

## Clinical and Ethical Issues in Palliative Care and Dementia—An Overview

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### Abstract

The prevalence of dementia across Europe and the world is increasing. People die with and from dementia and, as such, advanced dementia can be considered a terminal condition. This, alongside the realization that care for people with dementia is deficient, has led to increasing interest in palliative care in dementia. Palliative care can be a rather broad term with different meanings, but nonetheless guidelines and expert opinions have been developed with the aim of improving overall care for people with dementia. Although at times the evidence on which these guidelines are based is somewhat sparse, they provide guidance in specific areas relevant to dementia. The main areas covered are pain, infection and fevers, artificial nutrition and hydration, resuscitation, and psychological, social, and spiritual needs. We shall consider the evidence on which guidance is based and then highlight a recent ethical framework developed to help thinking around the issues that arise in dementia care.

### Keywords

Artificial nutrition and hydration, dementia, ethics, fever, infection, palliative care, pain, psychosocial approaches, resuscitation, spirituality

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Since the prevalence of dementia is increasing as the population ages, estimates of the number of people with dementia are constantly being adjusted; the current estimate is that 7–8 million people in Europe have got dementia.<sup>1</sup> In 2010, the number of people in the world affected by dementia is estimated to be 35.6 million.<sup>2</sup> People die with and from dementia, which is well known to be under-reported on death certificates.<sup>3</sup> Dementia may well be the third leading cause of death.<sup>4</sup>

In a recent study in Boston involving 323 nursing home residents with dementia, 54.8 % died over an 18-month period.<sup>5</sup> There is a known association between poor cognitive function and increased mortality.<sup>6</sup> Similarly, increasing cognitive impairment and severity of dementia was associated with higher mortality in a cohort of older people admitted acutely to a hospital in the UK.<sup>7</sup> The implication of such findings is that advanced dementia is a terminal condition; if this is the case, palliative care seems to be an appropriate response.<sup>8</sup> With the increasing interest in palliative care in dementia,<sup>9–17</sup> it is perhaps surprising that a systematic review found little evidence to support its efficacy in advanced dementia.<sup>18</sup> However, this may reflect terminology and underlying conceptual issues.

The terminologic difficulty is that there is a whole host of components involved in palliative care—such as withdrawing or withholding treatment, for instance—that may not show up in a search for ‘palliative care’ alone.

This in turn reflects underlying conceptual difficulties, because ‘palliative care’ suggests everything from the palliative care approach, applicable to all chronic conditions from the time of diagnosis, to end-of-life care, where palliative care is understood to apply specifically to a person’s last few days.<sup>19</sup> There are also practical difficulties: for example, it can be difficult to recognize when the person with dementia is actually entering the dying phase and prognostication remains tentative despite indicators such as general dependency, hip fractures, and the need for artificial feeding proving useful.<sup>12</sup> Nevertheless, the holism of palliative care does seem relevant to dementia, whether at the time of diagnosis, when advance care planning may be appropriate,<sup>20,21</sup> or at the time of death, especially if this approach to care is located within the broader framework of supportive care.<sup>22,23</sup>

A greater awareness of the possibilities offered by palliative care for people with dementia has been driven by the accumulating evidence that their care is deficient. They are less likely to be referred to palliative care or to have attention paid to their spiritual needs and more likely to receive non-palliative interventions.<sup>24</sup> They have also been shown to be at higher risk of adverse events, iatrogenic harm, and greater functional decline.<sup>25</sup> They receive less analgesia than non-cognitively impaired patients.<sup>26</sup> They experience similar morbidity in their last year of life to people with cancer,<sup>27</sup> and the morbidity is as severe.<sup>5,27</sup>

The realization that dementia care, especially at the end of life, is often inadequate and the recognition of the relevance of a palliative care approach has led to the development of guidelines or expert opinions concerning aspects of palliative care for people with dementia. This guidance tends to represent a synthesis of the latest evidence on particular aspects of care for people dying with or from dementia.<sup>28</sup> However, there is recognition that the evidence available is neither necessarily particularly high quality nor sufficient. What follows is a summary of the main aspects of available guidance and some of the evidence supporting the recommendations, but with the caveat that the evidence requires closer critical scrutiny.

A striking feature of the various guidelines and recommendations is that there is a high degree of uniformity. This probably reflects the limited nature of the evidence, but we would suggest it also reflects the shared values that underpin palliative care. Therefore, having considered some issues specifically relevant to palliative care in dementia, we shall (albeit briefly) proceed to highlight a recent ethical framework developed to help thinking around the issues that arise in dementia care. We shall conclude by reflecting on what has, perhaps to a degree, been under-emphasized in debates about palliative care in dementia.

