95.0)	91.1% (79.3, 96.5)	93.3% (70.2, 98.8)	100% (79.6, 100.0)	92.9% (68.5, 98.7)	92.3% (66.7, 98.6)
Comment on cognitive status	72.4% (54.3, 85.3)	24.0% (18.6, 30.4)	11.1% (4.8, 2.3)	13.3% (3.7, 37.9)	6.7% (1.2, 29.8)	71.4% (45.3, 88.3)	38.5% (17.7, 64.5)
Advance directives	68.9% (50.8, 82.7)	62.0% (55.1, 68.4)	48.9% (35.0, 63.0)	60.0% (35.7, 80.2)	60.0% (35.7, 80.2)	85.7% (60.0, 96.0)	92.3% (66.7, 98.6)
Patient's emergency/ primary contact	37.9% (22.7, 56.0)	76.0% (69.6, 81.4)	62.2% (47.6, 74.9)	93.3% (70.2, 98.8)	100% (79.6, 100.0)	78.6% (52.4, 92.4)	84.6% (57.8, 95.7)
Medication administration record	34.5% (19.9, 52.6)	75.0% (68.6, 80.5)	75.6% (61.3, 85.8)	33.3% (15.2, 58.3)	100% (79.6, 100.0)	50.0% (26.8, 73.2)	92.3% (66.7, 98.6)
Comment on mobility	31.0% (17.3, 49.2)	32.0% (25.9, 38.7)	20.0% (10.9, 33.8)	20.0% (7.0, 45.2)	6.7% (1.2, 29.8)	85.7% (60.0, 96.0)	23.1% (8.2, 50.3)
Previous hospital discharge summaries	21.1% (9.8, 38.4)	3.0% (1.4, 6.4)	0%	0%	13.3% (3.7, 37.9)	0%	0%
Contact information of person initiating transfer	13.8% (5.5, 30.5)	30.0% (24.1, 36.7)	2.2% (0.4, 11.5)	20.0% (7.0, 45.2)	100% (79.6, 100.0)	35.7% (16.3, 61.2)	84.6% (57.8, 95.7)
Investigations in last 30 days	10.3% (3.6, 26.4)	23.0% (17.7, 29.3)	31.1% (19.5, 45.7)	13.3% (3.7, 37.9)	26.7% (10.9, 51.9)	14.3% (4.0, 40.0)	15.4% (4.3, 42.2)
Consult notes	10.3% (3.6, 26.4)	3.5% (1.7, 7.1)	0%	6.7% (1.2, 29.8)	6.7% (1.2, 29.8)	0%	0%
Nursing notes	6.9% (1.9, 22.0)	3.5% (1.7, 7.1)	2.2% (0.4, 11.5)	0%	0%	21.4% (7.6, 47.6)	0%
Complete vital signs at time of transfer	6.9% (1.9, 22.0)	30.0% (24.1, 36.7)	28.9% (17.7, 43.4)	6.7% (1.2, 29.8)	20.0% (7.0, 45.2)	50.0% (26.8, 73.2)	38.5% (17.7, 64.5)
Allergies	3.4% (0.6, 17.1)	89.5% (84.5, 93.0)	88.9% (76.5, 95.2)	86.7% (62.1, 96.3)	93.3% (70.2, 98.8)	92.9% (68.5, 98.7)	92.3% (66.7, 98.6)
Family physician	0%	91.0% (86.2, 94.3)	93.3% (82.1, 97.7)	86.7% (62.1, 96.3)	100% (79.6, 100.0)	85.7% (60.0, 96.0)	92.3% (66.7, 98.6)
Primary contact notified of transfer	0%	13.0% (9.0, 18.4)	0%	13.3% (3.7, 37.9)	46.7% (24.8, 69.9)	21.4% (7.6, 47.6)	53.8% (29.2, 76.8)
Do-not-resuscitate form	0%	41.0% (34.4, 47.9)	28.9% (17.7, 43.4)	60.0% (35.7, 80.2)	33.3% (15.2, 58.3)	42.9% (21.4, 67.4)	61.5% (35.5, 82.2)

Table 2. Number of words documented in the reason for transfer

	Total n (%)
0 words	45 (22.5)
1–5 words	17 (8.5)
6–10 words	26 (13.0)
11–15 words	36 (18.0)
16–20 words	21 (10.5)
21–25 words	15 (7.5)
>25 words	40 (20.0)

transferred with patients from LTC, and there is discrepancy between the information transferred and what is required by emergency physicians to safely manage

these patients. For example, although receiving physicians' identified "reason for transfer" as the most important piece of information, it was missing for nearly one quarter of all patients transferred from LTC. Additionally, although the contact information of the primary care provider was uniformly unimportant to the receiving physician (0%), it was included more consistently than any other information point transferred with the LTC patient. Information regarding the patient's cognitive status, either chronic or acute, was identified as the third most important piece of information by ED physicians; however, it was provided on average for only 48 (24%) LTC transfers, ranging from 6.7% to 71.4%. Clearly, this wide variability from site

to site offers a significant opportunity for quality improvement relating to LTC-ED transfers.

