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Is hospitalisation necessary? A survey of frail older persons with cognitive impairment transferred from nursing homes to the emergency department

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Is hospitalisation necessary? A survey of frail older persons with cognitive impairment transferred from nursing homes to the emergency department.

Background: Providing care for frail older persons is complex and demanding, and the transfer of older persons with cognitive impairment to the emergency department is associated with a high risk of them developing complications.
Aim: To survey the most ill and frail older persons with cognitive impairment who were transferred from nursing homes to the emergency department, considering reasons for referral, symptoms and actions taken at the hospital.
Method: A retrospective descriptive survey, conducting a review of 588 referral notes and medical records, analysed and presented with descriptive statistics and visualised with typical case narratives.
Findings: The persons who were transferred to the emergency department were frail with complex symptomology. When reviewing the medical records in the light of criteria for avoidable hospitalisation, 75% of the patients could have been examined and treated at the nursing homes or in primary care.
Conclusion: Frail older persons with cognitive impairment, who are in need of end-of-life care, should be prevented from unnecessary hospitalisation. The majority of these transfers to the emergency department can be avoided if there is better planning beforehand, more specially trained nurses in elderly care in the municipalities, and more physicians making house calls.

Keywords: frail older persons, cognitive impairment, emergency department, specially trained nurses, medical care plans, typical case.

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Introduction

Caring for older persons is a demanding mission and a challenge that engages many personnel every day. This study was conducted in relation to the most sick and frail elderly persons, all of whom are dependent on the care that is provided to them.

The proportion of persons who reach the age of 60 years is increasing globally, as well as the proportion of persons who reach the age of 80 years (1). In Sweden, more than 1.9 million people are over 65 years of age, and the proportion of older persons is expected to increase (2–4). From a societal perspective, this increase is significant, as the number of places in nursing homes has decreased in recent decades in Sweden (2, 5). As it is only the most frail older persons with the greatest need of care who are granted a place, this will lead to a high number of older persons with profound caring needs inhabiting the nursing homes. At the same time, the availability of sufficient numbers and competent professionals in the municipalities is lacking, leading to a situation where good care and patient safety are at risk (5, 6).

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Background

Avoidable hospitalisation. The National Board of Health and Welfare (NBHW) monitors the quality of Swedish health care, using various quality evaluation tools as indicators (7). One indicator used in the comparison of quality and efficiency in Swedish health care is avoidable hospitalisation, which measures the number of persons who experience avoidable inpatient care per 100,000 inhabitants. The measure includes hospital admissions caused by selected medical conditions classified within the WHO ICD-10 codes (8) and which are not considered to warrant inpatient care. In 2014, the NBHW conducted an explorative study for the purpose of identifying medical conditions among the most ill older persons where

hospitalisation could be avoided (9). In line with the results of that study, the indicator for avoidable hospitalisation was revised in relation to the most ill older persons. The diseases included in the revised indicator are as follows: asthma, atrial fibrillation, cardiac insufficiency, pneumonia, chronic obstructive pulmonary disease, urinary tract infections, diabetes and vascular spasm, as described within the selected ICD-10 codes. The revised indicator is used in monitoring the quality of the preventative health and social care provided to the most ill older persons in Swedish municipalities (9). Pneumonia and urinary tract infections are yet common reasons for the transfer of frail older persons to the emergency department (ED), medical conditions that could have been treated in nursing homes, assuming they possess sufficient resources (10).

Frail older persons at risk. Frail older persons need expert assessment due to their often complex symptomatology, which comprises somatic as well as psychosocial symptoms, placing them at high risk of being inadequately assessed at the ED (11, 12). The transfer of older persons affected by dementia diseases or confusion to ED, as well as their hospitalisation, is associated with a high risk of them developing complications such as dehydration and pressure ulcers (11, 13). Older persons, particularly those affected by dementia diseases, often become confused in unfamiliar environments and experience hospitalisations as stressful and exhausting experiences, which trigger anxiety and aggression (13). This group is therefore more likely to suffer from a higher rate of mortality after hospital admission than persons whose cognitive function is intact (10, 14). Despite their efforts to provide good care, nursing staff in emergency wards experience that patients affected by dementia diseases are given low priority and that there is an absence of organisational conditions to support their ability to perform holistic care (13, 15).