### Guidance and Guidelines

We are aware that many organisations have produced helpful local or regional guidelines and we have not attempted to produce a comprehensive overview, especially since many of the guidelines draw from the same sources of evidence. Authoritative documents can be found from, for example, Australia,<sup>29</sup> Europe,<sup>30</sup> North America,<sup>31,32</sup> and the UK.<sup>33,34</sup> While this is not a systematic review, we would be surprised (and apologetic) if it transpires that some other set of guidelines might radically change the summary that we offer.

### Pain

Pain management for people with dementia is often poor, with pain either not being detected or being inadequately treated.<sup>35,36</sup> Indeed, it has been stated that “people with dementia often die with inadequate pain control”.<sup>12</sup> Detection of pain is obviously critical and a number of guidelines suggest observational scales should be used.<sup>29,30,33</sup> Pain management is much the same as in other branches of medicine, where a mixture of non-pharmacologic and pharmacologic approaches, with the use of the World Health Organization’s (WHO’s) analgesic ladder, are commended.<sup>28–30,33,35</sup> It is also recommended that analgesia needs to be given regularly, not just ‘as required’, and orally if possible. However, other means of giving medication (e.g. transdermal patches) can also be considered.<sup>29,30,35,37</sup>

Although there is much agreement over the importance of pain and the need for it to be assessed carefully, it is not completely clear how best to achieve this for people who cannot communicate. There is no gold standard. Reviews have not been able to identify any one scale as best and, indeed, their psychometric properties can be criticised.<sup>38,39</sup> Moreover, probably as a general rule, observational pain tools have a high false-positive rate for the detection of pain<sup>40</sup> because they also detect distress, of which pain is just one manifestation.<sup>33,35,41</sup> Hence, a good deal of clinical acumen is still required to assess and treat distress adequately in people with dementia who might have pain. Research into

pain management in this population is relatively sparse, and little is understood about whether pain is experienced in the same way in people with dementia as in normal controls.<sup>35,42</sup>

### Infections and Fevers—The Use of Antibiotics

Pneumonia is a common cause of death.<sup>5</sup> The question of when to treat with antibiotics and when not to is complicated, but the literature is thoroughly reviewed by Volicer.<sup>31</sup> The National Institute for Health and Clinical Excellence–Social Care Institute for Excellence (NICE-SCIE) guidelines also present the controversies surrounding the use of antibiotics, particularly the use of parenteral antibiotics.<sup>31,33</sup> Antibiotics do not necessarily prolong life,<sup>43</sup> and at least in one study they worsened dementia.<sup>44</sup> The NICE-SCIE guidelines recommend that the use of antibiotics needs to be determined by the specific circumstances, but noted evidence that antibiotics can relieve distress.<sup>33</sup>

Similarly, Alzheimer’s Australia<sup>29</sup> and Alzheimer Europe<sup>30</sup> recommend that decisions are made on an individual basis and that the benefits and burdens of therapy must be considered carefully. The Alzheimer Europe report in particular stresses the need for the prevention of infection.<sup>30</sup> Volicer, while presenting the evidence for the use of antibiotics, notes that they should be given orally.<sup>31</sup> The parenteral route can produce more discomfort and it is well recognised that a patient who does not understand the intervention may try to remove cannulas.<sup>45</sup>

Parenteral antibiotics have been shown not to improve survival or lessen functional decline.<sup>46</sup> However, there was a statistically significant increase in the diagnosis of respiratory tract illnesses as an indication for antimicrobial treatment as residents in one nursing home study approached death: in residents who died, 42.2 % received antimicrobials during the last two weeks of life, often via the parenteral route, with implications in terms of the discomfort to the residents and antimicrobial resistance.<sup>47</sup>

However, pneumonia is not the ‘old man’s friend’ and there may be considerable levels of distress: oral antibiotic use may reduce discomfort levels in patients with dementia who have pneumonia.<sup>48</sup> It can also be argued that ethical considerations may mandate the use of treatment for a potentially curable disease unless there is an advance directive to the contrary, i.e. an advance refusal of treatment.<sup>49</sup>

A study in the Netherlands showed that antibiotic treatment was withheld in pneumonia only when the patient was frailer, with more severe pneumonia and more severe dementia (23 % of cases). Therefore, it looks as if nuanced clinical judgements are being made concerning the likely benefits and harms associated with the use of antibiotics, in a context where they are mostly being used.<sup>50</sup>

