

Complexity of treatment decisions with older patients: who, when and what to treat?

Finbarr C Martin MD MSc FRCP, Consultant Physician in Geriatric Medicine, *Guy's and St Thomas' NHS Foundation Trust*

M Sinead O'Mahony BSc MB FRCP, Consultant Physician in Geriatric Medicine, *Cardiff University*

Rebekah Schiff BSc MBBS MRCP, Senior Lecturer in Geriatric Medicine, *Guy's and St Thomas' NHS Foundation Trust*

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The ethical principles guiding treatment decisions apply to adults of all ages:

- promotion of autonomy
- beneficence
- non-maleficence
- equity.

Their application may be challenging in clinical practice with older people. Multiple illnesses and frailty complicate the therapeutic balance of risks and

benefits. Impaired capacity to participate in treatment decisions is more common than at younger ages. Proximity to death may change the values that patients put upon possible outcomes. This article presents a series of vignettes to explore these issues.

Example 1

A 77-year-old woman was brought to the emergency department (ED) by ambulance. Her regular carers had noticed her drowsiness and reduced appetite over 10 days. She was emaciated and febrile. Her Glasgow Coma Scale rating was 9. Several limb flexion contractures and a grade 4 sacral pressure sore were present. Initial management with intravenous antibiotics for septicaemia and nasogastric feeding produced no improvement. Discussion with her family revealed a 10-year history of increasing cognitive impairment, with steady physical decline and anorexia in the preceding year. Sensitive discussion with her family was followed by a shared decision to change to a palliative therapy approach. She died quietly without pain with her family at the bedside.

This example highlights the importance both of treatment decisions which enhance dignity and of the need to avoid or withdraw 'treatment' which is not leading to improved well-being or

survival. Promoting dignity at the end of life was recently highlighted in *A new ambition for old age*¹ which sets out priorities for improving services for older people with complex needs.

The concept of 'therapeutic futility' has aroused considerable ethical debate in recent years.² Confusion about it can arise not only in the minds of patients and their families but also in those of their doctors and nurses. The key conceptual distinction to be made is between futility as:

- a judgement about the likelihood of a specific clinical treatment decision achieving a stated desired clinical outcome
- a value judgement on whether the stated outcome is worthwhile.

The former judgement falls within the professional competence of the clinician, whilst the latter is for the patient with whatever support and advice they might wish to take. These considerations have been set out as a 'medical factual matrix' by Mohindra.³

In the example discussed above, the patient did not have the mental capacity to evaluate the treatment decision. In terms of clinical recovery, the clinicians judged the treatment likely to be ineffective. In these circumstances, discussion with family or others is important to provide background to help decision making and also to enable the proxy view of the patient to be incorporated. While doctors are not obliged to offer ineffective treatments, difficulties arise in clinically grey areas where, for emotional, cultural or religious reasons, a range of valuations might be placed on a particular outcome and therefore on the judgement of what constitutes efficacy.

Such discussion is already acknowledged as good practice but is now also a requirement for determination of 'best interests' within the Mental Capacity Act,⁴ although the final determination of 'best interests' lies ultimately with the courts of law.

Example 2

A previously independent 90-year-old woman, who had a transient ischaemic

Key Points

Modern medical interventions are often effective for very old people

Therapeutic decision making with older patients can be challenging for all physicians doing acute hospital medicine

Such decision making involves assessing how multiple morbidities and frailty modify the balance of beneficial and adverse effects of treatment

Decision making is made more difficult by the exclusion of many such patients from the clinical trials which guide our evidence-based decisions

Judging what outcomes are worthwhile may also be difficult, but this is for the patient to decide helped by the best information the doctor can provide

For a patient who lacks capacity for a treatment decision, the Mental Capacity Act guides the physician in considering the patient's own wishes, values and views they may have held before losing capacity, when acting in a patient's best interests

KEY WORDS: beneficence, dignity, equity, futility, non-maleficence

attack (TIA) one year earlier, was admitted breathless and found to be in atrial fibrillation and congestive cardiac failure. She improved rapidly with loop diuretics. An echocardiogram showed severe tricuspid regurgitation but good left ventricular (LV) systolic function. She was treated with warfarin anticoagulation to reduce her risk of a thromboembolic stroke. Subsequently her cardiac failure worsened to class III and anticoagulant control became unstable, probably reflecting impaired hepatic circulation and function. Furthermore, exhaustion and muscle weakness increased her chances of falling.