Unclear responsibilities and limited authority for nurses in municipal care. The end-of-life care provided to frail older persons in municipalities is characterised by unclear responsibilities, nurses who have limited authority and a lack of support from management staff and physicians (16). Organisational support for caring and increased participation by physicians are two prerequisites that enable nurses to feel confident in their role and to make informed decisions about the care and treatment of patients (17). An international study found a significantly lower risk of patients dying after surgery in surgical wards, where nurses' responsibilities were limited to a small number of patients and when nurses had a high level of education (18). However, in Sweden, the number of specially trained nurses in older care nursing is diminishing despite the increased demand for elderly care (19).

Nurses in Swedish municipal care often work alone, with a need to make rapid decisions relating to the care of severely frail older persons (16, 20). These demands stand in stark contrast to the basic motives for caring as well as for nurturing a caring relationship and adopting a holistic view of care (21, 22) and can create an overwhelming amount of responsibility as well as ethical conflicts (20). If carers do not have opportunities to meet vulnerable persons with a holistic approach, there is a risk that the carers perceive a feeling of stress of conscience because of the conflict between their desire to alleviate suffering and to provide good care based on ethical and moral standpoints and the way in which health care is organised (23, 24).

In the light of the above-described facts, it may be questioned whether hospital care always leads to prolonged survival and improved quality of life and health for frail, older persons with cognitive dysfunction.

The study

Aim

The aim of this survey was to increase the knowledge of the reasons why frail older persons, with cognitive impairment, were transferred to the ED from nursing homes and what actions were taken at the hospital.

Design

The study was a retrospective survey of referral notes and medical records, and data were analysed and presented with descriptive statistics. Typical cases were constructed as narratives to visualise data.

Participants

The sample consisted of all persons identified as having cognitive impairment, as described in referral notes, who were transferred from nursing homes to the ED.

Data collection

The survey was conducted during a 12-month period between 2011 and 2012 at a medium-sized hospital, with 52,000 visitors per year to the ED, located in the south of Sweden. The catchment area consists of rural areas and smaller cities. Epidemiological data from the referral notes were noted, as well as the illnesses reported to have caused the hospital transfers, categorised with headings from the International Classification of Functioning, Disability and Health (ICF) system (25). In addition, in medical records, physicians' admission notes and physicians' and nurses' discharge notes were reviewed. Information was collected on whether the patients were

hospitalised, their length of stay, the type of wards to which they were admitted and the symptoms that were recorded on their arrival at the ED. The most important actions and treatments were noted as well as the patients' conditions and main diagnoses, which were documented with the corresponding ICD-10 codes.

Data analysis

EPI INFO version 3.5.4 was used to analyse the data. EPI INFO is a public domain suite of interoperable software tools, designed for the global community of public health practitioners and researchers. The data were analysed with numbers and proportions and were clustered by, for example, reasons for transfer, examinations and treatments, the patients' conditions and avoidable hospitalisation. Data were categorised and illustrated with typical cases.

Typical cases. According to Dowson (26), adopting an anecdotal approach to data contributes to a wider understanding of individual patients and may help to situate statistics in a clinical perspective. Constructing core stories using narratives to express common incidents is one way of processing data (27). Typical cases may also be depicted as vignettes, descriptions of scenarios, similar to those often used in sociological research (28). In this study, a number of typical cases were created in order to illustrate the patient perspective and to visualise the persons behind the figures. To construct the typical cases, statements about symptoms, conditions, examinations and treatments, together with diagnoses, documented in the medical records were reviewed and combined. The typical cases are presented as narratives, based on the collected figures and the authors' experiences of caring encounters with patients, and are constructed as examples of conceivable persons. Along with the narratives are presented citations drawn from medical journals, which relate to the patients and correspond with the persons included in the typical cases.

Rigour

The variables were selected to obtain a comprehensive understanding of the most ill and frail older persons admitted to the hospital. The criteria for avoidable hospitalisation are well known as risk factors for these patients and were discussed among the research team.

Diagnoses were described with the ICD-10 codes (8), and the ICF classification system (25) was used for describing reasons for transfer. Both systems are well established in healthcare documentation. Because it was not feasible to rate the patient's level of cognition, the assessments made by the nurses who sent the persons to the ED were used. These assessments were then compared with the estimated cognition levels documented in the medical records.

Findings

The total number of reviewed hospital transfers was 588, which related to 366 individuals. Of the 366 persons, 59% were women and 41% men, and they were aged between 60 and 101 years, with a mean and median age of 86 years. A total of 130 persons visited ED two or more times during the review. Of the 588 transfers, 27% were only visits to the ED, while 73% resulted in admissions to hospital wards. The majority of patients were treated at one ward, while 35% were admitted to two or more wards during their hospital stay.

The reasons for transferring the persons to the ED showed great variation and several causes were documented in the referral notes. Falls and injury to the musculoskeletal system were the most frequent reasons for transfer. Pain and fever were mostly combined with other causes (Table 1). For transfers due to falls and musculoskeletal injuries, there was a predominantly strong accordance between reasons for transfer, symptom descriptions at the hospital and ICD-10 code diagnoses. On the contrary, transfers caused by gastrointestinal, mental and cardiovascular illnesses showed a discrepancy between the symptoms documented in the ED (Table 2).

In addition to the measurement of vital signs, the patients underwent various tests and treatments at the hospital and the patients' conditions were described in both physicians' and nurses' notes (Table 1). In 73% of the medical records of patients who were hospitalised, nurses documented that the patients needed help with activities in daily life, indicating a high need of care. In 62 (11%) of the medical records, patients were described as being free of symptoms on arrival at the ED. Vital signs for these patients were normal, and the examinations to exclude the presence of disease, for example, ECG or X-ray, showed nothing abnormal. The symptoms causing the transfer had subsided upon arrival at the ED. In seven per cent (n = 40) of the transfers, the persons were unconscious upon their arrival at the ED, as per the medical records.

According to the medical records, it was documented that physicians had breakpoint conversations with relatives upon arrival, statements relating to palliative care and no targeted therapy were made, as well as decisions to refrain from active cardiopulmonary resuscitation (CPR) (Table 1). There were documentation of serious medical conditions, such as acute cerebral damage, heart attacks and malignant tumours, yet the patients were assessed as being too frail to be suitable for targeted therapies. Fifty-three (14%) of the 366 individuals died during hospitalisation. In addition, when reviewing the medical records, a further 116 (32%) persons were

Table 1 Reasons for transfer documented in referral notes. Examinations and treatments at the hospital, the patients' conditions at the hospital and statements about treatment, as documented in medical records, n = 588 transfers

Reasons for transfers, n = 588			*Examinations and treatments, n* = 588			*The patients' conditions, n* = 588			*Statements about treatments, n* = 588		
	n	%		*n*	%		*n*	%		*n*	%
Problems with mobility and neuromusculoskeletal and movement-related functions	179	30	X-ray	283	48	Disoriented	504	86	Palliative care/no targeted therapy	138	23
			ECG	222	38	Anxious	119	20			
Sensation of pain	151	26	Computed tomography	103	18	Not cooperating	94	16	No CPR	111	19
Problems with respiration functions	108	18	Oxygen therapy	96	16	Aggressive	32	5			
Problems with functions related to the digestive system	95	16	Surgery	68	12	Unconscious	40	7			
			Ultrasound	26	4	Cognition not documented	78	13			
Problems with mental functions	90	15	Plastering	22	4						
			Suture	18	3						
Problems with thermoregulatory functions	84	14									
Problems with cardiovascular functions	51	9									
Other causes	151	26									
Referral note missing	85	14									

Several variables could be documented in the same medical record; thus, totals may add up to more than 100%.
ECG, Electrocardiogram; CPR, Cardiopulmonary resuscitation.

registered as having died between three and, mostly, 15 months after hospitalisation. In total, 169 (46%) of the 366 individuals died during, or shortly after, the hospital visit.

Avoidable hospitalisation

Four criteria were designed to identify persons whose transfer to hospital might have been avoided. These criteria comprised those patients who were assessed according to the ICD-10 codes from the indicator for avoidable hospitalisation among the most ill older persons (9) (n = 111), together with patients who only visited the ED without being hospitalised (n = 158), those documented as having no symptoms upon arrival at the ED (n = 62) and those having statements of decisions about palliative care or no targeted treatments documented in the medical records (n = 138). These extended criteria for avoidable hospitalisation were selected due to the consideration of feasible treatment at outpatient care. All together, they represented 380 patient visits. Upon further review of these 380 medical records, 40 patient visits were excluded because they required surgery, leaving 340 patient visits. These 340 transfers included diseases such as urinary tract infections, pneumonia and other infections, dementia diagnoses, heart failure, contusions and unspecified illnesses. The medical records were further studied in order to detect the conditions and statements relating to the 248 patient visits which did not fit into the above-extended criteria for avoidable hospitalisation. This resulted in the identification of 68 patient visits where surgery was performed, which were separated. The remaining medical records were examined to determine whether hospitalisation might have been avoided. One hundred of them contained ICD-10 codes diagnoses, where the treatments provided to the patients at a care level other than hospital care could be considered, even though these diagnoses were not included in the NBHW' indicators for avoidable hospitalisation. These diagnoses included such conditions as gastroenteritis, dementia diseases, infections, bronchitis, hyperglycaemia, fractures and contusions not in need for surgery, constipation and unspecified pain; medical conditions that might have been possible to manage at the nursing home or in primary care after examination by specially trained nurses or physicians. These 100 patient visits, together with the above-identified 340 avoidable visits, represent 75% (n = 440) of the total amount of patient visits.

The most common causes for transfer

Mobility and neuromusculoskeletal and movement-related functions. The most common reason for transfer to the ED was falls and injury to the musculoskeletal system. There were 179 patient visits due to that reason; 80% (n = 143) underwent X-ray, and 30% (n = 54) required surgery. In 88% (n = 159) of the medical records, there were documentation about the patients being disoriented. Thirty-nine per cent (n = 69) of the patient visits did not lead to hospitalisation (Table 2). Among the 125 (70%) patients not in need of surgery, such diagnoses as Parkinson's disease, rib fractures, fractures on forearm

Table 2 Overview of the most common reasons for transfers to the Emergency Department (ED) according to referral notes

	Illnesses according to referral notes				
	Mobility and neuromusculoskeletal and movement-related functions $n = 179$	*Respiration functions* $n = 108$	*Functions related to the digestive system* $n = 95$	*Mental functions* $n = 90$	*Cardiovascular functions* $n = 51$
Proportion of causes for transport by the total amount of referral notes n = 588 transfers, %	30	18	16	15	9
Transfers by persons arriving two or more times, %	27	32	14	27	29
90 years or older, %	35	18	25	21	20
Women, %	69	50	59	61	51
Men, %	31	50	41	39	49
Consistent symptom description at the ED, %	78	60	30	31	45
Length of hospital stay 0 days, %	39	9	19	16	12
Length of hospital stay 1–5 days, %	26	49	45	49	63
Length of hospital stay >5 days, %	35	41	36	36	25
Statements at the ED, documented in medical records Palliative care/conservative treatment/no targeted therapy %	8	28	35	47	31
0 CPR, %	7	31	27	32	24
Free of symptoms at the ED, %	5	6	17	18	20
Conditions at hospital, documented in medical records Disoriented, %	88	82	87	90	82
Anxious, %	21	19	22	34	25
Unconscious on arrival, %	3	13	7	17	4
Examinations and treatments at hospital X-ray, %	80		29		
Surgery, %	30		2		
ECG, %					76
Oxygen, %		48			
ICD-10-SE-diagnosis consistent with cause of transfer, %	88	50	34	38	51
Number of unique individuals within the various causes of transfer	n = 151	n = 90	n = 88	n = 78	n = 43
Deceased during hospitaliSation of number of individuals, %	7	26	16	15	16

ECG, Electrocardiogram; CPR, Cardiopulmonary resuscitation.
n = number of hospital visits due to various causes of transfer.
Description of returning visitors, age, gender, symptoms in ED, length of stay, measures, conditions, diagnoses according to medical records and deceased persons.

and fingers, as well as urinary tract infections and neurological damages, were documented. In 44 medical records, ICD-10 codes for contusions, hip fracture, limb pain and examinations were documented. Figure 1 illustrates an example of a medical record together with a typical case, picturing the person behind the figures.

Respiration functions. Transfers to the ED were caused by respiratory problems in 108 cases. Among them, statements of palliative care were documented in 28% (n = 30) and of the decision to provide no CPR in 31% (n = 30) of the medical records. On 14 (13%) occasions, the patients were unconscious upon arrival at the ED. The 108 patient visits consisted of 90 individuals, of whom 26% (n = 23) died during hospitalisation, which meant 43% of all deaths occurred in hospital (Table 2). A typical case, together with an example from a medical record, visualises these persons (Fig. 2).

Functions related to the digestive system. In 95 (16%) of the referral notes, problems with the digestive functions were documented. Among them, 29% (n = 28) underwent X-ray and 2% (n = 2) were in need of surgery. Statements relating to palliative care or no targeted therapy were made in 35% (n = 33) of the medical records, and decisions to provide no CPR were made in 37% (n = 26) (Table 2).

Mental functions. Ninety (15%) of the transfers to the ED were due to mental functions, as defined in the ICF

A typical case:

Arne was 82 years old with a diagnosis of vascular dementia, living in a dementia ward. He was physically active, had a quick temper and no awareness of his illness. One Saturday evening, Arne was in a bad mood, and, while wandering about in the kitchen, he stumbled and fell. He hurt his leg badly, and he became very angry. The next morning, he would not get out of bed. The nurse assistant (NA) called for the Registered Nurse (RN) who came and tried to examine Arne's hip and leg. She could not rule out a fracture and ordered an ambulance. Arne went to the Emergency Department (ED), and by now, he was very upset. He did not accept any more examinations and was fighting and screaming. The physician gave him a sedative to make it possible for an X-ray to be taken. It was quite a while before the radiographs could be assessed, but there was no sign of skeletal injury. In the late evening, it was decided that Arne could return to the nursing home. He was exhausted due to pain, the sedative, anger, hunger and being placed in a bewildering environment.

A medical record:

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Coming alone. Cannot express. Demented. Pain in right hip.
Disoriented and motoric alarmed. Do not cooperate, fighting with
staff. Examination after sedative. X-ray shows no sign of skeletal
injury. Admission would entail increasing agitation. Returns to
nursing home.
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Figure 1 A typical case illustrating a patient who was transferred to the ED due to mobility and neuromusculoskeletal and movement-related functions, but who was not in need of surgery, and an example of a medical record.

classification system (25). These referral notes included descriptions of conditions such as syncope, suspected stroke, decreased consciousness or increased confusion. The medical records included documentation of statements of palliative care or no targeted therapy for 47% (n = 42) and of no CPR for 32% (n = 29) of the medical records, as well as documentation of no observed symptoms to a degree of 18% (n = 16). Patients were described as being disoriented in 90% (n = 81) and anxious in 34% (n = 31) of the medical records. The ICD-10 codes for these patients consisted of, for example, myocardial infarction, cerebral infarction, pneumonia, dementia diseases and codes for observation. (Table 2).

Functions of the cardiovascular system. Problems with the cardiovascular system were the given reason for transfer to hospital in 9% (n = 51) of the referral notes. In one-fifth (n = 10) of the visits, patients were judged to be free of symptoms, although examinations were conducted. Statements of palliative care or no targeted therapy were documented in 31% (n = 16) of the medical records, no CPR in 24% (n = 12) and patients being anxious to a degree of 25% (n = 13). The length of stay at the hospital was <5 days in 75% of the patient visits (Table 2). The ICD-10 codes comprised various infections, myocardial infarctions, unspecified chest pain and dementia diseases.

Myocardial infarctions. According to the medical records, myocardial infarctions with ICD-10 codes were documented in 13 cases. However, none of the records included any documentation about active measures. The patients were judged to be too ill and frail to medically justify the prescription of thrombolytic therapy or to

A typical case:

Alma was 94 years old and suffered from late Alzheimer's disease. She needed help in every aspect of her daily life, and, in recent times, she had fallen away. It had been hard to convince her to eat and drink, and she was very fatigued. One day, the nurse assistant (NA) called for the Registered Nurse (RN), as she had noted that Alma had a temperature and breathing problems. During the day, Alma had not eaten anything. The NA was worried. The RN visited the nursing home, where she had not previously been. She found Alma sleeping in her bed. She was frail, her body was hot, and she had breathing pauses.

"What will you do?" asked the NA, standing close by, "She can't possibly be like this!"

The RN thought that it might be pneumonia and that Alma needed hospital care. She called for an ambulance, and Alma left for the hospital. At the Emergency Department (ED), Alma was in a serious condition. She was treated with oxygen and intravenous antibiotics, but shortly thereafter, the doctor decided on palliation. The doctor had a conversation with Alma´s son, who, upon appearing at the ED, realized the situation and sat with his mother throughout the night. The next morning, Alma died in the hospital ward.

A medical record:

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In summary patient with far advanced dementia, hypertension, previous
hip fracture, angina pectoris. Cared for in nursing home. Admitted due
to general slackening and wheezing. Generally very frail and is not
susceptible to any targeted treatment, focusing on palliation and the
patient goes quietly ad-mortem in the image of pneumonia unspecified.
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Figure 2 A typical case, visualising a patient with respiratory dysfunction and the decision taken to provide palliative care, and an example of a medical record.

A typical case:

Dagny was 86 years old, suffering from Alzheimer's disease (AD) with vascular components and cardiac failure. She had an anxious and restless behaviour, sometimes crying. One morning, Dagny started to shout and wave her arms during her morning toilet. She was finding it hard to breathe and became very worried. The nurse assistant (NA) called for the Registered Nurse (RN). Dagny was pale and had a rapid pulse. It was not normal for her to be this affected. The RN called the doctor, and they suspected a heart attack and agreed on sending Dagny to the hospital. ECG and blood tests at the Emergency Department (ED) confirmed the suspicion. In her medical record, a decision to refrain from CPR was previously documented and it was considered that Dagny was too ill and frail to undergo thrombolysis or any invasive treatment. After two days in a medical emergency ward, being treated with sedatives and analgesics, Dagny was discharged with a diagnosis of myocardial infarction. Six months later, Dagny was once again sent to the ED with chest pain, and this time, she died while in the hospital.

A medical record:

Anamnesis not possible due to AD. Has complained about chest pains according to referral note. Nitroglycerine without effect. Suspicion of acute ischemia. Disoriented and motoric agitated. Previously no CPR. Conservative treatment. No ICU treatment.

Figure 3 A typical case and a medical record visualising a patient with myocardial infarction. Abbreviations: ECG, electrocardiogram; CPR, cardiopulmonary resuscitation; ICU, intensive care unit.

perform invasive procedures. The 13 cases consisted of 11 persons, as two of them had been transferred twice to hospital with the same complaints. Five of the persons (45%) with myocardial infarctions died during hospitalisation. In Fig. 3, a typical case and a medical record exemplify a person suffering a heart attack.

Discussion

Result discussion

It was the most frail older persons who were the focus of this survey. They were affected by several diseases, suffered from cognitive impairment, and they had a great need of care. Additionally, nearly half of them died during or soon after hospitalisation, which further highlights their frailty and vulnerability. As reported in previous research (11, 12), the results of this study illustrate the difficulties in assessing and interpreting the symptoms and conditions of these persons, due to their acute frailty and reduced ability to express discomforts and desires.

There is a risk that older persons are not offered adequate care and treatment, as their illnesses are often misinterpreted (11, 12). Medical care must not fail to provide adequate care and treatment to patients of advanced age, those with impaired cognition and those who lack independence. If patients do not receive adequate care and treatment that would improve their condition and well-being, they may suffer from the care itself, but to impose examinations and treatments also results in suffering from care. It can be assumed that any decisions related to adequate and appropriate care involve complex considerations for health professionals. There must be a purpose for providing the care and the treatment must also benefit the patient, lead to improved well-being, alleviate suffering and maintain and enhance their quality of life.

In the present survey, approximately one-fifth of the transfers were classified as ICD-10 codes, which, in accordance with the NBHW categories (9), were identified as those not in need of hospital care. These results are similar to those reported in Kirsebom et al.'s study (29), where 16% of hospitalisation related to nursing home residents could possibly have been avoided. When patient visits within the extended criteria for avoidable transfers and diagnoses were summarised, three-quarters of the total amount of transfers were identified as needing treatments that might have been performed at the nursing homes. This amount is alarming, even though the calculations are partly experience-based and even if it is not possible to determine whether the transfers of individual persons to the ED were necessary. It can be assumed that persons who were immediately discharged back home again after visiting the ED could possibly have been treated at the nursing homes or in primary care. Patients judged as being free of symptoms upon arrival at the ED were probably not in need of hospital care. Statements about palliative care or no targeted treatment were recorded in the medical records at the hospital, as they were for the patient being treated for breathing problems (Fig. 2). Because the patients' diseases were mostly chronic, this kind of information ought to have been made clear in advance in the patients' notes in the nursing home to avoid their unnecessary transfer to hospital.

A frequently held view, when talking to nurses and other staff, is that the risk that a person is suffering a heart attack would justify a hospital transfer. However, all of the patients in this study who suffered a myocardial infarction were judged to be too frail to benefit from any advanced treatment (Fig. 3). Similar to the results reported in previous surveys (12, 29), the most common cause of referral was falls in combination with musculoskeletal damage. The patients were disoriented, anxious and difficult to examine, as illustrated in the typical case (Fig. 1), with a high risk of increasing confusion, pressure sores and other complications. That so many transfers due to falls did not lead to surgery implies that persons with suspected skeletal injury could have been

assessed at the nursing home. They could have been X-rayed at the outpatient clinic, or, even better, with a mobile X-ray unit at the nursing home and hospitalised only when it was confirmed that they had experienced fractures requiring surgery. Thus, the majority of these persons would have been spared some discomfort and suffering. It therefore could be expected that several of the diseases and conditions found in this survey might as well have been treated at the nursing homes or in the primary care setting, particularly in view of these persons' cognitive impairment, which makes them even more vulnerable.

Because persons who are granted accommodation in nursing homes are very frail, there are increasing demands on numbers and competences among nurses and nurses' assistants in line with the NBHW (5, 30). According to Aiken et al. (18), nurses who have a higher level of education make a significant difference to the quality of care provided to patients. Although Aiken's study focused on a different patient population than that of the present survey, the number of patients a nurse is responsible for and nurses' levels of education do affect the quality of care, regardless of the activity. This indicates that basic education is not enough for nurses who work with frail older persons who have complex care needs. Working in municipality care requires a thorough knowledge of and experience in advanced nursing and end-of-life care. The role and authority of nurses must be strengthened and their skills utilised and developed if seriously ill and dying older persons are to be cared for at home with a high quality of care (16), and there is a need to provide qualified care with a holistic and person-centred approach (31). According to the NBHW (5), from a societal perspective, it is extremely important that there are more specially trained nurses in elderly care nursing, to meet the requirements of the expanding population of older persons. Feeling insufficient and not in a position to perform good care, especially in relation to the most frail and vulnerable persons, may create a stress of conscience as it goes against the nurses' professional ethics and values (15, 23). Along with professional development and increased staffing, there is a need to provide effective supervision in order for nurses to manage difficult situations, ethical dilemmas and stress of conscience (24, 32).

To reduce circumstances where nurses have to make critical decisions in acute events about frail persons, there is a need for advance planning, made well ahead and firmly documented in care plans (17). In a medical care plan, actions that should be taken for the person during a declining health condition are documented. The determination of palliative care ought to be made in advance at the nursing home, by the responsible physician and nurse, in agreement with the person and their next of kin. If such medical care plans had been set up, probably neither the person with respiratory dysfunction nor the person suffering a myocardial infarction in the typical cases illustrated here would have been transferred to the hospital. Instead, the nurses, together with the rest of the staff, would have had the opportunity to care for the persons in a more appropriate and worthy way and to alleviate their symptoms at the nursing homes.

Although medical care plans could be made in advance and competence and staffing at the nursing homes could be increased to a satisfactory level, there may be circumstances where seriously ill, frail older persons need an urgent assessment beyond the nurses' competence. Actions have to be taken in order to be able to provide high-quality health care around the clock. This demands the implementation of suitable strategies, such as physicians making house calls and the establishment of mobile home care teams of physicians and specially trained nurses who carry out examinations and treatments at the nursing homes and likewise in ordinary homes. From a societal perspective, these strategies may, besides alleviating the suffering of the patients, reduce the pressure placed on the ED and the hospital wards. It could also be presumed that it may subsequently reduce the increasing costs for specialised somatic care for older persons (5).

Methodological discussion

This study had several advantages in terms of its methodology in relation to the study aims. The advantage of reviewing referral notes and medical records retrospectively was that it presents the possibility to gain access to and analyse data from all patient visits at the ED within a stipulated time frame of 1 year. In addition, the constructed narratives and citations extracted from the records comprise elements of subjectivity, based on the authors' experiences, which makes the stories come alive and provides the opportunity for readers to visualise the data. When looking only at statistical figures and tables, it can be difficult to imagine the individual frail old person; hence, the illustrations are provided to facilitate this. The selection of the typical cases, regarding the two causes for referral, was made because they represent common conditions among the most ill persons. Falls and suspected musculoskeletal injury, combined with common respiratory dysfunctions, are frequent reasons for transport to hospital among the persons living in nursing homes, and these events are alarming for the patient, the next of kin and the caring staff. The diagnoses of myocardial infarctions were also chosen because they are serious conditions, and the authors share the experience that next of kin, as well as nursing staff, believe that admission to hospital is necessary in such incidents. It seemed to be particularly relevant to explore what happened to those patients. Altogether, the typical cases presented here illustrate a majority of the patients who were included in the survey.

The disadvantage of a retrospective review is the lack of personal encounters with the patients and having no opportunities to form an impression of each patient's condition. An alternative design might have included observations of a random sample of persons arriving at the ED, but the disadvantage there would have been that the sample would have become considerably smaller, and it would have been time-consuming and difficult to gain access to the ED's environment.

Further research needs to be performed on why persons are referred to hospital and to explore what support nurses in municipal care need to provide high-quality care to frail older persons.

Conclusion

Chronic diseases, such as the diagnoses included in the NBHW's indicator for avoidable hospitalisation, should not cause referrals to hospital among the most ill older persons. These are conditions that ought to be dealt with at another level of care than hospital care, particularly in relation to persons affected by cognitive impairment, who often experience the hospital environment as worrying and are often assessed as being too frail for targeted treatment.

Nurses working in the municipalities should have better conditions for assessments and better support in making decisions. More nurses should have specialised training in elderly care nursing. Medical care plans ought to be set up with documented statements about how acute conditions should be managed. Physicians should be able to make house calls around the clock to patients affected by illnesses which extended beyond the nurses' competence. Persons who are in need of end-of-life care should receive that, to the utmost possible extent, at their nursing homes and should be protected from avoidable hospital transfers.

Ethical approval

The study was approved by the Ethical Review Board in Sweden and has been conducted in accordance with the World Medical Association Declaration of Helsinki (33). All data have been treated confidentially, and quotations from medical records were slightly modified to avoid identification of the patients.

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Conflict of interest

The authors have no conflict of interest or financial ties to disclose.

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