Evaluating the outcomes of elderly patients receiving Canterbury District Health Board funded care at the end of life

Jenny H C Chieng, Katherine E Grundy

Abstract

Aims To identify the frequency of readmission into the hospital and interventions received by patients who are known to be terminally ill under the SupportCare End-of-life Fund (SC-EOL), a 90 days fund made available to patients who are terminally ill and requires hospital level care in Canterbury. The secondary objective is to determine the survival time after allocation to the SC-EOL funding.

Method List of patients aged 65 years and older approved on the SC-EOL fund between March to May 2010 is obtained from the coordination centre which handles the services of all SC-EOL funded patients. Using hospital electronic database and medical records, data on demographics, sources of referral, survival, readmissions and associated interventions were recorded.

Results 60 patients were identified. The average age was 80.6 years. 75% had a diagnosis of cancer as their terminal illness. Three of the 60 patients were readmitted to hospital. Two of these were deemed to have been potentially avoidable. These patients underwent routine blood tests and X-rays and received intravenous fluid. The median survival time was 19 days.

Conclusion The subgroup of patients who has terminal illness under the SC-EOL fund has a low rate of readmission to hospital and inappropriate interventions. Studies suggest that a high proportion of patients are still receiving active interventions with a curative intent at the end of their lives in hospitals.¹,² This causes unnecessary suffering and detracts from focus on symptom control, dignity and privacy of a dying patient.³

In Canterbury, New Zealand, secondary health care is provided by the Canterbury District Health Board. A SupportCare-‘End-of-Life’ (SC-EOL) Fund was set up in May 2005 by the District Health Board to provide support services and care for people who are at the end of their life phase.⁴

In order to qualify for this fund, the patient must be assessed clinically by either the hospital or hospice clinician to fulfil all of the following criteria:

- Life expectancy of less than 3 months.
- Requiring hospital level care for a disability due to the terminal illness.
- Are being cared for at terminally ill.
Exclusion criteria are:

- Age under 16 years old
- Those already in residential care facilities
- Patients currently funded by another government agency
- Retrospective application after patient has died.

A needs or interRAI assessment is done by either a social worker or needs assessor which is submitted together with the clinician’s assessment. Once approved, patients would be eligible for fully funded care at hospital level in a residential care facility or at home for up to 90 days.

The primary purpose of this audit is to identify the frequency of readmission into the acute hospital and interventions received by this subpopulation of elderly patients who had been approved for SC-EOL funding. The secondary aim is to determine the survival time of this group of patients.

**Methods**

All patients aged 65 years and over approved for SC-EOL funding for the 3 months period between March and May 2010 were selected. Information was obtained from Canterbury Care Coordination Centre which is an organisation that oversees the entire coordination of community based services in the Canterbury region.

Using the hospital electronic database and electronic discharge summary, information on demographics, place of residence, diagnosis for SC-EOL funding, referral to hospital and community palliative care services, referring specialties, readmission incidences were recorded. Clinical notes were used to obtain more information on patients who were readmitted to ascertain circumstances leading to hospital admission and any invasive procedures done.

All the data was entered into an Excel worksheet and descriptive statistics applied.

**Results**

A total of 60 patients aged 65 years and over were identified to have been approved on the SC-EOL funding during the audit’s 3 months period. The patients’ characteristics are summarised in Table 1.

Three of the 60 patients on SC-EOL funding were readmitted to hospital. All of them were readmitted from hospital level care facilities. One was readmitted 2 days after discharge with a fall and died subsequently during the hospitalization. The other was readmitted a week after discharge with bowel obstruction. She was managed conservatively then transferred back to the hospital care facility on the same day after being commenced on a syringe driver by palliative care team. She died two days later. Both patients had routine blood tests, one had an X-ray and both had intravenous fluid. The third patient lived for 407 days after approval for the SC-EOL funding and was readmitted twice, one for syncope and the other for exacerbation of COPD. One patient had an outpatient intervention which was a blood transfusion for symptomatic relief done as a day case.
Table 1. Patient characteristics

