

**Original Article**

# Hearing Loss: Effect on Hospice and Palliative Care Through the Eyes of Practitioners



Margaret I. Wallhagen, PhD, RN, MSN, GNP, Christine S. Ritchie, MD, MSPH, and Alexander K. Smith, MD, MS, MPH

*Department of Physiological Nursing (M.I.W.), University of California, San Francisco, San Francisco, California; Division of Geriatrics (C.S.R., A.K.S.), University of California, San Francisco, San Francisco, California; Geriatrics, Palliative, and Extended Care, Veterans Affairs Medical Center (A.K.S.), San Francisco, California; and Jewish Home San Francisco (C.S.R.), San Francisco, California, USA*

**Abstract**

**Context.** Discussions regarding values and goals of care are central to providing quality palliative care. An inability to hear during these sensitive discussions may significantly impair the quality of care provided, yet hearing loss (HL) is not formally addressed in these settings or in programs designed to assist practitioners gain advanced communication skills.

**Objective.** To gain an understanding of hospice and palliative care practitioners' experiences with HL and its impact on the care provided.

**Method.** SurveyMonkey questionnaire eliciting whether and how HL impacted care provided with an open-ended question asking for descriptions of a situation where HL created a problem in communication with an older patient. Responses were analyzed using constant comparative techniques.

**Results.** Of 510 respondents, 464 (91%) reported HL had some or great impact on the quality of care provided, 449 (88%) noted encountering a situation where HL impaired communication with an older adult, and 99 of these participants (22%) provided a specific example. The overarching theme was "Diagnostic and Treatment Uncertainty." Nonmutually exclusive categories underpinning this theme included the following: unable to get needed information, misinterpreting level of understanding, patient misunderstanding of instructions, and goals-of-care errors.

**Conclusion.** HL impacts the quality of care provided to persons with serious illness by disrupting the identification, assessment, and treatment of the physical, psychosocial, and spiritual symptoms an individual is experiencing. HL should be formally addressed in programs designed to develop skills in conducting sensitive conversations. Practitioners should screen for HL, use practices that facilitate comprehension, and use assistive listening devices as needed. *J Pain Symptom Manage* 2019;57:724–730. © 2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

**Key Words**

*Hearing loss, aging, hospice, palliative care, communication*

**Introduction**

The mission of palliative care is to enhance an individual's and their family's quality of life when they are dealing with serious and life-threatening illness. This involves early identification, thorough assessment, and subsequent treatment of the physical, psychosocial, and spiritual symptoms they are experiencing.<sup>1,2</sup> An

essential component of such care is skilled communication—communication that reflects sensitivity and understanding. Programs are specifically designed to assist practitioners gain these advanced communication skills.<sup>3–7</sup> However, in our experience, these programs do not formally address hearing loss (HL), although one must be able to hear and understand to

*Address correspondence to:* Margaret I. Wallhagen, Professor, School of Nursing, 2 Koret Way, N631 University of California, San Francisco, San Francisco, CA 94143-0610. E-mail: [meg.wallhagen@ucsf.edu](mailto:meg.wallhagen@ucsf.edu)

*Accepted for publication:* December 29, 2018.

participate in discussions regarding care preferences and goals. Unfortunately, misunderstandings and an inability to hear during sensitive discussions focusing on symptom management, values, goals of care, and end-of-life decision-making may significantly impair the quality of care provided.

Hearing loss can occur at any age but becomes increasingly prevalent across the life span with age-related hearing loss (ARHL) affecting upward of 63% of adults over age 70 years and as much as 80% of persons age 80 years and older.<sup>8–10</sup> It also becomes more common during the last two years of life<sup>11</sup> and can be exacerbated by chemotherapeutics and other ototoxic medications commonly used to treat serious illness.<sup>12–14</sup> At the same time, screening for ARHL is rare; data suggest that fewer than 25% of primary care practitioners screen for HL.<sup>15</sup> Sensitivity to either an individual's HL or their family member's HL also is not routinely included in educational programs for health care practitioners, partly, because the primary focus tends to be on other concerns that are viewed as having greater priority. Lack of appreciation of HL during a specific clinical encounter is reinforced by its often subtle or silent presentation, especially in one-to-one discussions. What is underappreciated, however, is the significant impact that ARHL can have, not only on an individual's quality of life but also, because of its pathophysiology, on communication and understanding within a clinical encounter.<sup>16–18</sup>