### Artificial Nutrition and Hydration

Even in the early stages of dementia, poor food intake is common. This may be due to failure to recognize food or dyspraxia, or it may be that the normal physiologic drivers of appetite and satiety are lost owing to changes in limbic or hypothalamic function. As the disease progresses, swallowing itself may become compromised<sup>51</sup> and hence the use of artificial nutrition and hydration (ANH) is often mooted. The prevalence of ANH differs according to location and patient characteristics, with up

to 40 % of patients being tube-fed in some localities, mainly in the US.<sup>52-54</sup> Thus, it may well be, as Volicer suggests, that the reasons for the use of ANH are not solely medical.<sup>31</sup>

Generally, guidelines are not in favor of artificial feeding in dementia.<sup>28,30,31,33,37,55</sup> In large measure these recommendations are based on the review by Finucane and colleagues,<sup>56</sup> which was supported by an ethical commentary supplied by Gillick.<sup>57</sup> Abbey recognizes the ethical difficulties that surround decisions not to feed someone and presents the case for providing information to families to help them to decide on the basis of the evidence.<sup>29</sup> The recommendations are generally to manage dysphagia conservatively, using food thickeners with appropriate posture and feeding techniques. Volicer,<sup>31</sup> who does not in general support the use of feeding tubes, presents evidence suggesting that it is possible to change practice by engaging and educating staff to consider a variety of measures to reduce dysphagia as well as alternative feeding methods.<sup>56,58,59</sup>

Similarly, the National Council for Palliative Care (NCPC) in the UK does not recommend percutaneous endoscopic gastrostomy (PEG) tube feeding in advanced dementia on the grounds that it cannot be justified given its high mortality rates.<sup>36</sup> Instead, the NCPC gives guidance on how to encourage good oral nutrition. For example, careful hand feeding, maintaining good oral hygiene to reduce infections following aspiration and the use of modified food can all be helpful. The NCPC emphasises that one of the key benefits of hand feeding is the continued human contact that it ensures.

A recent Cochrane review supports these recommendations. In the available studies, which included no randomised controlled trials, they found no evidence that enteral tube feeding provided any benefit in terms of either physical or mental health. However, it was noted that there was also little good-quality evidence about the harm from artificial feeding for people with dementia.<sup>51</sup>

There have been some dissenting voices. For instance, Regnard and colleagues raised questions about the quality of the evidence that is recognized in current reviews,<sup>51,56</sup> and made the sensible point that nutrition should be considered as a priority sooner in dementia.<sup>60</sup> The same point was previously made by an expert group reviewing the evidence, since poor nutrition potentially contributes to poorer quality of life as the disease progresses, but the group still decided in favor of careful oral feeding for as long as possible and the use of artificial feeding only in unusual cases.<sup>61</sup> As with antibiotic use and pain assessment, individuals should be judged according to their individual circumstances, which should be regarded holistically. In other words, in keeping with a palliative care approach, the person's unique biologic, psychologic, social, and spiritual circumstances must be carefully weighed up.

## Resuscitation

The probability of successful cardiopulmonary resuscitation (CPR) in an elderly person with dementia in an unwitnessed arrest in an institution is zero.<sup>62</sup> In hospital, CPR is three times less likely to be successful in patients with dementia than in those who are cognitively intact.<sup>63</sup> Similarly, the NICE-SCIE guidance states that in severe dementia CPR is unlikely to be successful. The guidance suggests that there is a lack of proportion

between the treatment and the likely outcome, and that therefore it should be regarded as an extraordinary treatment for which there is no moral imperative to pursue.<sup>33</sup> Nonetheless, despite the futility of the treatment, the decision to withhold CPR must often be discussed with relatives, especially in situations where resuscitation is the default position.<sup>28</sup>

## Psychologic, Social, and Spiritual Needs

The need for more supportive care, and its current lack, is highlighted in several publications. For example, the Nuffield Council on Bioethics points out that people with dementia are unlikely to have attention paid to their spiritual needs,<sup>64</sup> and the NCPC notes that spiritual needs are often ignored.<sup>36</sup> NICE-SCIE recommends considering the psychologic, social, and spiritual needs of the person with a non-curable illness;<sup>33</sup> likewise, Alzheimer Europe notes the need to be aware of the global concerns of people with dementia and accordingly recommends that spiritual counsellors are included in their care.<sup>30</sup>

Alzheimer's Australia is more directive and regards spiritual care as "essential to comprehensive palliative care".<sup>29</sup> It is suggested that a pastoral care worker with knowledge of these issues should be part of the multidisciplinary team.<sup>29</sup> Sapp notes that providing spiritual care to those who have lived within a religious tradition moves beyond the verbal to the symbolic, and those who cannot engage in conversation may still respond to music, familiar prayers, rituals, and physical symbols.<sup>65</sup>

Other psychosocial aspects of care are not considered in any detail by the guidance, although the NICE-SCIE guidance considers non-pharmacologic treatments such as massage and aromatherapy in the management of pain.<sup>33</sup> The evidence for 'alternative therapies' is again somewhat sparse with, for example, only one study of aromatherapy considered to be of sufficient quality to be assessed in a Cochrane review.<sup>66</sup> Likewise, the quality of evidence for music therapy is poor.<sup>67</sup> However, anecdotal evidence lends support to these types of therapy,<sup>36</sup> and there is interest in developing supportive care program that incorporate them into institutional settings.<sup>68</sup>

Consideration is also given in the literature to support for carers. For example, it is acknowledged that carers may be elderly and frail and that there may be greater levels of psychologic morbidity among carers.<sup>36</sup> Therefore, a carer's assessment is recommended to help provide practical and psychologic assistance to those supporting a person with dementia.<sup>33,36,55</sup> An additional concern in connection with carers is that bereavement is not given the attention that it deserves in dementia. It is not straightforward, for it is recognised that many carers suffer 'anticipatory' and 'disenfranchised' grief as they see their loved ones fade away over the entire course of a prolonged illness.<sup>69</sup> Carers are often considered to suffer from 'carer burden'.

This moves us on to consider ethical issues, because much of this 'burden', which it should be said is sometimes experienced in a more positive light as providing a means for emotional or spiritual growth, reflects the day-to-day nature of the ethical issues that carers face. Thus, it has also been termed an 'ethical burden', suggesting that the right support will be that which acknowledges and assists with the moral nature of the difficulties faced by the family of the person with dementia and other close carers.<sup>70</sup>

## An Ethical Framework

Just over 10 years ago in both the US<sup>71</sup> and Canada<sup>72</sup> influential ethical guidelines were produced to help to shape the care given to people with dementia. Further texts have emerged reflecting the growth of interest in this area.<sup>73,74</sup> More recently, in the UK the Nuffield Council on Bioethics produced a report looking at ethical issues generally in connection with dementia.<sup>64</sup> The report deals specifically with end-of-life palliative care in paragraphs 3.39–3.47, which can be accessed via the organization’s website.<sup>64</sup> However, in chapter 2, the report also sets out a framework to help people approach ethical issues. The framework has six components, which are summarized in *Table 1*. It is important to note that *Table 1* is based on the ethical framework in the report, but the descriptions of the components, while reflecting the spirit of the report, have been written for the purpose of this article.

Under component 1, we speak of discerning the relevant ethical principles. One such principle<sup>33</sup> (not explicitly discussed in the report, but see reference) that seems worthwhile to highlight in connection with palliative care might be that of ‘ordinary and extraordinary means’.<sup>75</sup> According to this principle, we have a moral obligation to provide ordinary care but not to provide extraordinary care. In connection with palliative care for people with dementia, therefore, bearing in mind the discussion of this issue above, we might argue that we have a moral obligation to continue to feed the person (orally) while he or she is hungry, but no moral obligation to provide artificial nutrition via a PEG tube. How do we decide whether a treatment is ‘ordinary’ or ‘extraordinary’? We ask how effective or burdensome the treatment (or investigation) is likely to be for the patient.

According to this principle, a treatment (e.g. ANH and PEG feeding, or CPR, or intravenous antibiotics, or transfer to an acute medical setting) that, under these particular concrete circumstances for this individual patient, is likely to be ineffective and burdensome is not one that we should feel morally obliged to pursue (even if we might pursue it under certain circumstances). The relevance of the individual circumstances is imperative and reflects the other requirement of component 1, which is that the actual facts must be ascertained in each case. The Nuffield Council’s framework and the doctrine of ordinary and extraordinary means go a long way towards helping with ethical decision-making in dementia. Each jurisdiction will be governed by its own laws to do with decision-making for people who lack capacity. Such laws will often encourage or support the use of proxy decisions or advance decisions. Proxy decision-making involves someone close to the person making decisions for him or her. Advance decisions can be either very specific advance refusals of treatments or more general advance statements that capture the wishes, values and beliefs of the person. There are other ethical principles and approaches that could be considered (e.g. virtue ethics, the ethics of care, narrative ethics and so on) that are also relevant to palliative care in dementia. However, they are covered elsewhere<sup>74,76</sup> and are beyond the remit of this article.