<table>
<thead>
<tr>
<th>Patients characteristics</th>
<th>(n=60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean)</td>
<td>80.6 years</td>
</tr>
<tr>
<td>Gender</td>
<td>47%/53%</td>
</tr>
<tr>
<td>Diagnosis: cancer/non-cancer</td>
<td>75%/25%</td>
</tr>
<tr>
<td>Source of referral:</td>
<td></td>
</tr>
<tr>
<td>–Oncology</td>
<td>20%</td>
</tr>
<tr>
<td>–General medicine</td>
<td>25%</td>
</tr>
<tr>
<td>–Community palliative care</td>
<td>22%</td>
</tr>
<tr>
<td>–Other</td>
<td>33%</td>
</tr>
<tr>
<td>Referral to:</td>
<td></td>
</tr>
<tr>
<td>–RCF *</td>
<td>93%</td>
</tr>
<tr>
<td>–Supportive care at home</td>
<td>7%</td>
</tr>
</tbody>
</table>

*Residential care facility.

We found that the average time to death from approval of the SC-EOL funding is 35.9 days (SD 63.16), median of 19 days, and range of 0–407 days. 95% of patients had died within 90 days and the three that survived beyond that lived to 171, 255 and 407 days respectively.

The majority of the patients were known to either or both community and hospital palliative care teams. 73% (44) of the patients were seen by the community palliative care team and 43% (26) were seen by the hospital palliative care team. All of the patients known to the hospital palliative care team were also seen by the community palliative care team on discharge.

**Discussion**

Only 3 of 60 (5%) elderly patients under the SC-EOL funding were readmitted to hospital. 2 could have potentially been managed conservatively in the community. Half of the patients put under SC-EOL funding had died within 3 weeks.

Some studies showed that patients who were identified as dying in hospitals were still subjected to multiple interventions including intravenous antibiotics, blood tests as well as artificial nutrition. Despite implementing palliative care goals, only 27% of patients had their treatment and investigations ceased 48 hours before death in a retrospective Australian study by Middleton et al.

Advance care planning is significantly associated with Do Not Resuscitate orders and comfort care plans. Advance care planning has been shown to help improve end-of-life care in accordance with patients’ wishes, and increased family satisfaction.

While being under SC-EOL funding is no substitute for advance care planning, it may act in similar ways by signalling to family and health care providers about the palliative care goals of treatment. This may explain the relatively low level of aggressive interventions and readmissions in these patients.

Other studies have suggested that nearly half of all transfers from residential care facilities to hospitals could have been avoidable.

It will be an on-going challenge to
improve the capacity of residential care facilities’ ability to provide good palliative care to its residents.

To admit patients under the SC-EOL funding would require prognostication by treating medical specialist. Based on the criteria for SC-EOL funding, these patients would need to have a prognosis of 90 days or shorter. Indeed 95% of these patients have died within 90 days, suggesting that medical specialists are highly accurate at predicting death in these patients. This is contrary to a systematic review of physicians’ survival prediction in terminally ill cancer patients, which have found that doctors tend to overestimate survival. In our situation, the doctors are likely to be more conservative in their prognostication, as evident from the median survival of 19 days, probably because any patient that survives beyond 90 days would have to contribute financially for their care in the residential care facility.

This study is limited by its retrospective method of using medical records and electronic database to collect data. The small sample also made generalisation of the result to the whole SC-EOL funding population potentially difficult. The SC-EOL funded patients are only a small proportion of patients who are diagnosed as dying and certainly not representative of all patients dying of a terminal illness. We suspect the latter population is likely to have much higher level of unnecessary interventions and investigations.

Conclusion

Elderly patients who are terminally ill under SC-EOL funding have low rates of readmissions and aggressive interventions in hospital. Consideration should be given to introduce advance care planning as part of the package for SC-EOL funding which would further clarify the treatment goals and improve the end-of-life care for these patients groups.

Competing interests: Nil.

Author information: Jenny H C Chieng, Medical Registrar; Katherine E Grundy, Palliative Care Physician; Departments of Oncology, Haematology and Palliative Care, Christchurch Hospital, Canterbury District Health Board, Christchurch

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Correspondence: Jenny Chieng, RMO Unit, Christchurch Hospital, Private Bag 4170, Christchurch, New Zealand. Fax: +64 (0)3 3641473; email: Jenny.Chieng@cdhb.govt.nz

References:


