

# education

## ART OF MEDICINE

### “He’s taken longer to die than a horse”

A 70 year old dairy farmer with bronchopneumonia and glioblastoma was admitted to the hospice after five days of unsuccessful antibiotic treatment in hospital. His wife had a good understanding of animal physiology. She described his respiratory distress as “double breathing”—a grave sign in horses—and agreed with the medical team’s decision to stop treatment. But she was concerned that he took much longer to die than her animals and thought that he had been “starved to death.” She saw no-one offer him food or drink and said that nobody had told her that she could do so.

In 2012 suggestions that the Liverpool care pathway led to malnutrition, dehydration, and premature death led to media outcry. An external review advised replacing the pathway with a “personalised end of life care plan.” The Leadership Alliance for the Care of Dying People has outlined five care priorities, all based on communication with patients and families. The alliance states that food and drink must continue to be offered for comfort, but the medical team failed to tell the family this. It highlights the importance of communicating not only what dying patients can’t do or have, but also what can be provided. It also underlines the importance of exploring each family’s understanding of the dying process, as their employment or life experiences may be unique. Oral food and fluids must not be viewed as treatments but as comfort measures that should, if possible, be enjoyed by all.

Fay Murray-Brown specialty trainee year 4, palliative medicine, Hospiscare, Exeter, UK

Patient consent obtained from spouse after patient’s death.

Cite this as: *BMJ* 2015;351:i4590

We welcome contributions to this column via our online editorial office: <https://mc.manuscriptcentral.com/bmj>



## CLINICAL UPDATES

### Routine preoperative tests for elective surgery

No tests should be routinely recommended before minor surgery such as excision of a lesion say new NICE guidelines aimed at reducing waste. If a patient is at risk of acute kidney injury or has not had an electrocardiograph (ECG) in the past 12 months, kidney function blood tests or ECG should be considered before minor surgery. For intermediate surgery, such as a hernia repair, only patients of ASA 3 or ASA 4 physical status should routinely have an ECG or kidney function tests. For other tests, such as a full blood count, the guidelines describe the situations when these should be considered.

<http://bit.ly/22enpem>

### Quality improvement: training for better outcomes

A new report from the Academy of Medical Royal Colleges recommends incorporating a set curriculum on quality improvement into all stages of doctors’ training. Quality improvement should be integral to all medical and non-medical job descriptions and appraisals. Career recognition should be given to achievements in quality improvement and doctors at all levels should have access to quality improvement training.

<http://www.aomrc.org.uk/>

### Chronic wound dressings

The range of dressings available for chronic wounds is legion. Primary care spending on advanced wound dressings (alginate, film, foam, hydrocolloid) and antimicrobial dressings (iodine, silver, honey) totals £110m/year. In the absence of clinical grounds the least costly dressing that meets the required wound characteristics in terms of size, adhesion, and fluid handling should be considered says recent advice from NICE. In a review of current evidence NICE found a paucity of evidence to support the use of advanced dressings over conventional ones.

<http://bit.ly/23dTCZ7>

Cite this as: *BMJ* 2016;353:i2010

## EDUCATION INTO PRACTICE Diagnosing COPD

About 2.8 million people in the UK don’t know they have chronic obstructive pulmonary disease (COPD). Early diagnosis can slow disease progression and reduce hospital admissions. Any patient

over 35 years who smokes and has exertional breathlessness, chronic cough, regular sputum production, frequent winter “bronchitis,” or wheeze should have diagnostic spirometry.

How could you ensure that patients at risk are offered spirometry?

To develop this idea further as a quality improvement project, visit BMJ Quality at <http://quality.bmj.com>.



## CPD/CME

You can gain CPD points from your reading by recording what you have read in your appraisal folder. You should try to link your reading back to a learning need and also consider how you plan to improve your practice as a result of your learning. <http://learning.bmj.com>

We print a statement on financial interests and patient partnership with each education article because they are important to us. We have resolved to reduce the involvement of authors with financial interests that *The BMJ* judge as relevant. We encourage and make clear how patients have been involved and shaped our content. More details can be found on [thebmj.com](http://thebmj.com).

# Palliative care in patients with heart failure

Colleen K McIlvennan,<sup>1 2 3</sup> Larry A Allen<sup>1 2 3</sup>

<sup>1</sup>Section of Advanced Heart Failure and Transplantation, Division of Cardiology, University of Colorado School of Medicine, Aurora, USA

<sup>2</sup>Adult and Child Center for Health Outcomes and Research and Delivery Sciences, University of Colorado School of Medicine, Aurora, USA

<sup>3</sup>Colorado Cardiovascular Outcomes Research Consortium, Denver, CO, USA

This is an edited version of the state of the art review, full version is on [thebmj.com](http://thebmj.com)

Correspondence to: L A Allen, School of Medicine, University of Colorado, B130 Aurora, CO 80045, USA [larry.allen@ucdenver.edu](mailto:larry.allen@ucdenver.edu)

**CPD/CME**  
**1 CREDIT**

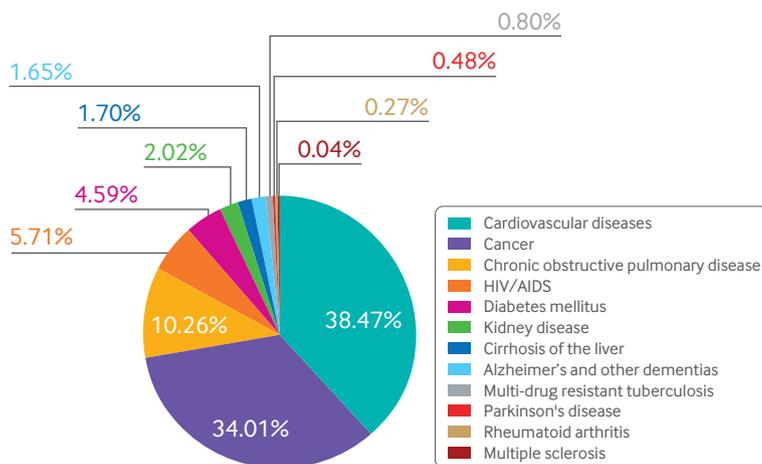
**SUMMARY**

Palliative care has applications across the stages of heart failure, including early in the course of illness, often in conjunction with other therapies that are intended to prolong life. The incorporation of palliative care into the management of heart failure has been suboptimal for several reasons: uncertainty in the disease trajectory, failure to reward communication between healthcare providers and patients, siloed care, lack of knowledge, overlay of comorbidity and frailty, life saving devices with complex trade-offs, and a limited evidence base. This review will summarize the current literature on the emerging role of palliative care in patients with heart failure and the challenges and opportunities for its integration into routine care.

**Heart failure is a syndrome of cardiac dysfunction characterized by dyspnea, fatigue, and fluid retention.<sup>1</sup>**

**Morbidity is high, hospital admission is common, median survival is less than five years, and the disease places great demands on patients, caregivers, and healthcare systems.<sup>6</sup>**

**Most contemporary data from developed nations indicate that the incidence of heart failure has plateaued, or even decreased.<sup>3-16</sup> The combination of increasing prevalence with stable incidence suggests patients are living longer with symptomatic disease, which has obvious implications for palliative care needs.**



Distribution of adults in need of palliative care at the end of life by disease.

\*Adapted, with permission, from the World Health Organization<sup>25</sup>

**WHAT YOU NEED TO KNOW**

- Palliative care is designed to complement traditional heart failure care through its focus on communication, shared decision making, and advance care planning
- Patients tend to follow a progressive, albeit non-linear, decline in health related quality of life
- Palliative care has clear applications to heart failure, particularly in advanced disease but also in earlier stages.
- Greater integration of palliative care has the potential to handle clinical uncertainty and improve communication
- Considerable effort is needed to improve the evidence base for palliative care interventions, develop better decision aids and improve communication training

**Role of palliative care in heart failure**

Because of the progressive, chronic, but unpredictable disease course of heart failure, palliative care can help meet the needs of patients, families, and healthcare providers. For example, patients with heart failure would prefer to die at home, yet most still die in hospital. Consultations with palliative care providers have shown an increase in the likelihood of death at home.<sup>38</sup>

Experts and the public are increasingly calling for the expansion of palliative care to patients with heart failure (fig 1). The 2013 American College of Cardiology/AHA guidelines on the management of heart failure include a class IB recommendation that palliative and supportive care is effective for patients with symptomatic advanced disease to improve quality of life.<sup>1</sup>

**Specific needs of people with heart failure**

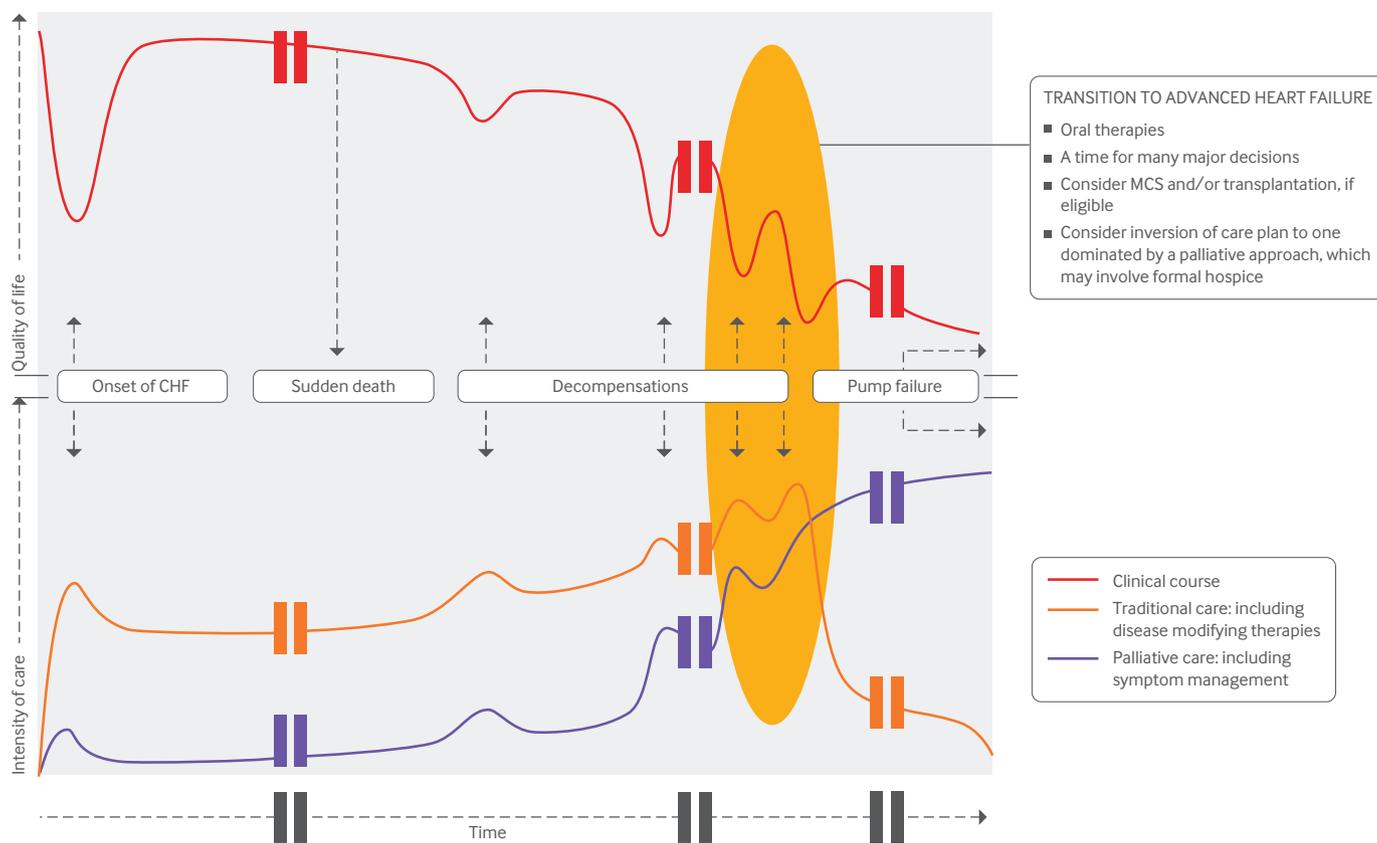
**Symptoms, functional limitations, and quality of life**

The most common symptoms of heart failure are pain, breathlessness, fatigue, and depression. Most patients describe at least one symptom as burdensome.<sup>43</sup> When heart failure nears end stage, it has one of the largest effects on quality of life of any advanced disease.<sup>47</sup> In a US study of 60 patients with symptomatic heart failure and 30 with advanced lung or pancreatic cancer, those with advanced heart failure reported greater symptom burden and depression as well as lower spiritual wellbeing than those with advanced cancer.<sup>34</sup>

**Multimorbidity**

Multimorbidity contributes to the range of symptoms, complicates management, and can alter prognosis. On average, patients with heart failure have 4.5 comorbidities.<sup>48</sup> The presence of additional comorbidities also leads to polypharmacy, which increases patient and family burden.

Frailty is a biologic syndrome characterized by a decline in overall function and loss of resistance to stressors.<sup>50</sup>



**Fig 1 | Clinical course of heart failure with associated types and intensities of available therapies and incorporation of palliative care.** Red line (clinical course): patients tend to follow a progressive, albeit non-linear, decline in health related quality of life; this course can be interrupted by sudden cardiac death caused by arrhythmia or can end in a more gradual death from progressive pump failure. Yellow line (traditional care): at disease onset, multiple oral drugs are prescribed for cardiac dysfunction or comorbidities (or both). As disease severity increases, the intensity of care may also increase, with intensification of diuretics, addition of an implantable cardioverter defibrillator or cardiac resynchronization therapy for those eligible, and increasing interaction with the medical system through ambulatory visits and hospital admissions, until standard therapies begin to fail (transition to advanced heart failure). Purple line (palliative care): palliative therapies to control symptoms, improve quality of life, and enhance communication are relevant throughout the course of heart failure, not just in advanced disease, working together with traditional therapies designed to prolong survival. The critical transition into advanced heart failure from the medical perspective is often followed by a transition in goals of care from the patient and family perspective, when palliative therapies may become the dominant treatment paradigm (for the majority of patients, in whom transplantation and mechanical circulatory support are not an option). Clinicians must recognize the transition to advanced heart failure so that therapeutic options can be considered in a timely fashion and patients can proactively match medical decisions to clinical realities. CHF=chronic heart failure; MCS=mechanical circulatory support \*Adapted, with permission, from the American Thoracic Society<sup>39,40</sup>

### CAREGIVERS' PERSPECTIVES

We solicited feedback from three caregivers of patients who died of end stage heart failure. Their experiences differed greatly. One was the wife of a patient who chose palliative care and ultimately hospice with death occurring in the home. The other two were a sister and daughter of a patient who received a left ventricular assist device (LVAD) and died after multiple complications in a long term acute care facility. All three caregivers thought that introducing palliative care earlier in the process of the disease would have been beneficial: "In my opinion the sooner you get the patient and caregiver in touch with palliative care, the easier it is for them to make decisions." Additionally, they all thought that palliative care would be useful when making treatment decisions: "I think this is such an important topic, and one that is too often not discussed with patients and their families when discussing treatment options." Furthermore, the daughter of the patient who received an LVAD was emphatic about increasing the role of palliative care in patients with end stage heart failure: "As an educated and close knit family, this experience [of pursuing an LVAD] literally brought us to our knees as we tried to navigate the complexity of the decision making process. We would have benefitted tremendously from a palliative care approach." On the basis of this feedback, we highlighted the need for more robust evidence and integration of palliative care interventions for patients with heart failure.

Several studies have shown that frailty is more prevalent in people with heart failure than in the general elderly population.<sup>51,52</sup>

### Palliative care interventions

A palliative care specialist is not needed to prescribe many of the interventions; most primary care or cardiology clinicians can provide these services.

Dyspnea refractory to hemodynamic interventions (diuretics, afterload reduction, inotropes) can be treated with low dose opioids and benzodiazepines. Non-pharmacologic management includes using a fan to provide cool air to the face, breathing training, and anxiety management.

There are few data supporting specific interventions for patients with heart failure. Trials on the use of opioids for treating dyspnea in heart failure have been small and the results have been conflicting in terms of effectiveness, although opioids did seem to be safe.<sup>56,57</sup> The Sertraline Against Depression and Heart Disease in Chronic Heart

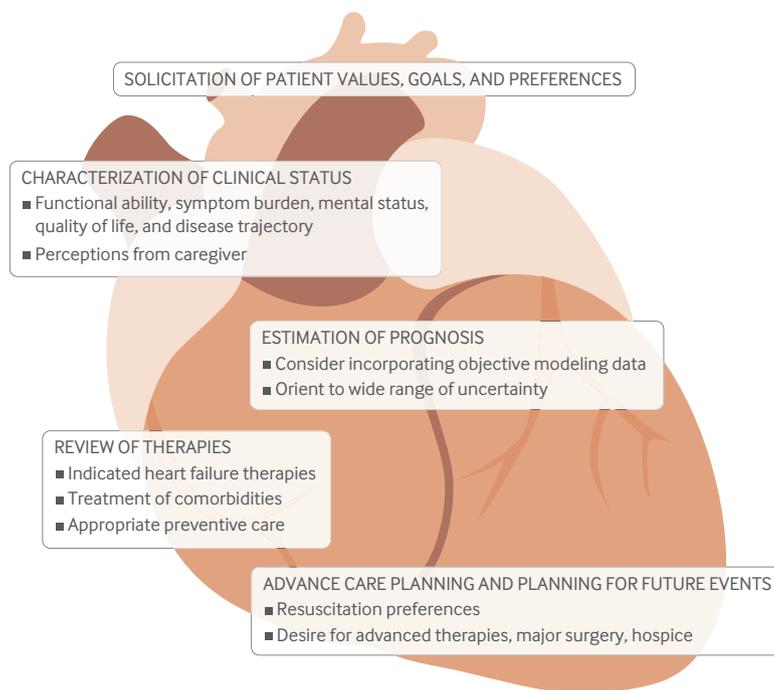


Fig 2 | Components of an annual heart failure review. Adapted, with permission, from Allen and colleagues<sup>39</sup>

Failure (SADHART-CHF) trial of 469 patients found no significant difference in depression or cardiovascular status in the treatment group compared with placebo, and sertraline was well tolerated.<sup>58</sup> In the Depression and Self-Care of Heart Failure trial of 158 patients with heart failure, cognitive behavioral therapy plus usual care was compared with usual care alone. The primary outcome was the Beck depression inventory score at six months, and the self care of heart failure index confidence and maintenance subscale scores were co-primary outcomes. Cognitive behavioral therapy was effective in the treatment of depression in patients with heart failure compared with usual care (Beck depression inventory score 12.8 (standard deviation 10.6) v 17.3 (10.7);  $P=0.008$ ), but it did not influence self care.<sup>59</sup>

### Integrating palliative care into heart failure care

#### Uncertainty in the heart failure disease trajectory

Heart failure often follows an unpredictable course, with periods of stability interrupted by exacerbations, sometimes ending in sudden death or competing non-cardiovascular illness, but most typically culminating in irreversible pump failure. Acute exacerbation often represents a temporary reduction in health status but can be a terminal event; at the time of presentation it can be nearly impossible to anticipate the patient's response to therapy and eventual disposition.

