Research, Audit and Clinical Practice

Unscheduled care admissions at end-of-life – what are the patient characteristics?

E Mason, D Jenkins, M Williams & J Davies

Abstract

Unscheduled acute hospital admissions and subsequent deaths in hospitals of patients considered palliative are increasing, despite many patients' preference to die at home. A large proportion of these patients are admitted via acute medical units or emergency departments. The integration of primary and secondary care within Wales should enhance the delivery of end-of-life care at home but unscheduled admission for patients with palliative care needs remains prevalent. The aim of our study was to explore the characteristics amongst patients who die shortly after unscheduled hospital admission. A retrospective, observational study was conducted in all unscheduled admissions at end-of-life at a single health board in South Wales, UK over a period of one month. The result showed that 47% of patients who died within 48hrs of unscheduled admission are considered to be palliative. The majority of these patients were admitted via 999 ambulances and out of normal working hours (65%). They were elderly (median age 80) and had a poor performance status (78%). Over 1/3 (39%) were admitted from a nursing or residential home. Less than a quarter (22%) had an advance care plan in place.

Keywords

Unscheduled care, end of life care, palliative care, hospital admission, emergency admission

Key Learning Points

- Patients at end-of-life who die within 48hours of an unscheduled admission to hospital are often elderly with a poor performance status and from a nursing or residential home.
- These patients are likely to have had a previous hospital admission within the last 6 months.
- Prior hospital admissions could provide opportunities to discuss end of life issues and advance care planning for preferred place of care.

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Introduction

Unscheduled acute hospital admissions and subsequent deaths in hospitals are increasing despite patients' preference to die at home[1] Data suggest that nearly 50% of people in England and Wales die in hospital[2] and one study suggest that a higher proportion of cancer-related deaths occur in hospital in Wales (62.8%) than in England (58.1%) with the lowest rate being seen in The Netherlands (33.9%).[3] The End of Life Strategy 2008[4] aims to provide high quality care to adults in England for those at end of life and the choice of where they live and die. The Welsh Assembly Government published a similar delivery plan in 2013.[5] Despite such strategies, only half of those who wish to die at home actually do so.[6] There is evidence to suggest advance care planning can reduce the number of days spent in hospital in last year of life[7,8] and increase the number who are dying in their preferred place of care.[9] Factors that precipitate an unscheduled hospital admission at end of life are varied and complex ranging from acute medical problems to psychosocial factors of both healthcare professionals and family caregivers.[10 11] The use of an advance care plan may address some of the issues and prevent hospital admission.[7,8,12] A study by Gott *et al*[13] challenges the assumption that patients with palliative care needs are inappropriately admitted to hospital as they may legitimately need access to care given the current community-based health and social care resources. They found only a small number of patients (6.7%) were deemed as inappropriate hospital admissions and the majority were older and living in a residential or nursing home. Whether an increase in resource to deliver community-based services is cost-effective remains uncertain.[14] The UK government is considering the option of merging health and social care delivery for England but since 2009 in Wales, NHS services are already delivered via local health boards combining both primary and secondary care services with close

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integration with social care services. The aim of our study was to explore whether there are common characteristics of patients where death might have been expected, who die following an unscheduled hospital admission.

Method

The retrospective observational study was conducted in Aneurin Bevan University Health Board (ABUHB) based in South East Wales. It has 2 acute general hospitals with emergency department and 1 hospital with selected General Practitioner (GP) medical admissions. ABUHB provides NHS services to an area of approximately 1500km^2 with a population of 560,500 and contains significant areas of social deprivation.[15]

We examined all inpatient deaths amongst patients aged 18 and over that occurred within 48hours of unscheduled admission to hospital during the period of 1st March – 31st March 2014 across all sites. Death within 48 hours of admission was felt to be an appropriate definition for 'last days of life'. One of the researchers with experience as a consultant in both palliative medicine and acute medicine retrospectively applied the 'surprise question', as defined by the Gold Standard Framework[16] ('*Would you be surprised if this patient dies in the next few months, weeks or days?*') to the cohort of patients, using the case notes . Those patients in whom the answer was 'no' were considered to be 'palliative'. Data were then collected by review of case notes for this group. Deaths due to trauma, acute surgical emergencies (e.g. perforated viscus) or medical emergencies (e.g. acute coronary syndrome or stroke) were excluded from data analysis. A random sample of this cohort of patients was reviewed by 2 other consultants independent of the study; one in palliative medicine and the other in acute medicine to minimise observer bias (Figure 1).

Basic demographics, usual place of residence, time of admission to hospital, route of admission (i.e. via GP or 999 emergency ambulance), reason for admission, co-morbidities, performance status, number of admissions in the previous 6 months, and advance care plans were obtained from patient case-notes.