Hearing is a complex process but necessitates the transmission of sounds from the environment to the auditory cortex where they are interpreted—where “hearing” actually occurs. If sounds are inappropriately or incompletely transmitted, they can be misinterpreted or lost, which is what occurs with ARHL. ARHL usually includes damage to the inner ear sensory receptors that are sensitive to high-frequency sounds. Consonants are more commonly high frequency and, thus, may not be transmitted correctly. Vowel sounds tend to be lower frequency so their perception is less impaired. This means that ARHL is not just a decrease in the perception of sound overall but rather a distortion of sound. Individuals may not be aware of the extent of their loss because they can “hear” the lower-frequency components of speech and feel others are “mumbling” or not clearly articulating. They may also misinterpret words as their brain attempts to fill in the missing letters; “dime” may become “time” or “sign.” Although these mistakes may be viewed as of little consequence and non-life threatening, ARHL is far from benign.

ARHL is associated with multiple negative outcomes, including depression, isolation, altered functional capacity, falls, and increased or inappropriate health care utilization.<sup>19–24</sup> Research has also found an association between HL and cognitive impairment.<sup>25–27</sup> Of

special importance to the palliative care provider, however, is the impact it may have during sensitive discussions about goals of care or during the assessment of symptoms and other psychosocial concerns.<sup>28</sup> Few data are available on how ARHL impacts the actual care provided. The present study was designed to address this gap in our understanding. Specifically, we sought to determine whether and how ARHL affects the care provided by hospice and palliative care practitioners.

## Method

The goal was to survey a large number of hospice and palliative care practitioners about their experiences with HL. To achieve this, we distributed a confidential, anonymous survey using SurveyMonkey. The institutional review board at the University of California, San Francisco considered this proposal exempt from review because potentially identifying information was not collected. The survey link was sent via emails to professional contacts and members of professional palliative care organizations and distributed on the GeriPal blog, Twitter, and Facebook.

On the introductory page to the survey, respondents were asked to proceed only if hospice or palliative care was a primary component of their practice and, when answering the questions, to focus on HL among the older persons in their practice. Survey questions asked respondents about the impact they felt HL had on quality of care, their comfort with and training in caring for patients with HL, strategies they used to deal with HL, how prevalent they thought HL was in their practices, and whether they had encountered a situation where HL created a problem in communication in their palliative care practice. Physicians and nurses were also asked about their screening and referral practices. Most response options were either dichotomous (yes/no) or Likert scales. Likert scale categories were dichotomized for ease of interpretation, and data were analyzed using Stata, version 13.

In addition to survey items, we included an open-ended question that asked for descriptions of a situation where HL created a problem in communication with an older patient. Responses to the open-ended question were analyzed using constant comparative techniques.<sup>29,30</sup> Data were first analyzed by two of the authors (MIW and AKS) using open coding, resulting in codes such as “time,” “telephone,” “assessment,” “left out,” and “misunderstanding.” Subsequently, codes were further grouped within larger categories by the first author from which a central overarching theme, “*Diagnostic and Treatment Uncertainty*,” emerged. Throughout the analytic process, data were compared and contrasted within and between disciplines and discussed with the co-authors.

Table 1  
Respondent Characteristics (N = 510)

	n (%)
Discipline	
Physician	315 (61.7)
Nurse	50 (9.8)
Nurse practitioner	48 (9.4)
Social worker	58 (11.4)
Chaplain	39 (7.6)
Age ≥ 50 years	281 (55)
Female	332 (65)
In practice ≥ 5 years	321 (63)
Practice setting	
In-/out-patient palliative care	281 (55)
Hospice	230 (45)

## Results

Of 510 respondents, most were physicians, female, and practiced in an in- or out-patient palliative care setting (Table 1). Ninety-one percent ( $n = 464$ ) reported HL had some or great impact on the quality of care provided, and 88% ( $n = 449$ ) said they had encountered a situation where HL impaired communication with an older adult.<sup>31</sup> Ninety-nine of those reporting encountering a situation (22%) provided a specific example (78 physicians, 12 nurse practitioners [NPs], five nurses, two social workers, and two chaplains).

The overarching theme of “*Diagnostic and Treatment Uncertainty*” captured the ways in which HL affected the ability of palliative care practitioners to develop plans of care that were based on the older adults’ values and preferences. Nonmutually exclusive categories underpinning this theme included the following: unable to get needed information, misinterpreting level of understanding, patient misunderstanding of instructions, and goals-of-care errors. These are described and developed in the following sections.

### Unable to Get Needed Information

An essential aspect of palliative care is obtaining the types of information, such as values and symptom experience, which will allow for shared decision-making around treatment preferences and goals of care. Obtaining this information was noted to be very problematic when the individual had HL because it was not only difficult to do a thorough assessment of the symptom experience but it often took too long so the assessment was cut short.

*Compromised Symptom Assessment.* Practitioners noted that their *symptom assessment ended up being limited or not completed*. One physician noted that difficulties arose when the patients were “not understanding request to tell me about problems or symptoms they

are experiencing.” Another physician echoed this problem noting that “Pt [patient] cannot understand to explain the symptom they are having.” Similarly, an NP expressed the same problem when she noted, “It’s difficult to assess symptoms accurately when the pt has a hearing loss.” At the same time, several physicians acknowledged that HL influenced how thoroughly they did their assessments; “I tend to not do a full symptom assessment when confronted with problems in communication.”

Problems with obtaining needed information and doing a symptom assessment also could result in loss of privacy. As an NP put it, “In a semiprivate room, the roommate gets to hear all the questions so there is no privacy.” Similarly, a physician reflected on what others might think when he was speaking loudly to a patient while trying to get information.

*Increased Time Demand.* The difficulty in obtaining an accurate symptom assessment was compounded by the *increased time demand* this necessitated. This is expressed in the following comments from several physicians: “It takes so much longer. I get the family on the phone so at least one person hears me. Time consuming”; “We needed to be very patient and go very slowly often taking the time to write messages back and forth. We ultimately supplied and then lost 6 pocket talkers with her over the course of her admissions”; “Other teams tend to just NOT communicate. I try but am limited and it always 1) takes more time, 2) is less effective.”

### Misinterpreting Level of Understanding

When communication broke down, practitioners were left unsure about what the patient understood or made assumptions about the individual’s cognitive functioning.

*Misinterpreting Cognitive Status.* A concern expressed by practitioners was that they or others would assess the individual’s cognitive status inappropriately. As one physician noted, “[A] patient can be assumed disoriented if not answering questions correctly (due to not hearing the orientation question correctly). It can be very difficult to assess a patient who cannot hear what you are asking them.” An NP reflected on a similar concern, highlighting not only the misinterpretation of cognitive status but also the overall impact the HL had; “In many of my older pts with significant hearing loss, it seems to contribute to their depression, isolation, withdrawal, and the ability to express their care needs/symptoms to providers. It is as if they live in their own little quiet world and disconnect from their surroundings. In the nursing home settings, hearing aids are often “locked up” to prevent their loss or theft.” Another NP also noted, “Prior to

the board (an erasable board to communicate), everyone on the team thought he was demented. He wasn't. Old, sick, frail yes - demented no." Similarly, one Chaplain noted that, "An elderly man whom people assumed had dementia; he did not and felt very belittled."

These quotes highlight not only the way in which HL can be misinterpreted as cognitive impairment but also the impact of such misinterpretation on the individual's sense of self and well-being.

*Uncertainty Regarding Receipt of/Understanding of Information.* In addition, practitioners were often unsure of whether the individual understood the treatment plan and were concerned about lack of understanding leading to a negative outcome. An NP noted that, "I also do a lot of cancer pain management, and following explicit instructions with a hearing-impaired patient, especially about opioids, requires use of written directions, feedback, etc., which can be risky." Another noted, "It was difficult to attempt to negotiate pain management with him. I chose to keep the regimen simple to assure compliance with taking medications." This latter quote also highlights how HL could alter the treatment plan, not necessarily in a way that would promote the best outcomes. This is also reflected in a comment from a social worker who noted, "The person agreed with everything said because he was tired of listening so hard." The influence of the effort needed to listen was also noted by an NP who commented on the need to raise her voice to try and communicate and that, "I know sometimes people have said yes or no just to shut me up or to move on to the next question so the interview would be over and I would get out of their hair."

#### *Patient Misunderstandings*

Closely related to the problems encountered by practitioners in feeling confident in their interpretation of understanding were more overt indications that the patients did not or had not understood what was said or was afraid to follow a regimen because they felt they might have misunderstood.

*Inability to Follow Regimen/Adherence.* An NP reflected on a situation where the patient "was uncomfortable and unable to participate in conversation about comfort regimen and was reluctant to utilize regimen without understanding." Another noted, "Pt misunderstood instructions but was too uncomfortable to say so." Similarly, a physician commented that, "Hearing loss can prevent patients from being compliant. Oftentimes, they will nod or say they understand what instructions you've given them because they are too proud to admit that they didn't hear you."

#### *Goals of Care*

Ultimately, quality palliative care is based on providing care that is consistent with the patient's and family's preferences and goals. Each of the factors mentioned previously make establishing goals of care difficult, but practitioners, mainly physicians, reflected specifically on the problems of establishing goals of care. This could lead to the individual's being left out of the decision-making process.

*Inability to Engage in Meaningful Discussions.* One physician encapsulated the problem by noting, "Trying to clarify goals of care is a lengthy conversation with attention to details. When patients and/or caregivers have hearing loss—the conversation dynamics change; sometimes issues get glossed over because of frustration on everyone's part to get to the essence; other times the patient oftentimes gets excluded from the detailed conversation and just brought in for the highlights—not the best patient centered care." Another reflected that in the given situation, "Confusion was created when a patient could not understand the discussion on goals of care—patient was fully oriented and cognitively intact, but it was difficult to have a meaningful conversation. What I see in such situations is 'status quo' in terms of goals of care, lack of a decisive and clear set of goals for treatment and care, so inertia takes over in terms of what a patient wants for his/her care going forward."

In addition, when an individual misunderstands or gives up trying, specific care needs can go unassessed and unfulfilled. As one chaplain noted, "[The] patient could not understand messages left on his answering machine and did not know who had called or why. I interpreted nonresponse as noninterest in additional spiritual care services."

*Being Left Out of Discussions on Goals of Care.* Patient-centered care is emphasized in the current health care system<sup>32</sup> but especially so in palliative care, which attempts to align interventions to patient preferences.<sup>1</sup> This patient focus is lost when the patient loses his or her voice. This was an issue in the context of HL. As one physician noted, "Self-determination in decision-making can be more difficult. The patient may just defer to their family as they cannot hear the options being presented to them." Another noted, "The patient could not hear well, and the caregiver spoke on the patient's behalf despite our attempts to communicate directly with the patient. We had to repeatedly explain to the patient's caregiver that we wanted to make sure the patient heard us and had a chance to participate in the conversation." Similarly, an NP noted about a patient that, "Was not able to participate fully in his decision making up to the point

he came on service for me, they thought he was confused and noncompliant.” This later quote highlights the interaction between misinterpreting the individual’s cognitive status and losing the right to participate in care decisions.

### **Discussion**

As noted initially, palliative care focuses on enhancing the quality of life of persons with serious illness by identifying, assessing, and treating the physical, psychosocial, and spiritual symptoms that an individual is experiencing. Our data indicate that HL impacts care in each of these dimensions. The physical domain is affected because HL leads to inadequate symptom assessment and management, places the patient at risk for misunderstanding and not adhering to a given treatment regimen, and can cause desired goals of care to go unfulfilled. The psychosocial domain is affected because HL alters the practitioner-patient relationship and can lead to isolation and depression. Finally, the spiritual domain is impacted through decreased self-esteem, loss of privacy, and an inability to express or talk easily about spiritual needs.

As far as we know, no other study specifically addresses the effects of HL in the context of palliative care and hospice. As noted earlier, studies that do focus on the development of communication skills in relation to discussing difficult topics, barriers and facilitators of effective communication, and provider-patient communication do not incorporate consideration of HL and its implications. The few data that are available on the impact of HL in the clinical setting focus mainly on ambulatory care or nonacute care and identify situations where individuals have difficulty understanding information.<sup>16–18</sup> These latter studies do not provide significant insights into how these miscommunications affect the actual care provided.

One recent narrative review from Australia explored the effects of HL on person-centered care in residential settings and identified six factors.<sup>33</sup> These dealt especially with social participation (communication breakdown, social isolation, reduced social participation) but included issues raised by cognitive impairment—either exacerbating communication difficulties or being confused with hearing impairment. They also noted the lack of staff training in how to deal with HL in these settings. Although the literature explored in this review focused on a different setting, the findings further document the way HL isolates individuals and makes participation problematic, similar to our own findings.