#### Poor communication

End of life discussions are often time consuming and require navigating the complex needs of patients and families. Unfortunately, cardiology providers have reported an unwillingness to discuss information such as poor prognosis.

Avoidance of difficult discussions about end of life is probably exacerbated by a lack of training in palliative and communication techniques.

A qualitative study of 20 patients with advanced heart failure from Canada aimed to understand patient preferences of prognosis communication. Patients expressed a desire to discuss their prognosis earlier in the disease process and preferred a physician to initiate these discussions.<sup>66</sup> Because heart failure is a chronic process with an unpredictable trajectory, early and iterative solicitation of values, goals, and preferences is necessary to guide the range of treatment options and decisions.<sup>39</sup> It is important to revisit these areas.

#### Silos of care

An increasingly specialized medical system in which inpatient and outpatient services are separated, often with non-communicating electronic health records, has created a fractionated system that works against the integrated holistic approach to management that is at the center of palliative care. A UK survey study found that only a little over half of palliative care physicians and nurses reported some form of collaboration with cardiology.<sup>60</sup>

### Evolving approaches

#### Primary palliative care and team based care

Despite these challenges, a team based approach is essential to the care of patients with heart failure and is potentially facilitated by the integration of palliative care.

In the early phase of the disease, a general practitioner or cardiology provider can lead the team with formal palliative care consultation only as needed. Non-palliative care specialists should be empowered by palliative care providers and through skills training to practice primary palliative care with all patients. In end stage heart failure or at the time of major medical decisions (such as consideration of LVAD implantation), trained palliative care providers may take on a more central role in coordinating care. To decrease patients' confusion and prevent feelings of abandonment, improved communication around these transitions is essential. One solution in advanced disease may be to appoint a member of the cardiology team to provide the link with palliative care. Several studies have reported effective collaborations involving a heart failure nurse or case manager who liaises between the two teams.<sup>94-96</sup>

#### Advance care directives and preparedness planning

For patients, advance care directives provide an avenue to express their wishes about life sustaining treatments, usually to withhold or withdraw, in the event of a terminal condition.<sup>99</sup> For providers, advance care directives can help when assessing patients' values, goals, and preferences to facilitate concordant treatment decisions.

Ideally, advance care planning should start early in the disease process and progress iteratively through the course of the disease. Moving advance care planning upstream involves preparedness planning. Advance

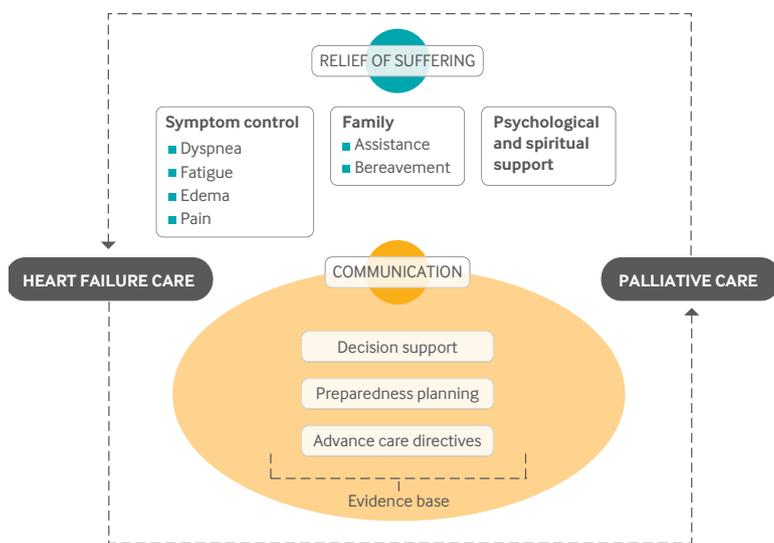


Fig 3 | Integration of palliative care and heart failure

care directives have traditionally focused on end of life care, while preparedness planning focuses on preparing for any adverse event. Preparedness planning has been shown to improve attitudes and increase completion of advance care directives in patients with heart failure.<sup>101</sup> The concept of preparedness planning is often combined with a palliative care visit as the first step to the ultimate completion of advance care directives. The focus of preparedness planning is specific to the individual patient's situation, and it focuses on respecting patients' beliefs and preferences.<sup>102</sup>

It is not clear who should deal with these matters. Ideally, the patient's primary care provider or cardiology should initiate these discussions. To ensure these discussions happen over time, the AHA has proposed an "annual heart failure review" to encourage iterative discussions about goals of care and as a way to improve advance care planning (fig 2).<sup>39</sup>

### Shared decision making and decision support

Shared decision making puts patient centered care into practice. It involves both patients and providers, with the ultimate goal of ensuring that a patient's values, goals, and preferences guide informed decisions. Shared decision making recognizes that there are often complex trade-offs when taking medical decisions and it fulfills the ethical and legal mandate to fully inform patients of all risks and benefits of a treatment.<sup>106-108</sup> This is particularly true in heart failure, where several medical decisions (such as whether to insert a LVAD) are

### QUESTIONS FOR FUTURE RESEARCH

- How can palliative care techniques be best taught to a wide range of clinicians for earlier integration into routine care?
- For patients with heart failure, what is the best method for integrating secondary and tertiary palliative care?
- What components of existing palliative care interventions provide the greatest increase in health related quality of life to patients with heart failure?

preference sensitive owing to their high risk-high reward nature. The tenets of palliative care are fundamentally patient centric, and the specialty places shared decision making and related patient-provider communication at the forefront of management.

Decision aids are tools designed to facilitate shared decision making and patient participation in healthcare decisions.<sup>109</sup> They are not substitutes for conversations with healthcare providers but tools to help frame the discussions and inform patients of their options. A recent systematic review of tools used to promote shared decision making in critically ill patients showed that the use of decision aids improved knowledge and awareness of treatment choices.<sup>111</sup> Decision aids have been developed for some heart failure treatments, including ICDs and LVADs (<https://patientdecisionaid.org/>).<sup>112</sup>

### Expanding the evidence base

Little evidence is available on the direct outcomes of palliative care in patients with heart failure, including how best to incorporate this specialty. Systematic and consistent evidence is lacking worldwide. This evidence is crucial because of the important cultural and environmental differences in the way palliative care services are provided. Physician (or Medical) Orders for Life-Sustaining Treatment (POLST/MOLST) programs, the Institute for Healthcare Improvement conversation project, the efforts of the Coalition to Transform Advanced Care, and the "five wishes" advance directive of the Aging with Dignity organization are widely used despite the absence of compelling evidence that they improve patient outcomes.<sup>115</sup>

The Palliative Care in Heart Failure (PAL-HF; NCT01589601) trial is a prospective, controlled, unblinded, single center study of an interdisciplinary palliative care intervention in 200 patients with advanced heart failure estimated to have a high likelihood of mortality or readmission. The six month PAL-HF intervention focuses on physical and psychosocial symptom relief, attention to spiritual concerns, and advanced care planning.<sup>116</sup> Secondary outcomes include impact on anxiety, depression, spiritual wellbeing, caregiver satisfaction, and cost and resource utilization. The results of this trial, expected after July 2016, will help provide further data on the usefulness of palliative care interventions in patients with heart failure.

Similarly, the Collaborative Care to Alleviate Symptoms and Adjust to Illness in Chronic Heart Failure (CASA; NCT01739686) trial is expected to be completed by December 2016 and will provide randomized data on whether an intervention to improve symptoms and quality of life by integrating palliative and psychosocial care into chronic care is feasible and improves patient outcomes.<sup>117 118</sup>

Evidence on how and when to incorporate palliative care into the management of heart failure should improve the overall care for these patients (fig 3).

Cite this as: *BMJ* 2016;353:i1010

Find this at: <http://dx.doi.org/10.1136/bmj.i1010>

# Self harm and the emergency department

Clinicians' reactions to people who self harm can make all the difference

I speak quietly at the emergency department reception desk, but much of the waiting room can still hear. There isn't an easy way to announce in a room full of strangers that you've hurt yourself, again. In case anyone listening is in doubt, then comes the question: "Did you do this to yourself?"

Self harm is one of the most common reasons for general hospital admission.<sup>1,2</sup> People who present to the emergency department with self harm have a relative risk of suicide 49 times greater than the general population,<sup>3</sup> and up to 100 times greater in the next year.

Emergency department clinicians have saved my life more than once. But self harm often comes with stigma, and our interactions are uneasy. I'm a "frequent flyer" (their term) and can be met with extremes. From the most thoughtful, compassionate care to frustration, blame, judgment, and shaming.

I don't expect the emergency department at 3 am to provide a solution—I've been self harming for 30 years and there isn't a quick fix—but there are things you can do to help. Ensuring that the cause of the injury doesn't affect the quality of care is important. When I self harm, my injuries are serious—yet I'm rarely offered analgesia. Offering analgesia shows that you think the person does not deserve to hurt. I've sometimes heard, "but I thought you liked pain," and been told how expensive dressings are.

## Small things can help

Many people who self harm have experienced trauma. Healthcare environments can trigger associations with that trauma and be frightening. If the person is able to tell you, ask what would help them to feel safe—for example, not being made to wear a gown unless it is clinically essential, or being offered



ROSE LLOYD

Self harm can be a way to try to find control, so it's important you avoid taking more control away

## WHAT YOU SHOULD KNOW

- Don't let the cause or frequency of harm affect care; assess pain and offer analgesia
- Avoid "all or nothing" approaches, where turning down suggested treatment means being turned away
- A lack of control can contribute to self harm; involve patients in decisions and facilitate self care

## When I self harm, my injuries are serious—yet I'm rarely offered analgesia

the opportunity to sit on a chair rather than a trolley or bed.

Self harm can help some people find control in a desperate situation where there is none, so it's important not to take more control away from them or to dismiss them. For example, I was told by clinicians that there is "no point in seeing me" if I am "refusing treatment" when I was too fearful to accept admission by the plastics team; but I could have managed dressings, emergency wound care, and outpatient review if it had been offered. I appreciate being offered gold standard treatment, but if sometimes I cannot accept parts of it please don't walk away. Work with me to find the best treatment I can tolerate.

### Self harm is often a private act

Even though self harm has led to many hospital admissions, including time in intensive care, few of my work colleagues, friends, or family know. For some people, the emergency department is the only place where their injuries will be seen by another person. Think about what each stage of the assessment and treatment process requires of the person and the impact it might have. Maximise privacy where you can, closing curtains during examination, and replacing temporary dressings after triage.

There are as many reasons for self harming as people who self harm, but a common theme is that it stems from a place where there is psychological pain. So making people feel worse about what they've done is unlikely to make them stop self harming. It may increase the risk of repetition or stop people seeking help.

By contrast, people who treat me with dignity and compassion help me more than they realise.

For series information contact Rosamund Snow, patient editor, [rsnow@bmj.com](mailto:rsnow@bmj.com)

Cite this as: *BMJ* 2016;353:i1150

Find this at: <http://dx.doi.org/10.1136/bmj.i1150>

## 10-MINUTE CONSULTATION

# Progressive elbow pain

Alexis Descatha,<sup>1 2</sup> Thomas Desprésaux,<sup>1 2</sup> Ryan P Calfee,<sup>3</sup> Bradley Evanoff,<sup>4</sup> Olivier Saint-Lary<sup>5 6</sup>

### WHAT YOU NEED TO KNOW

- Elbow pain on specific movements suggests tendonitis, and tennis elbow is the most common
- Optimal treatment of tennis elbow is unclear, but pain control, work modification, physiotherapy, and orthotics may help to reduce symptoms
- Corticosteroid injections provide better pain relief at six weeks, but by six months the symptoms in this group are no better and sometimes worse

**A 50 year old supermarket cashier complains of progressive elbow pain for the past two weeks. It is hard for her to scan heavy items at work and to lift saucepans at home.**

Lateral elbow pain is common (population prevalence 1-3%).<sup>1</sup> It is usually assessed and managed in primary care, and the incidence of lateral elbow pain in general practice is 4-7/1000 people a year.<sup>2</sup> Interrupted sleep, inability to use the hand, and psychological ill health (anxiety or depression) are associated with problems functioning at home or work.

### HOW PATIENTS WERE INVOLVED IN THIS ARTICLE

Article predates our patient partnership changes, and so no patients were involved.

### CPD/CME

0.5 CREDIT

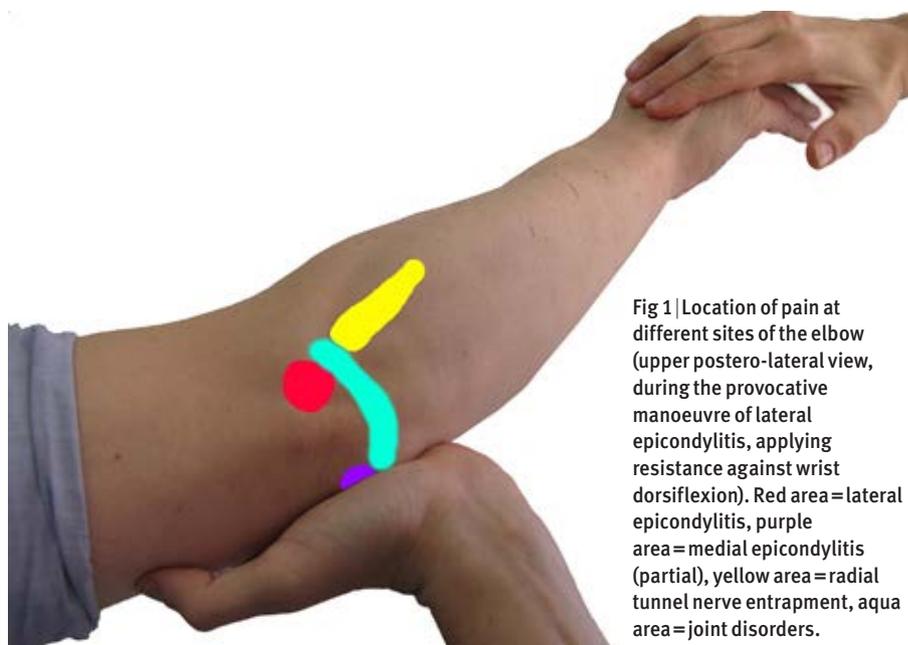


Fig 1 | Location of pain at different sites of the elbow (upper postero-lateral view, during the provocative manoeuvre of lateral epicondylitis, applying resistance against wrist dorsiflexion). Red area = lateral epicondylitis, purple area = medial epicondylitis (partial), yellow area = radial tunnel nerve entrapment, aqua area = joint disorders.

<sup>1</sup>AP-HP, Occupational Health Unit/EMS (Samu92), University hospital of Poincaré site, France

<sup>2</sup>Versailles St-Quentin University UVSQ Inserm, UMS 011 - UMR-S 1168, France

<sup>3</sup>Department of Orthopedic Surgery, Washington University School of Medicine, St Louis, Missouri, USA

<sup>4</sup>Institute of Clinical and Translational Sciences/ Division of General Medical Sciences, Washington University School of Medicine, St Louis, Missouri, USA

<sup>5</sup>Université Versailles Saint-Quentin en Yvelines, Faculty of Health Sciences Simone Veil, Department of Family Medicine, 78180 Montigny le Bretonneux, France

<sup>6</sup>Université Paris-Saclay, Univ Paris-Sud, UVSQ, CESP, INSERM (U1018), Team 1: "Health services research," 94800 Villejuif, France.

Correspondence to: O Saint-Lary [olivier.saint-lary@uvsq.fr](mailto:olivier.saint-lary@uvsq.fr)

This is part of a series of occasional articles on common problems. The *BMJ* welcomes contributions



**Fig 2 | Strengthening exercises.** They are based on resisting wrist extension (arm resting on a table with the elbow extended), such as by slowly lowering and raising a 2 lb (0.9 kg) weight held palm-down (or by using a stretch band) for three sets of 10-15 repetitions daily for about 6-12 weeks. A wrist cock-up brace or epicondylar counterforce brace (elbow brace) can be used based on patient preference. Counterforce bracing over the wrist extensor muscle bellies distributes forces from the forearm extensors away from their origin.

### What you should cover

Ask questions to explore which structures in the elbow are likely to be affected.

- Pain on specific movement may suggest tendinitis, which may follow increased levels of activity and recur:
  - Those with lateral epicondylitis (tennis elbow) characteristically have pain on gripping or lifting palm-down, typically with activities such as tennis, kayaking, construction work, and assembly line work (strong evidence for such association in systematic reviews)<sup>3</sup>
  - Medial epicondylitis (golfer's elbow) is typically aggravated by activities involving grip and wrist or elbow flexion such as rock climbing, turning and screwing, and using tools forcefully (with a lower evidence, however)<sup>1</sup>
  - Other forms of tendinitis, such as rotator cuff, may cause referred pain around the elbow.<sup>3</sup>
- Loss of flexion and extension with end-range pain is suggestive of osteoarthritis.
- Numbness or muscle weakness may indicate a neuropathy, perhaps affecting the radial nerve, or radiculopathy C6-C8.
- Be alert to the possibility of inflammatory or septic arthritis.
- Consider whether there is relevant old or new trauma.

### Examination

Expose the patient's arms. Look for deformity, swelling, or soft tissue damage consistent with an old or new traumatic injury. Ask the patient to point to the area of maximal pain, indicate radiation, and demonstrate movements that provoke the pain.

Palpate the elbow. Figure 1 depicts the areas of maximal tenderness for lateral and medial epicondylitis, osteoarthritis, and radial tunnel syndrome.

Perform special tests for tendinopathy. For lateral tendinopathy, ask the patient to dorsiflex the wrist against resistance with the elbow flexed 90°—extending the elbow increases pain further. In the context of medial pain also check for associated ulnar entrapment at the elbow with a positive combined pressure and flexion test.<sup>3</sup>

Consider examination for pathology of the shoulder, rotator cuff, and neck if the diagnosis is not clear.

### What you should do

Lateral epicondylitis (tennis elbow) is the most common cause of persistent elbow pain, responsible for two thirds of cases presenting in general practice.<sup>4</sup> It will improve spontaneously in around 80-90% of people over 1-2 years.<sup>5</sup> Analgesia, work modification, and physiotherapy may help to manage symptoms but are not known to alter the long term prognosis.

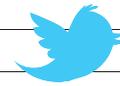
Systematic reviews and meta-analysis have evaluated treatment of tennis elbow, but the low quality of included studies and the lack of long term follow-up limit any conclusions. However, accepted practice is:

- Offer short term regular paracetamol. Non-steroidal anti-inflammatory drugs (NSAIDs) may help but should be reduced as soon as possible. A recent Cochrane review concluded that NSAIDs (oral and topical) are ineffective in this condition in the long term while increasing side effects (abdominal pain).<sup>6</sup>
- Advise a short cessation of aggravating sports and manual work while maintaining activity. Physiotherapy focuses on maintaining motion and strengthening exercises (fig 2), possibly with the aid of wrist cock-up brace or epicondylar counterforce (elbow) brace.
- In the past corticosteroid injections were offered. For lateral epicondylitis they provide temporary (six weeks) pain relief which may be superior to that provided by NSAIDs and physical therapies.<sup>2</sup> By six months, however, patients treated with steroid injection report either the same or more symptoms than those who did not receive an injection.<sup>2</sup>
- Suggest that the patient tries to reduce instances of forceful grip, wrist extension, and elbow flexion, and duration of such movement, in work and in sport (recommended by the American College of Occupational and Environmental Medicine practice guidelines with an "insufficient level of evidence" based on observational studies).<sup>7</sup> This may be supported by instructions for the employer, such as to mix work patterns, increase the number of rest breaks, and, if feasible, to change the way to manipulate objects with forceful gripping and awkward wrist posture.
- Advise patient to return in case of increasing pain, difficulty in sleeping or in functioning well at home or work, or unusual persistence (>6-12 months). In such cases, re-examine the patient and possibly refer to a specialist from rehabilitation or surgery (immediately in the case of initial severity).<sup>8</sup>
- Reassure the patient that it is unlikely to result in long term disability and does not cause arthritis.
- Imaging and referral should be performed in case of unusual pain location or severity, or associated symptoms, and when needed to rule out an alternative diagnosis (bone and joint disorders, nerve entrapment).

Competing interests: None declared.

Cite this as: *BMJ* 2016;353:i1391

Find this at: <http://dx.doi.org/10.1136/bmj.i1391>



**CASE REVIEW A man with a short history of lower back pain**

A previously fit and well 69 year old man presented to his general practitioner with a four week history of lower back pain. He had no history of trauma, took no regular drugs, was an ex-smoker, and did not drink alcohol. Physiotherapy, sought privately, had provided no benefit. His GP prescribed painkillers and reviewed him two weeks later, at which point, with no improvement in symptoms, spinal radiography was organised. Radiography showed multiple compression fractures of vertebrae T11-L2 (figure; arrows).

The GP arranged blood tests and referred the patient to hospital for assessment. On further questioning, he had recently lost weight and had loss of appetite. Pallor was noted on examination. There were no neurological findings (in particular, no signs of spinal cord compression) and other systems examinations were normal. Rectal examination showed a smooth, enlarged prostate, with normal anal tone and sensation.

Blood tests showed normocytic anaemia (haemoglobin 99 g/L (reference range 130-180), mean cell volume 95 fL (80-100)), and normal white cell and platelet counts. A renal profile was normal, bone profile showed protein 86 g/L (60-80), albumin 35 g/L (35-50), globulin 51 g/L (22-43), alkaline phosphatase 163 U/L (30-130), adjusted calcium 2.74 mmol/L (2.20-2.60), and phosphate 1.64 mmol/L (0.80-1.50). Imaging studies comprised whole spine magnetic resonance imaging (MRI); computed tomography of the thorax, abdomen, and pelvis; and a skeletal survey.

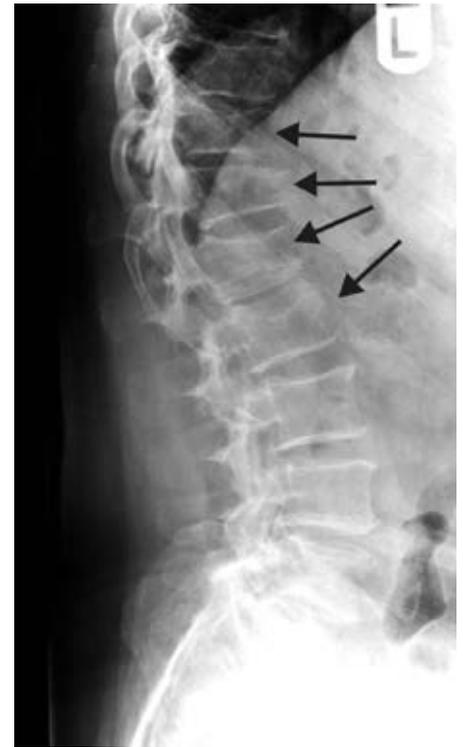
- 1 What is the diagnosis?
- 2 What additional investigations would aid diagnosis?
- 3 What complications may arise?
- 4 How should this patient be managed?

Submitted by Alison Edwards, Preethi Nalla, and L D Premawardhana

Patient consent obtained.

Cite this as: *BMJ* 2016;353:i1722

Find this at: <http://dx.doi.org/10.1136/bmj.i1722>



**SPOT DIAGNOSIS**

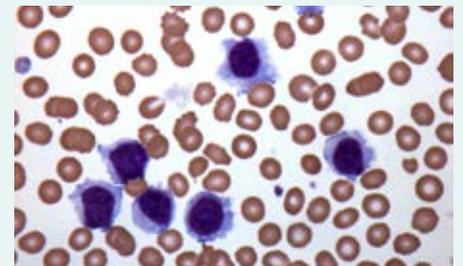
**Interesting case of lymphocytosis and splenomegaly**

An 81 year old woman was referred to haematology with a six month history of fever, 7 kg weight loss, night sweats, and abdominal distension. She was otherwise fit and well; she had no travel history of note and did not smoke or drink alcohol.

On examination, she had massive splenomegaly palpable to the level of the umbilicus. The examination was otherwise normal and she had no palpable lymphadenopathy in the cervical, axillary, or inguinal regions.

Blood results showed haemoglobin 119 g/L (reference range 123-167), white blood cell count  $68.0 \times 10^9/L$  (3.5-11),

lymphocytes  $53.0 \times 10^9/L$  (1.0-3.0), neutrophils  $4.1 \times 10^9/L$  (2.0-7.0), monocytes  $6.8 \times 10^9/L$  (0.2-1.0), and platelets  $134 \times 10^9/L$  (150-410). Urea, creatinine, and liver function tests were normal. A peripheral blood smear was performed (figure). Flow cytometry showed that 60% of total peripheral blood leucocytes were CD19, CD20, CD22, CD79b, CD25, CD11c, and CD103 positive surface immunoglobulin light chain  $\lambda$  restricted B cells, which were negative for CD5, CD10, CD23, and CD123. The remaining cells expressed a phenotype for normal and reactive mature lymphocytes.



Molecular testing confirmed these cells were negative for *BRAFV600E* mutations. On the basis of the peripheral blood smear and flow cytometry results what is the diagnosis?

Submitted by Selina J Chavda and Claire Dearden

Patient consent obtained.

Cite this as: *BMJ* 2016;352:i1227

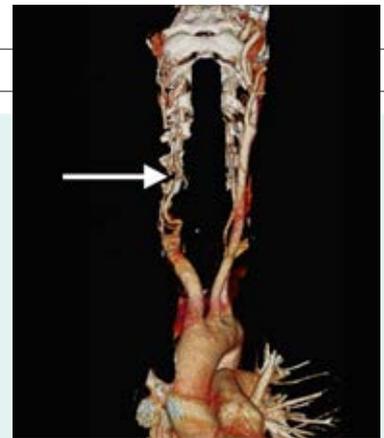
Find this at: <http://dx.doi.org/10.1136/bmj.i1227>

**CASE REVIEW A man with a short history of lower back pain**

- 1 Multiple myeloma.
- 2 Serum protein and globulin levels, immunoglobulins, serum protein electrophoresis, and urine for Bence-Jones proteins (light chains).
- 3 Hypercalcaemia, spinal cord compression, plasma hyperviscosity, infection, and renal failure.
- 4 Intravenous fluids and electrolyte supplements may be needed to correct dehydration, hypercalcaemia, and electrolyte abnormalities. Bisphosphonates may be needed to treat hypercalcaemia and bone pain. Ensure adequate analgesia. Refer to a haematologist as soon as the diagnosis is suspected.

**SPOT DIAGNOSIS Interesting case of lymphocytosis and splenomegaly**

Hairy cell leukaemia variant.



### A red eye from carotid stenosis

A 66 year old man presented with a painful red right eye. He had right eye uveitis and was treated with steroid drops. At monthly review he had cataracts and new vessels on the iris. A bruit was heard over the right carotid only. Computed tomography angiography showed occlusion of the right common carotid artery (arrow). He has ocular ischaemic syndrome owing to right carotid occlusive disease. Symptoms are loss of vision, pain, and amaurosis

fugax. Uveitis may be the first presentation of carotid occlusion and careful examination of the iris for new vessels is mandatory.

Sumith Perera (pereras@eyeview.fsnet.co.uk), Hala Ali, Jeremy Hoffman, Andrew Ceccherini, Shennan Jose, radiographer, Karen Tyler, Surrey and Sussex NHS Trust, Redhill RH1 4BN, UK Patient consent obtained.

Cite this as: *BMJ* 2016;352:i364

Find this at: <http://dx.doi.org/10.1136/bmj.i364>



### Don't just sit in front of the TV

In 2013, 68% of 2034 Australian adults in an online survey thought it was appropriate to limit children's screen time to the recommended  $\leq 2$  h/day (*BMC Public Health* doi:10.1186/s12889-016-2789-3). But most adults themselves spent  $>2$  h watching TV and using the computer at home on work days (66%) and non-work days (88%). Grown-ups, honestly.

### Assortative mating and mental illness

The "madness-runs-in-families" trope began in genealogies and novels and then transmuted into modern genetics. But family patterns of psychiatric illness can be complicated by the tendency for people with a wide variety of psychiatric diagnoses to meet and show "assortative mating." Using one case to five controls in a whole population Swedish database, investigators found non-random mating in psychiatric populations within 11 specific disorders and across the spectrum of psychiatric conditions (*JAMA Psychiatry* doi:10.1001/jamapsychiatry.2015.3192).

### Sleeping on the kids' ward

Lots of parents end up staying overnight with their children on paediatric wards, and 17 of them describe their travails in a qualitative

study in *Arch Dis Child* doi:10.1136/archdischild-2015-309458. Narratives like these are key to simple service improvement (such as reducing noise) and should be used routinely in all health settings.

### Treatment resistant schizophrenia

In a large Danish observational study, "treatment resistant" schizophrenia was defined by treatment with clozapine or hospital admission after two different drug treatments (*Lancet Psychiatry* doi:10.1016/S2215-0366(15)00575-1). Of 8044 patients, 1703 (21%) fulfilled these criteria during a median follow-up of 9.1 years. They showed a cluster of predictive factors that differed from classic risk factors for schizophrenia, leading the authors to wonder if treatment resistant disease might be a distinct subtype of schizophrenia and not just a more severe form.

### Bashed brain biomarker

The traumatised brain leaks glial fibrillary acidic protein (GFAP) and ubiquitin C-terminal hydrolase L1 (UCH-L1) into the circulation. An American study of 1831 blood samples from 584 patients drawn in the week after head injury shows how these markers change over time and correlate with computed tomography findings (*JAMA Neurol* doi:10.1001/jamaneurol.2016.0039). But it's not clear how this helps clinical management, and press hype about this "simple blood test" is taken apart in an article in *Health News Review* (<http://bit.ly/1SaQRMM>).

### Does rheumatoid response protect the heart?

The Swedish Biologics Register tracks people with rheumatoid arthritis who are treated with tumour necrosis factor inhibitors (TNFi). Analysis of acute coronary events in the first year after treatment with over 6592 patient years

suggests a protective effect in good responders (*Ann Rheum Dis* doi:10.1136/annrheumdis-2015-208995). However, the 95% confidence intervals are wide: compared with matched population control, the adjusted hazard ratio is 0.6-2.4 for good responders, 1.7-4.4 for moderate responders, and 1.5-4.4 for poor responders.

### Shocking machines and hospices

Implantable cardioverter defibrillators can save people with heart failure from death due to ventricular arrhythmia, but in older people heart failure still carries a bad prognosis. In a Medicare registry study of 194 969 patients aged over 65, half were dead or in hospice based care five years later (*Circulation* doi:10.1161/CIRCULATIONAHA.115.020677). A third of the whole cohort received hospice care—a much higher proportion than in the UK.

### Wine that gladdens the heart of man

The earliest writings to celebrate the happy effects of wine were hymns to the Sumerian goddess Ngeshtin-ana, followed 2000 years later by Psalm 104 v 15. Another 3000 years later, the journal *Alcohol and Alcoholism* surprisingly joins the refrain (doi:10.1093/alcalc/agw016). On the basis of a random sample of the Finnish population it states: "Consumption of wine with meals was associated with high socioeconomic status and high subjective well-being... Potential unknown confounders may exist, but the results underline a link between subjective well-being and drinking wine with meals."

Cite this as: *BMJ* 2016;353:i1985

Find this at: <http://dx.doi.org/10.1136/bmj.i1985>