## Conclusion

The WHO defines palliative care as “an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual”.<sup>77</sup> The

**Table 1: An Ethical Framework**

Component	Description Relevant to Palliative Care
<b>Component 1:</b> A case-based approach to ethical decisions	Each case needs to be approached individually and the relevant ethical principles discerned, having established very clearly the pertinent facts, with attention being paid to the reasons for a particular decision differing from that made in some other similar case
<b>Component 2:</b> The nature of dementia	Dementia results from a brain disorder that causes harm, so distress must be attended to and research must be pursued with as much vigor and support as are available for other conditions
<b>Component 3:</b> Quality of life in dementia	It is possible to live well with dementia, especially if the psychosocial environment is optimal, but this requires the sort of impeccable assessment and skilled holistic treatment (biologic, psychologic, social, and spiritual) that is available through palliative care services for other conditions
<b>Component 4:</b> Promoting interests in autonomy and wellbeing	Autonomy and wellbeing are central principles in medical ethics, but in this context it is important to recognize the extent to which autonomy is relational, i.e. decisions about the person with dementia can have a profound effect on the lives of their carers, who must be considered too. It should also be recognized that wellbeing in dementia may be a matter of minute-to-minute experiences, which again emphasises the importance of the psychosocial surroundings
<b>Component 5:</b> Solidarity	We are all in this together: as a matter of citizenship we need to attend to people with dementia with as much care as we can and to recognise the ways in which the person is situated in the context of family and friends, who will wish to contribute to the person’s care and to decisions made about him or her
<b>Component 6:</b> Recognizing personhood	Although the person with dementia changes, the person remains a self who can value (affection, for instance) and be valued; the aim should be to maintain personhood, not to undermine it

*Derived from the Nuffield Council report: Dementia, Ethical Issues.*<sup>64</sup>

definition goes on to describe in more detail what this might mean. For instance, it entails intending neither to hasten nor to postpone death. However, it also states that it is “applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications”.<sup>77</sup> This statement demonstrates the extent to which our understanding of palliative care is linked to cancer treatment. However, there is a greater realization now that this should not be the case.<sup>34,36</sup> Palliative care is relevant to all long-term conditions. In which case, how might we accommodate this statement from the WHO concerning the applicability of palliative care throughout the course of the illness?

One answer is to point to the broader notion of supportive care.<sup>23</sup> Supportive care poses a challenge, which is the need to do away with the dichotomy of cure and care. It also means we require a much more positive and holistic attitude to the complex problems associated with (so-called) behaviors that challenge (i.e. shouting, aggression, agitation, sexual disinhibition, etc). This will require

something like the revolution that occurred when the hospice movement emerged and palliative care developed as a speciality. However, given the poor quality of care that many people with dementia are currently receiving towards the end of their lives, it is a revolution that we require as a matter of solidarity and of some urgency.<sup>78</sup> ■

- European Commission, Estimated number of people (2006) with dementia. [http://ec.europa.eu/health/ph\\_information/dissemination/echi/docs/dementia2\\_en.pdf](http://ec.europa.eu/health/ph_information/dissemination/echi/docs/dementia2_en.pdf) (accessed September 11, 2010).
- Alzheimer's Disease International (ADI), *World Alzheimer Report (2009): Executive Summary*, London: Alzheimer's Disease International, 2009.
- Jin H, Gatz M, Johansson B, Pedersen NL, Sensitivity and specificity of dementia coding in two Swedish disease registries, *Neurology*, 2004;63:739–41.
- Fratiglioni L, von Strauss E, Qui C, Epidemiology of the dementias of old age. In: Jacoby R, Oppenheimer C, Denning T, Thomas A (eds), *Oxford Textbook of Old Age Psychiatry*, Oxford: Oxford University Press, 2008;391–406.
- Mitchell SL, Teno JM, Kiely DK, et al., The clinical course of advanced dementia, *N Engl J Med*, 2009;361:1529–38.
- Neale R, Brayne C, Johnson AL, Cognition and survival: an exploration in a large multicentre study of the population aged 65 years and over, *Int J Epidemiol*, 2001;30:1383–8.
- Sampson EL, Blanchard MR, Jones L, et al., Dementia in the acute hospital: prospective cohort study of prevalence and mortality, *Br J Psychiatry*, 2009;195:61–6.
- Hughes JC, Promoting palliative care in dementia, *Lancet Neurol*, 2010;9:25–7.
- Lloyd-Williams M, An audit of palliative care in dementia, *Eur J Cancer Care (Engl)*, 1996;5:53–5.
- Volicer L, Hurlley A, *Hospice Care for Patients with Advanced Progressive Dementia*, New York: Springer Publishing Company, 1998.
- Shega JW, Levin A, Hougham GW, et al., Palliative excellence in Alzheimer care efforts (PEACE): a program description, *J Palliat Med*, 2003;6:315–20.
- Sachs G, Shega J, Cox-Hayley D, Barriers to excellent end-of-life care for patients with dementia, *J Gen Intern Med*, 2004;19:1057–63.
- Mitchell SL, Morris JN, Park PS, Fries BE, Terminal care for persons with advanced dementia in the nursing home and home care settings, *J Palliat Med*, 2004;7:808–16.
- Hughes JC, Robinson L, Volicer L, Specialist palliative care in dementia, *BMJ*, 2005;330:57–8.
- Robinson L, Hughes J, Daley S, et al., End-of-life care and dementia, *Rev Clin Gerontol*, 2005;15:135–48.
- Hughes JC, Beyond hypercognitivism: a philosophical basis for good quality palliative care in dementia, *Les Cahiers de la Fondation Médéric Alzheimer*, 2006;2:17–23.
- Hughes JC (ed.), *Palliative Care in Severe Dementia*, London: Quay Books, 2006.
- Sampson EL, Ritchie CW, Lai R, et al., A systematic review of the scientific evidence for the efficacy of a palliative care approach in advanced dementia, *Int Psychogeriatr*, 2005;17:31–40.
- Hughes JC, Hedley K, Harris D, The practice and philosophy of palliative care in dementia. In: Hughes JC (ed.), *Palliative Care in Severe Dementia*, London: Quay Books, 2006;1–11.
- Gillick MR, Advance care planning: an American view. In: Hughes JC, Lloyd-Williams M, Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010;263–70.
- Hertogh C, Advance care planning and palliative care in dementia: a view from the Netherlands. In: Hughes JC, Lloyd-Williams M, Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010;271–80.
- Small N, Froggatt K, Downs M (eds), *Living and Dying with Dementia: Dialogues about Palliative Care*, Oxford: Oxford University Press, 2008.
- Hughes JC, Lloyd-Williams M, Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010.
- Sampson EL, Gould V, Lee D, Blanchard MR, Differences in care received by patients with and without dementia who died during acute hospital admission: a retrospective case note study, *Age Ageing*, 2006;35:187–9.
- Creditor MC, Hazards of hospitalization of the elderly, *Ann Intern Med*, 1993;118:219–23.
- Morrison RS, Siu AL, A comparison of pain and its treatment in advanced dementia and cognitively intact patients with hip fracture, *J Pain Symptom Manage*, 2000;19:240–48.
- McCarthy M, Addington-Hall J, Altmann D, The experience of dying with dementia: a retrospective study, *Int J Geriatr Psychiatry*, 1997;12:404–9.
- Hughes J, Jolley D, Jordan A, Sampson E, Palliative care in dementia: issues and evidence, *Adv Psychiatr Treat*, 2007;13:251–60.
- Abbey J, Palliative Care and Dementia, Alzheimer's Australia Discussion Paper 7, 2006. Available at: [www.alzheimers.org.au/upload/PalliativeCare.pdf](http://www.alzheimers.org.au/upload/PalliativeCare.pdf) (accessed September 11, 2010).
- Alzheimer Europe, *Alzheimer Europe Report: End-of-Life Care for People with Dementia*, Luxembourg: Alzheimer Europe, 2008.
- Volicer L, End-of-life care for people with dementia in Residential Care Settings, Alzheimer's Association, USA, 2005. Available at: [www.alz.org/national/documents/endoflifereview.pdf](http://www.alz.org/national/documents/endoflifereview.pdf) (accessed September 11, 2010).
- Tilly J, Fok A, Quality End of Life Care for Individuals with Dementia in Assisted Living and Nursing Homes and Public Policy Barriers to Delivering this Care, Alzheimer's Association, USA, 2007. Available at: [www.alz.org/national/documents/End\\_interviewpaper\\_III.pdf](http://www.alz.org/national/documents/End_interviewpaper_III.pdf) (accessed September 11, 2010).
- NICE-SCIE, *Dementia: Supporting People with Dementia and their Carers in Health and Social Care (NICE Clinical Guideline 42)*, London: National Institute for Health and Clinical Excellence and Social Care Institute for Excellence, 2006.
- The National Council for Palliative Care, *Power of Partnerships: Palliative Care and Dementia*, London: The National Council for Palliative Care, 2009.
- Jordan A, Lloyd-Williams M, Distress and pain in dementia. In: Hughes JC, Lloyd-Williams M and Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010;129–37.
- The National Council for Palliative Care, *Out of the Shadows: End of Life Care for People with Dementia*, London: The National Council for Palliative Care, 2009.
- Peterborough Palliative Care in Dementia Group, *Compromised Swallowing: A Practical Guide to Nutrition, Hydration and Medication in Advanced Dementia*. Palliative Care in Dementia Group, 2009. Available at: [www.endoflifecareforadults.nhs.uk/assets/downloads/Compromised\\_swallowing\\_guide\\_July\\_2010.pdf](http://www.endoflifecareforadults.nhs.uk/assets/downloads/Compromised_swallowing_guide_July_2010.pdf) (accessed September 11, 2010).
- Herr K, Bjoro K, Decker S, Tools for assessment of pain in nonverbal older adults with dementia: a state-of-the-science review, *J Pain Symptom Manage*, 2006;31:170–92.
- Zwakhalen SM, Hamers JPH, Abu-Saad HH, Berger MPF, Pain in elderly people with severe dementia: a systematic review of behavioural pain assessment tools, *BMC Geriatr*, 2006;6(3).
- Jordan A, Hughes J, Pakresi M, et al., The utility of PAINAD in assessing pain in a UK population with severe dementia, *Int J Geriatr Psychiatry*, 2011;26(2):118–26.
- Jordan AI, Regnard C, Hughes JC, Hidden pain or hidden evidence?, *J Pain Symptom Manage*, 2007;33:658–60.
- Scherder EJ, Sergeant JA, Swaab DF, Pain processing in dementia and its relation to neuropathology, *Lancet Neurol*, 2003;2:677–86.
- Fabiszewski KJ, Volicer B, Volicer L, Effect of antibiotic treatment on outcome of fevers in institutionalized Alzheimer patients, *JAMA*, 1990;263:3168–72.
- Hurlley AC, Volicer BJ, Volicer L, Effect of fever management strategy on the progression of dementia of the Alzheimer type, *Alzheimer Dis Assoc Disord*, 1996;10:5–10.
- Department of Health, *End of Life Care Strategy: Promoting High Quality Care for All Adults at the End of Life*, London: Department of Health, 2008.
- van der Steen JT, Mehr DR, Kruse RL, et al., Treatment strategy and risk of functional decline and mortality after nursing-home acquired lower respiratory tract infection: two prospective studies in residents with dementia, *Int J Geriatr Psychiatry*, 2007;22:1013–9.
- D'Agata E, Mitchell SL, Patterns of antimicrobial use among nursing home residents with advanced dementia, *Arch Intern Med*, 2008;168:357–62.
- van der Steen JT, Pasma HRW, Ribbe MW, et al., Discomfort in dementia patients dying from pneumonia and its relief by antibiotics, *Scand J Infect Dis*, 2009;41(2):143–51.
- Rozzini R, Trabucchi M, Antibiotic therapy in elderly persons affected by severe dementia, *Arch Intern Med*, 2008;168:2497–8.
- van der Steen JT, Ooms ME, Ader HJ, et al., Withholding antibiotic treatment in pneumonia patients with dementia: a quantitative observational study, *Arch Intern Med*, 2002;162:1753–60.
- Sampson EL, Candy B, Jones L, Enteral tube feeding for older people with advanced dementia, *Cochrane Database Syst Rev*, 2009(2):CD007209.