Results

In total 55 patients died within 48 hours of an unscheduled admission to ABUHB hospitals during 1st-31st March 2014, of which 26 (47%) were considered to be palliative, within last days of life. Data were collected and analysed on 23 completed case notes as 3 sets of case notes were missing or incomplete. There is a subjective element to when the surprise question was applied as a criterion and we attempted to minimise this by using an

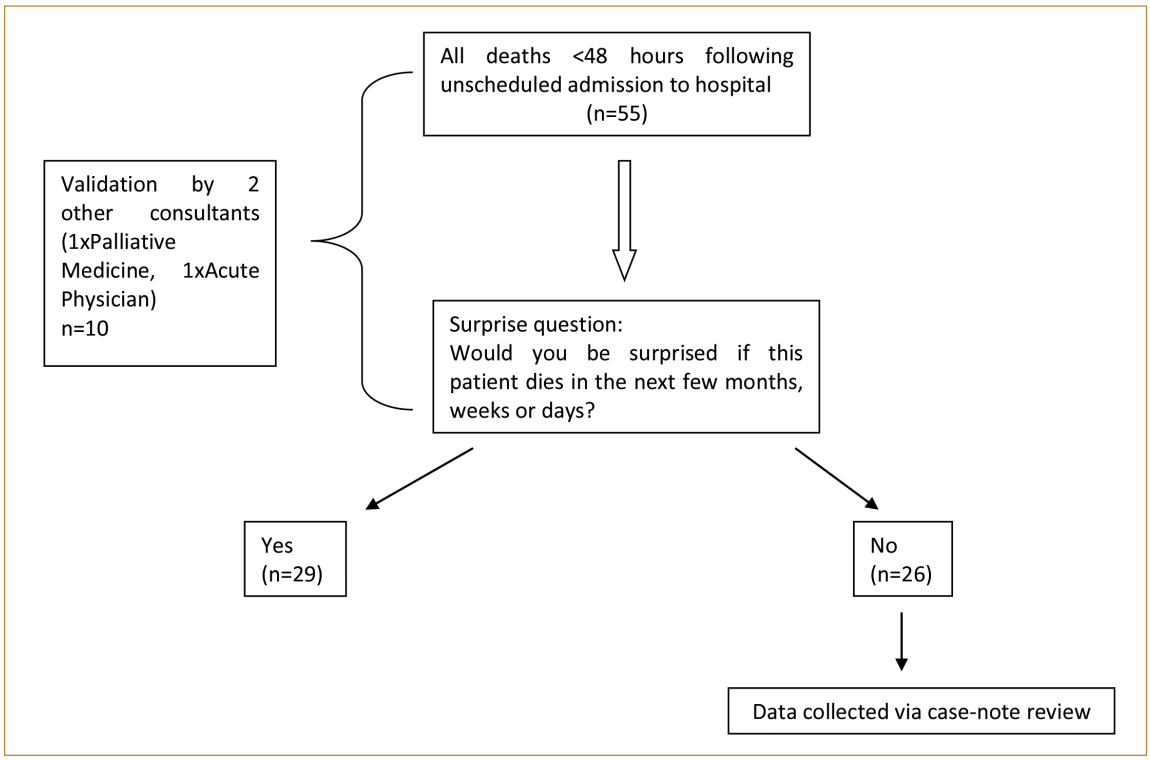

Figure 1. Flow diagram showing data collection on patients who died within 48 hours of an unscheduled admission to hospital

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Table 1. Characteristics of patients considered to be palliative who died within 48 hours of unscheduled hospital admission

All deaths <48 hours following unscheduled admission	55
Expected deaths with multiple co-morbidities ('surprise question')	26 (47%)
Female	17 (65%)
Male	9 (35%)
Missing data	3
Data sets analysed	n=23
Median age	80
Performance Status of 3/4*	18 (78%)
Admissions via 999 ambulance	15 (65%)
via OOH GP	4 (17%)
via GP 9-5 weekday	4 (17%)
Nursing/Residential Home admissions	9 (39%)
.....of which death <24 hours	8/9 (89%)
.....of which admitted via 999	8/9 (89%)
.....of which are OOH admissions	4/9 (44%)
Number of patients with an admission in previous 6/12	19 (83%)
Number of admissions Mean	2.04
Median	2
Mode	2
ACP in place	5 (22%)

OOH GP: out-of-hours General Practitioner; ACP: advance care plan

*WHO Performance Status Classification:
0 = able to carry out all normal activity without restriction,
1 = restricted in strenuous activity but ambulatory and able to carry out light work
2 = ambulatory and capable of all self-care but unable to carry out any work activities; up and about more than 50% of waking hours
3 = symptomatic and in a chair or in bed for greater than 50% of the day but not bedridden
4 = completely disabled; cannot carry out any self-care; totally confined to bed or chair

experienced physician with a background of both palliative medicine and acute medicine followed by independent reviews of a random sample (n=10). The result was 100% agreement between the independent reviewers. A summary of the data is shown in table 1.

The majority of patients were elderly (median age 80) and female (n=17, 65%) with a poor performance status of 3 or 4 (n=18, 78%). A large proportion of these patients died within 24 hours of admission (n = 16, 70%) and less than one third (n = 7, 30%) was admitted during normal working hours (Mon-Fri, 9am-5pm). Of those admitted during working hours over half (n =4, 57%) was seen by their GP prior to their unscheduled hospital admission.