According to the National Institute for Health and Clinical Excellence stroke risk stratification algorithm,⁵ this patient would be classified as at high risk of thromboembolic stroke (age over 75, previous TIA, valvular disease and heart failure). However, the benefit/risk balance for her depends on several factors:

- her risk of a thromboembolic stroke (CHAD 2 score 4, stroke risk 8.5 per 100 patient-years without antithrombotic therapy)⁶
- her risk of a major bleed on warfarin – difficult to ascertain because of the narrow therapeutic window, instability of response and lack of data in nonagenarians (current evidence suggests about 1.5% per year)⁵
- the adverse effect on her quality of life of anticoagulant monitoring – probably considerable because of poor mobility and international normalised ratio instability)
- the prognosis from her valvular disease and heart failure – poor both because her age doubles her chance of being one of the third of hospitalised patients with heart failure who die within a year of admission and because her tricuspid regurgitation is a further independent risk factor for death.^{7,8}

This example demonstrates the difficulty in applying guidelines to the oldest, old frail patients for whom data are lacking due to their under-representation in clinical trials underpinning the guidelines.

This patient was offered aspirin 300 mg in place of warfarin.

Example 3

An 87-year-old widow with a history of hypertension who lives alone had cerebrovascular disease evident from a lacunar infarct three years earlier (no residual focal neurology), a slow, unstable gait, two recent falls and symptoms of an overactive bladder. Her general practitioner interpreted her flat affect as depression and advised a selective serotonin reuptake inhibitor (SSRI), which she had taken for six months without evident benefit.

Her current medication was amlodipine 5 mg od, co-amlofruse LS one daily, oxybutynin 5 mg bd, Adcal-D₃ two daily, citalopram 20 mg od.

She was admitted to hospital following a fall after two days of feeling tired and suffering urinary incontinence. A urinary tract infection was found. She was alert but distractible, with an Abbreviated Mental Test score of 7/10.⁹

Laboratory investigations revealed hyponatraemia (128 mmol/l). Her main clinical risks in the next few days were delirium, dehydration, constipation, urinary incontinence with potential to produce skin excoriation, instability and falls. During this phase, which of her medications should have been discontinued?

- *Oxybutynin*. Anticholinergics increase the risk of delirium and are unlikely to help this patient's current urinary symptoms.
- *Co-amlofruse* may increase her risk of dehydration, hyponatraemia and urinary incontinence.
- *Adcal D₃* may have long-term benefits in vitamin D-deplete individuals but there are no short-term benefits.
- *Citalopram*. SSRIs may cause the syndrome of inappropriate secretion of antidiuretic hormone, but demonstration of this in this patient rather than salt depletion would be difficult initially because of concurrent therapy. Severe hyponatraemia may cause

symptoms resembling delirium. Abrupt withdrawal of SSRIs may cause distressing agitation and mood disturbance (the 'serotonin syndrome') which could be missed or compound her potential delirium. It is likely that abrupt withdrawal of citalopram would be more adverse than beneficial in this patient; a gradual withdrawal may be wiser.

- *Amlodipine*. A side effect is constipation. Short-term withdrawal is safe and may be necessary, depending on blood pressure.

This example illustrates the need to reassess the benefit/risk of established medications which may rapidly change during a new illness. Irrespective of the severity of illness, delirium is associated with worse short- and longer-term clinical outcomes and there is convincing evidence that it can be prevented or its duration shortened.¹⁰ This is the priority for this patient.

Example 4

An 81-year-old woman with moderately severe Parkinson's disease (Hoehn and Yahr stage 4), pernicious anaemia for eight years and subclinical hypothyroidism (thyroid-stimulating hormone 9 mU/l, thyroxine (T4) 13.5 pmol/l) for two years, was admitted via the ED following a fall which caused a subcapital humerus fracture.

Next morning before any medication, when semirecumbent, she failed a swallow test, producing a wet voice within 30 seconds. She was therefore put nil-by-mouth for the next 24 hours pending review.

Her usual medications were co-careldopa 125 mg tds, vitamin B12 1 mg intramuscular three-monthly, folic acid 5 mg od, T4 50 mcg od. Which of her medications should continue to be provided?