- Ahronheim JC, Mulvihill M, Sieger C, et al., State practice variations in the use of tube feeding for nursing home residents with severe cognitive impairment, *J Am Geriatr Soc*, 2001;49:148–52.
- Mitchell SL, Kiely DK, Gillick MR, Nursing home characteristics associated with tube feeding in advanced cognitive impairment, *J Am Geriatr Soc*, 2003;51:75–9.
- Mitchell SL, Kiely DK, A cross-national comparison of institutionalized tube-fed older persons: the influence of contrasting healthcare systems, *J Am Med Dir Assoc*, 2001;2:10–4.
- Gove D, Sparr S, Dos Santos B, et al., Recommendations on end-of-life care for people with dementia, *J Nutr Health Aging*, 2010;14:136–9.
- Finucane TE, Christmas C, Travis K, Tube feeding in patients with advanced dementia: a review of the evidence, *JAMA*, 1999;282:1365–70.
- Gillick MR, Rethinking the role of tube feeding in patients with advanced dementia, *New Engl J Med*, 2000;342:206–10.
- Morris J, Volicer L, Nutritional management of individuals with Alzheimer's disease and other progressive dementias, *Nutr Clin Care*, 2001;4:148–55.
- Volicer L, Strategies for the prevention of tube feeding in advanced dementia, *AAHPM Bulletin*, 2001;1:1–18.
- Regnard C, Leslie P, Crawford H, et al., Gastrostomies in dementia: bad practice or bad evidence?, *Age Ageing*, 2010;39:282–4.
- Guyonnet GS, Abellán Van Kan G, Alix E, et al., IANA (International Academy on Nutrition and Aging) expert group: weight loss and Alzheimer's disease, *J Nutr Health Aging*, 2007;11:38–48.
- Ghush HF, Teasdale TA, Pepe PE, Ginger VF, Older nursing home residents have a cardiac arrest survival rate similar to that of older persons living in the community, *J Am Geriatr Soc*, 1995;43:520–7.
- Ebell MH, Becker LA, Barry HC, Hagen M, Survival after in-hospital cardiopulmonary resuscitation. A meta-analysis, *J Gen Intern Med*, 1998;13:805–16.
- Nuffield Council on Bioethics, *Dementia: Ethical Issues*, London: Nuffield Council on Bioethics, 2009. Available at: [www.nuffieldbioethics.org/dementia](http://www.nuffieldbioethics.org/dementia) (accessed on September 17, 2010).
- Sapp S, Spiritual care of people with dementia and their carers. In: Hughes JC, Lloyd-Williams M, Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010;199–206.
- Thorgriksen L, Spector A, Wiles A, Orrell M, Aroma therapy for dementia, *Cochrane Database Syst Rev*, 2003(3):CD003150.
- Vink AC, Birks J, Bruinsma MS, Scholten RJPM, Music therapy for people with dementia, *Cochrane Database Syst Rev*, 2004(3):CD003477.
- Simard J, Volicer L, Namaste care and dying in institutional settings. In: Hughes JC, Lloyd-Williams M, Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010;291–9.
- Frank J, Anticipatory and disenfranchising grief among dementia family caregivers: helping spouse and adult-child caregivers to cope. In: Hughes JC, Lloyd-Williams M, Sachs GA (eds), *Supportive Care for the Person with Dementia*, Oxford: Oxford University Press, 2010;207–15.
- Hughes JC, Hope T, Reader S, Rice D, Dementia and ethics: the views of informal carers, *J R Soc Med*, 2002;95:242–6.
- Post SG, Whitehouse PJ, Fairhill guidelines on ethics of the care of people with Alzheimer's disease: a clinical summary, *J Am Geriatr Soc*, 1995;43:1423–9.
- Fisk JD, Sadovnick AD, Cohen CA, et al., Ethical guidelines of the Alzheimer Society of Canada, *Can J Neurol Sci*, 1998;25:242–8.
- Post SG, *The Moral Challenge of Alzheimer Disease: Ethical Issues from Diagnosis to Dying (2nd edition)*, Baltimore: Johns Hopkins University Press, 2000.
- Hughes JC, Baldwin C, *Ethical Issues in Dementia Care: Making Difficult Decisions*, London: Jessica Kingsley, 2006.
- John S, Ordinary and extraordinary means. In: Ashcroft RE, Dawson A, Draper H, McMillan JR (eds), *Principles of Health Care Ethics*, Chichester: John Wiley, 2007;269–72.
- Hughes JC, Dove P, The ethics of end-of-life decisions in severe dementia. In: Hughes JC (ed.), *Palliative Care in Severe Dementia*, London: Quay Books, 2006;45–54.
- World Health Organization, WHO Definition of Palliative Care, 2010. Available at: [www.who.int/cancer/palliative/definition/en](http://www.who.int/cancer/palliative/definition/en) (accessed on September 17, 2010).
- Hughes JC, *Thinking Through Dementia*, Oxford: Oxford University Press, 2011.