The commonest route of an unscheduled hospital admission was via an emergency 999 ambulance (n = 15, 65%). This is also the case for those admitted out of normal working hours (n = 9, 60%).

A large proportion of patients from a nursing or residential home (n=9, 39%) were admitted via an emergency 999 ambulance and died within 24 hours of admission (n=8, 89%). All patients admitted from a nursing or residential home had some degree of cognitive impairment.

The number of patients with a hospital admission in the previous 6 months was high (n = 19, 83%) with an average (mode, median and mean) of 2 admissions.

Only 5 patients (22%) had any form of advance care plan in place. This was defined as any documented discussion within the case-notes regarding ceiling of care as well as formal documentation of decision making e.g. living will, do not attempt cardiopulmonary resuscitation (DNACPR) forms. All advance care plans identified in our study were in the format of DNACPR and 4 out of the 5 were from patients in a residential or nursing home.

Discussion

The result of our study suggests that a large proportion of patients who die within 48 hours of an unscheduled hospital admission are elderly, female and have poor performance status. This correlates with the findings of previously published studies.[1, 17] There is evidence to suggest that lack of co-ordination between hospitals and community based services increases unscheduled hospital admission.[18, 19] Abel *et al* showed 45.6% of patients who died in hospital were in the last year of their life,[1] which is similar to our figure of 47%, despite differences in sample size and methodology.

A recent study found that patients in the last year of life frequently undergo multiple hospital admissions, particularly with increasing age.[20] A large proportion of our patients had at least one admission to hospital in the previous 6 months; given that majority are elderly and frail with a poor performance status this would have provided an opportunity for an advance care plan to have been considered prior to discharge from hospital. Such discussions are rarely undertaken, despite evidence suggesting that most elderly patients would welcome such dialogue.[17, 21] Initiating discussion regarding end-of-life plans can be difficult for both patients and health care professionals.[22] Lack of skill and experience as well as the shift in focus of care priorities often prohibit such discussions taking place in secondary care. More training and resources

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will be needed to address this. Closer integration of palliative care services and acute medicine could be a model for the future as a high proportion of patients admitted to acute medical units have palliative care needs.[23]

Identification of patients who are within their last days of life is challenging[24, 25] and the implementation of advance care planning, as recommended by the End of Life Strategy in England and its equivalent in Wales, is inconsistent.[9, 26] Our results indicate that advance care planning is poor but we were only able to determine the documentation of an advance care plan in hospital case notes and not any discussion that may have occurred prior to the unscheduled hospital admission regarding the escalation or ceiling of care. Poor documentation in recording end of life discussions and possible changes in decision making as the patients' condition fluctuates, is known to be problematic.[21] However, the results of our study suggest that recording of advance care plan is similar to published data.[27] This highlights the need for discussion, documentation and dissemination of advance decisions.

The surprising finding of our study is the number of patients who were admitted from residential/ nursing home via 999 ambulances with a documented DNACPR in place, although this is only part of an advance care plan. We do not know whether prior discussion regarding escalation and ceiling of care or trial of treatment had taken place but a documented DNACPR would suggest a discussion regarding end-of-life issues had occurred. Local audit has indicated that DNACPR decisions are rarely discussed with the patients themselves[28] thus it is likely this was done with a relative or advocate. A community DNACPR gives clear instructions in event of a cardiopulmonary arrest but does not provide guidance in event of a sudden (often expected) deterioration in the patients' medical condition. If such detailed discussion regarding end-of-life issues had taken place in addition to documenting a DNACPR then those caring for patients in a nursing or residential home setting may feel they could act in the patients' best interest and avoid unscheduled hospital admission. A community DNACPR should not be considered an 'advance care plan' in isolation as this is often the case when evidence is collected to assess the implementation of end-of-life strategy and advance care planning. An in-depth discussion regarding goal priorities and patients' wishes with clear documentation and dissemination is required for this group of patients and this should be used as a gold standard when assessing the implementation of end-of-life strategy and advance care planning.

There may be other factors that influence why patients at end-of-life from nursing or residential homes are admitted to hospital. Seymour *et al*[11] reported a number of barriers including lack of out of hours support and appropriate training which prevented caring for patients at end-of-life within a nursing home setting. Previous studies have also shown that half of the patients admitted from nursing or residential care with palliative care needs could have been more appropriately managed within the community setting.[13] This would concur with our own anecdotal observations of working within acute and palliative medicine.

Limitations

The number involved in the study is small and according to our definition we excluded patients who had died just beyond 48 hours.

This study was an exploratory one in an attempt to determine the characteristics of end-of-life patients who die in hospital within 48 hours of unscheduled admission. We are unable to draw any comparison to end-of-life patients who died at home and what factors influenced their place of death.

Conclusion

Our data suggest patients who are at end-of-life and die within 48 hours of unscheduled admission to hospital are likely to be elderly with a poor performance status and from a nursing or residential home. The use of advance care plan as part of the strategy in delivery for end of life care remains poor. A larger data set with a focus on the exploring the skills and resources of community teams looking after end-of-life patients would be of value to inform policy makers to maximise the use of a limited resourced NHS.

Competing Interests

Nothing to declare.

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