Our findings are similar to Cwinn et al., who determined the frequency and type of clinically important information gaps for patients transferred to an ED from a nursing home or seniors residence.¹¹ During a 6-month period, Cwinn et al. included 457 patient transfers and reported information gaps in 85.5% (95% confidence interval [CI]: 82.0, 88.0) of cases. Specific information gaps along with their relative frequency were similar to our own findings, and included the following: the reason for transfer (12.9% absent), the baseline cognitive function and communication ability (36.5%), vital signs (37.6%), advanced directives (46.4%), medication (20.4%), activities of daily living (53.0%), and mobility (47.7%). The LTC facilities in the Cwinn study had been using standardized transfer forms for a number of years prior to the initiation of the study. This is similar to most of the LTC facilities sending patients to our ED, indicating that the presence of the form alone is not enough to improve information transfer.¹¹

A recent systematic review by Griffiths et al. explored transitional communication practices and reported the patient information deemed essential for the management of LTC residents in the ED.³ The authors reported that the information accompanying the resident should include the reason for transfer, past medical history, current medications, cognitive function, and advance directives. These transfer communication variables are almost identical to the preferences of the ED physicians in our study.

In a study by Kessler et al., the authors suggested that LTC facilities and EDs have different capabilities, scopes of practice, and goals of care. Due to the absence of direct face-to-face communication and perhaps different remuneration strategies between the ED and LTC facility, there are few external incentives for excellent communication.⁵ The health care professionals initiating the transfers, usually LTC nurses, may have little experience with decision making in an acute or emergent care setting and may be unfamiliar with what information would be helpful. To bridge the knowledge gap, health care professionals receiving the transfers in the ED should communicate what information would be helpful to ED staff caring for LTC patients. Without consensus regarding what information is essential when transferring patients from LTC, communication will continue to vary, and resident care will be affected.

Other suggestions for improving information transfer have included pre-established, patient-specific forms with previous results and relevant information, ready at any time for transfer, and the use of verbal handover through voice messages or direct telephone contact.^{4,12-14} As indicated by our study, LTC facilities are proficient in supplying past medical histories, probably because this is pre-populated in a typed list and kept in the patient's chart. Acknowledging that all health care provision is site- and context-specific, a collaborative quality improvement project between institutions with frequent interactions (25% of all transfers in this study came from the same LTC site) may have greater success at closing the information gap and improving care provided to LTC residents. From a policy perspective, it may be more productive to encourage, incentivize, or mandate LTC facilities and EDs to interact more closely at a leadership level, or to identify a "transfer champion" tasked to ensure that transfers include high-quality relevant information.

This study has several limitations. This was a small study conducted at a single, urban, academic centre, and our findings may not be generalizable to other EDs. Additionally, because the online questionnaire was completed only once (due to the retrospective nature of the study, it was impossible for the emergency physicians to complete the questionnaire for every patient), there was a potential for recall bias. Due to the retrospective nature of this study, we can only report what was documented in the patient chart. It is possible that additional information was sent from the LTC facility by telephone or fax that was not scanned into the patient record. Similarly, it was not possible to capture any verbal communication that may have occurred as part of the transfer, such as information provided to the ED staff during paramedic handover or by accompanying family members. It is also possible that some of the observed variation in the collected data were influenced by error or bias from the data abstractor, who was not blinded to the objective of this descriptive study.

CONCLUSIONS

In our survey, emergency physicians identified the top five pieces of information required to provide optimal care for LTC patients as 1) reason for transfer, 2) past medical history, 3) cognitive status, 4) advanced directives for level of care and resuscitation, and 5) the

patient's emergency contact information. In our medical record review, there was significant variability amongst LTC homes in the reporting of these variables. Quality improvement initiatives at the local level may help reduce this discrepancy between information provided and information required by emergency physicians for LTC patients.

Competing interests: None declared.

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