Our data provide valuable insights into additional barriers to effective communication in the context

of palliative care and hospice and suggest simple modifications in practice that could enhance the quality of the care provided. Consideration of HL should be included in programs designed to teach effective communication and to develop skills in conducting sensitive conversations. Practitioners should screen for HL, use practices that facilitate comprehension, and use assistive listening devices. Although hearing aids may be what first come to mind when dealing with HL and their cost viewed as problematic in the palliative care setting, they are not necessarily the first option. Rather, personal amplifiers (such as the “pocket talker”) can enhance communication at minimal cost. Furthermore, strategies to facilitate communication can be easily integrated into conversations and include approaches such as face-to-face communication, not shouting, standing so the light shines on one’s own face, minimizing background noise, and rephrasing if asked to repeat.<sup>34</sup> For persons with hearing aids, their limitations need to be considered and, as needed, assistance provided in changing batteries.

This study does have a number of limitations. There may be responder bias. It may be that only practitioners who had experienced problems related to hearing responded to the survey and subsequently took time to write about a specific incidence or instances. Furthermore, most participants were physicians, although all core specialties of an interprofessional palliative care team were represented. At the same time, 91% of the full sample noted HL had an impact on the care they provided. In addition, because most palliative care providers learn enhanced communication skills during their palliative care training,<sup>35</sup> if HL is an issue for them, findings may under-represent the problems occurring during sensitive communications carried out by general practitioners during times of serious illness. Because of the nature of the survey, it is not possible to further delineate the characteristics of the sample. Given these constraints, the data provide important information regarding the impact that HL has on the provision of quality palliative care and suggest that additional research further delineating its impact and evolving effective interventions is critically needed.

### **Conclusions**

Although additional research further refines our understanding of HL in the context of serious illness, universal screening for HL should be considered in this population. Given the lack of awareness about HL and its management within the health care arena, these data suggest that practitioners need additional

education about the health implications of HL and value of assessing for its presence. In addition, assistive listening devices should be available in all settings to enhance communication, and models and incentives are needed that facilitate assessment and treatment. Finally, research is needed to assess how to best facilitate communication with seriously ill older adults with HL and support their families.

### Disclosures and Acknowledgments

The authors thank the survey participants for their time and thoughtful responses. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### References

- Center to Advance Palliative Care. About Palliative Care. ND. Available from: <https://www.capc.org/about/palliative-care/>. Accessed July 06, 2018.
- World Health Organization. WHO Definition of Palliative Care. 2018. Available from: [www.who.int/cancer/palliative/definition/en/](http://www.who.int/cancer/palliative/definition/en/). Accessed July 06, 2018.
- VITALtalk makes communication skills for serious illness learnable. ND. Available from: <http://vitaltalk.org>. Accessed July 06, 2018.
- Markin A, Cabrera-Fernandez DF, Bajoka RM, et al. Impact of a Simulation-based communication Workshop on resident Preparedness for end-of-life communication in the Intensive care Unit. *Crit Care Res Pract* 2015;2015: 534879.
- Villagran M, Goldsmith J, Wittenberg-Lyles E, Baldwin P. Creating comfort: a communication-based model for breaking Bad News. *Commun Education* 2010;59: 220–234.
- Wittenberg E, Ferrell B, Goldsmith J, Buller H, Neiman T. Nurse communication about goals of care. *J Adv Pract Oncol* 2016;7:146–154.
- Wittenberg E, Ferrell B, Goldsmith J, Ragan SL, Buller H. COMFORT(SM) communication for oncology nurses: Program overview and preliminary evaluation of a nationwide train-the-trainer course. *Patient Educ Couns* 2018;101:467–474.
- Chou R, Dana T, Bougatsos C, Fleming C, Beil T. Screening adults aged 50 years or older for hearing loss: a review of the evidence for the U.S. preventive services task force. *Ann Intern Med* 2011;154:347–355.
- Lin FR, Niparko JK, Ferrucci L. Hearing loss prevalence in the United States. *Arch Intern Med* 2011;171: 1851–1852.
- Mamo SK, Nieman CL, Lin FR. Prevalence of Untreated hearing loss by Income among older adults in the United States. *J Health Care Poor Underserved* 2016;27:1812–1818.
- Smith AK, Ritchie CS, Miao Y, Boscardin WJ, Wallhagen MI. Self-reported hearing in the last 2 Years of life in older adults. *J Am Geriatr Soc* 2016;64:1486–1491.
- Joo Y, Cruickshanks K, Klein BEK, Klein R, Hong O, Wallhagen M. Prevalence of ototoxic medication use among older adults in Beaver Dam, Wisconsin. *J Am Assoc Nurse Pract* 2018;30:27–34.
- Miaskowski C, Mastick J, Paul SM, et al. Impact of chemotherapy-induced neurotoxicities on adult cancer survivors' symptom burden and quality of life. *J Cancer Surviv* 2018;12:234–245.
- Miaskowski C, Paul SM, Mastick J, et al. Hearing loss and tinnitus in survivors with chemotherapy-induced neuropathy. *Eur J Oncol Nurs* 2018;32:1–11.
- Wallhagen MI, Pettengill E. Hearing impairment: significant but underassessed in primary care settings. *J Gerontol Nurs* 2008;34:36–42.
- Cudmore V, Henn P, O'Tuathaigh CMP, Smith S. Age-related hearing loss and communication breakdown in the clinical setting. *JAMA Otolaryngol Head Neck Surg* 2017; 143:1054–1055.
- Henn P, O'Tuathaigh CMP, Keegan D, Smith S. Hearing impairment and the Amelioration of Avoidable medical error: a Cross-Sectional survey. *J Patient Saf On-line* February 2017;22.
- Stevens MN, Dubno J, Wallhagen MI, Tucci D. Communication and healthcare: self-Reports of people with hearing loss in primary care settings. *Clin Gerontol* 2018:1–10.
- Chen DS, Betz J, Yaffe K, et al. Association of hearing impairment with declines in physical functioning and the risk of disability in older adults. *J Gerontol A Biol Sci Med Sci* 2015;70:654–661.
- Genther DJ, Betz J, Pratt S, et al. Association of hearing impairment and mortality in older adults. *J Gerontol A Biol Sci Med Sci* 2015;70:85–90.
- Genther DJ, Frick KD, Chen D, Betz J, Lin FR. Association of hearing loss with hospitalization and burden of disease in older adults. *Jama* 2013;309:2322–2324.
- Kamil RJ, Li L, Lin FR. Association between hearing impairment and frailty in older adults. *J Am Geriatr Soc* 2014;62:1186–1188.
- Strawbridge WJ, Wallhagen MI, Shema SJ, Kaplan GA. Negative consequences of hearing impairment in old age: a longitudinal analysis. *Gerontologist* 2000;40:320–326.
- Wallhagen MI, Strawbridge WJ, Kaplan GA. 6-year impact of hearing impairment on psychosocial and physiologic functioning. *Nurse Pract* 1996;21:11–14.
- Lin FR. Hearing loss and cognition among older adults in the United States. *J Gerontol A Biol Sci Med Sci* 2011;66: 1131–1136.
- Lin FR, Albert M. Hearing loss and dementia - who is listening? *Aging Ment Health* 2014;18:671–673.
- Wallhagen MI, Strawbridge WJ, Shema SJ. The relationship between hearing impairment and cognitive function: a 5-year longitudinal study. *Res Gerontol Nurs* 2008;1: 80–86.
- Smith AK, Jain N, Wallhagen MI. Hearing loss in palliative care. *J Palliat Med* 2015;18:559–562.
- Charmaz K. The Power of Constructivist Grounded theory for critical Inquiry. *Qual Inq* 2016;23:34–45.

30. Charmaz K. *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*, Vol 10. London: Sage Publications, 2006. <https://doi.org/10.1016/j.lisr.2007.11.003>.
31. Smith AK, Ritchie CS, Wallhagen MI. Hearing loss in hospice and palliative care: a National survey of providers. *J Pain Symptom Manage* 2016;52:254–258.
32. Epstein RM, Street R Jr. The values and value of patient-centered care. *Ann Fam Med* 2011;9:100–103.
33. Ludlow K, Mumford V, Makeham M, Braithwaite J, Greenfield D. The effects of hearing loss on person-centered care in residential aged care: a narrative review. *Geriatr Nurs* 2018;39:296–302.
34. Blustein J, Weinstein BE. Tackling hearing loss to improve the care of older adults. *BMJ* 2018;360:k21.
35. Kelley AS, Morrison RS. Palliative care for the seriously ill. *N Engl J Med* 2015;373:747–755.