- *Co-careldopa*. Dopamine (DOPA) therapy is essential in the short term to maintain mobility and swallowing and to avoid the unusual but dangerous withdrawal response of neuroleptic malignant syndrome.¹¹

It should not be abruptly withdrawn.¹² Giving the equivalent DOPA dose of co-beneldopa in liquid form orally or via nasogastric tube may be necessary. Parenteral apomorphine is a possible alternative but such an adjustment requires specialist advice.¹²

- *L-thyroxine*. The half-life of therapeutic T4 is five days. Temporary withdrawal would have little adverse clinical effect. Parenteral liothyronine is an alternative but probably unnecessary. With no cardiac history, restarting at the full dose is probably safe.¹³ The overall benefits of treating subclinical hypothyroidism are small¹⁴ and, since progression to overt hypothyroidism is less than 10% per year, there may be no clinical benefit for patients with short life expectancy. For those needing therapy, twice or once weekly regimens are probably safe and effective if daily administration is a problem for practical or cognitive reasons.¹⁵
- *Folic acid*. Folate body stores last several months in replete individuals.

Example 5

An 85-year-old previously well woman with three months' exertional breathlessness was found on transthoracic echocardiogram to have aortic stenosis with a peak valve gradient of 104 mmHg, valve area 0.64 cm², good LV function and normal chamber sizes. Angiography showed single-vessel disease (60% lesion in the right coronary artery). Her comorbidities included hypertension and degenerative lumbar spine disease, but she was physically active and independent.

After consideration of risks and benefits she opted for aortic valve replacement (AVR) surgery with a biological prosthesis, plus single-vessel coronary artery bypass graft. After a postoperative chest infection, she made an excellent recovery with full resolution of symptoms. Following three months' unevent-

ful anticoagulation, she switched to long-term aspirin.

This example highlights the positive impact for older people of the great advances in cardiac surgery, bypass and anaesthetic techniques. In the 1960s, operative fatality of elective aortic valve replacement in 65-year-olds was 20%. Today, for octogenarians, it is 4–10%¹⁶ and, despite older patients having more postoperative complications, five-year survival approaches 70%¹⁷ (v 32% without surgery).¹⁸ Outcomes are better if surgery antedates cardiac decompensation.

Conclusions

The ethical principle of promoting equity means that advancing age should not be a contraindication to valve replacement surgery or other modern technologies. Estimating benefit and risks requires assessment of biological rather than chronological age.

Mean life expectancy for women aged 80 is currently about nine years.¹⁹ Despite this, fairly recent AVR operative rates amongst patients over 75 years in England were as low as 10%, a major obstacle being lack of specialist cardiac referral.²⁰

In summary, it is important to avoid 'sins of omission' as well as 'sins of commission'. Old patients should be given the opportunity to balance the risks and benefits of therapy.

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When should older people go into care?

Eileen Burns MD FRCP, Consultant in Medicine for the Elderly

Alison Cracknell MBChB MRCP, Specialist Registrar in Medicine for the Elderly
Department of Medicine for the Elderly, Leeds Teaching Hospitals NHS Trust

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The number of people aged 65 and over in the UK will increase by 81% between 2000 and 2051 and represent over one-quarter of the population. Over the same period, the number of dependent older people is projected to increase by 113%.¹ These changes have huge implications for health and social care including the acute medical take.

Where do older people live?

The 2001 census of England and Wales indicated that 95.5% of over 65-year-olds live in the community.² Between 1991 and 2001 the proportion of over 85-year-olds living in care homes fell from 23% to 18%.³ There has also been a large increase in sheltered housing and care at home,² in line with UK government policy to provide more care at home.

What is a care home?

The term ‘care home’ encompasses both residential and nursing homes, including those specialising in dementia care. In England, the Commission for Social

Care Inspection registers and inspects care homes.

- *Residential homes*: staff assist with personal care and are on duty 24 hours a day. Meals and laundry services are provided. Residents should require no more nursing care than can be provided by a visiting district nurse.
- *Nursing homes* in which qualified nursing care is provided 24 hours a day.
- *Dual registered homes*, which provide both residential and nursing care, are increasing in number. They have the advantage of enabling residents to change to a higher level of care without moving home.
- *Care homes for the elderly mentally infirm* cater for people with dementia who have specialist care needs and/or behavioural symptoms such as wandering or aggression, if not caused by a reversible condition (eg delirium). Many residents in non-specialist care homes have significant cognitive problems,^{4–6}

Key Points

Disease and disability rather than social factors should be the main factors which lead to care home admission

Comprehensive multidisciplinary assessments should be carried out before older people move into care and after the alternative options have been considered

Within care homes, cognitive problems as a result of dementia and stroke disease are abundant

The needs of frail elderly patients represent a challenge to the acute physician; they will become increasingly important with the changing population demographics

KEY WORDS: care home, comprehensive geriatric assessment, mental capacity, nursing home, residential home