Abstract: Effective reflection is essential to allow family medicine residents to cope with difficult and negative experiences during palliative care. We developed a multidisciplinary, consensus-based comprehensive view to reflection on the palliative care approach for family medicine residents. We used a modified Delphi method and a multidisciplinary panel to build a systematic consensus. We developed a prototype comprehensive view based on a literature review, cognitive flexibility theory, and discussion by the research team. The 12 panelists consisted of 8 physicians, 3 nurses, and 1 medical social worker. The final comprehensive view consisted of 11 situations and 6 viewpoints regarding patterns of rapid and intermittent functional decline, respectively, with a total of 508 statements. Six of the 11 situations were common to both illness trajectories, and there were 5 unique situations for each disease trajectory. The 6 viewpoints were physical evaluation, mental/psychological evaluation, social evaluation, spiritual evaluation, cooperation among multidisciplinary professionals, and professional judgment. A comprehensive view to reflection on the palliative care approach was developed for family medicine residents using a modified Delphi method with multidisciplinary input. This comprehensive view may help family medicine residents and faculty become more reflective practitioners through interactive communication.

Subjects: General Medicine; Medical Education

ABOUT THE AUTHOR

Our research team aims to improve the quality of palliative care delivery and palliative care practice in the primary care setting. Research themes of our team include palliative care education in primary care and the construction of a training system for primary care physicians who are interested in palliative care.

The first author’s personal research interests include primary palliative care, prognostication in cancer and non-cancer patients, advance care planning, and home care.

PUBLIC INTEREST STATEMENT

We developed a multidisciplinary, consensus-based comprehensive guide to reflection on the palliative care approach for family medicine residents. This comprehensive view helps family medicine residents refer to their reflective feedback in a self-directed manner, which assists faculty in communicating interactively with them to help them become reflective practitioners. The comprehensive view consisted of 11 situations and 6 viewpoints regarding patterns of rapid and intermittent functional decline, respectively. The six viewpoints were physical evaluation, mental/psychological evaluation, social evaluation, spiritual evaluation, cooperation among multidisciplinary professionals, and professional judgment. The 11 situations were involved time elements, for example at diagnosis, during treatment or follow-up, and during the period shortly before death.
Keywords: Palliative care approach; family medicine; reflection; modified Delphi method; cognitive flexibility theory

1. Introduction

It is essential that family physicians receive education on a palliative care approach regarding communication with patients, family members, and other healthcare professionals, decision-making, and goal-setting in accordance with the principles of palliative care. (Radbruch, 2009)

Reflection is a metacognitive process that creates a greater understanding of both the self and the situation so that future actions can be informed by this understanding. (K V, Holmes, Hayes, Burge, & Viscount, 2001) Family physicians engage both in reflection on action and reflection in action, which explains how professionals meet the challenges of their work by improvisation that improves through practice (Arai et al., 2017). Therefore, learning how to apply deep reflection is essential for family medicine residents, with a focus on the illness trajectory and the complexity of the patient from the perspectives of continuity and comprehensiveness. In addition, a recent study demonstrated that it is important to pay attention to the emotional state of residents and to offer them words of affirmation when they are caring for the dying. (American Academy of Family Physicians, 2015) Although several countries, including Japan, have recommended training goals for family medicine residents in terms of palliative and end-of-life care (Paes & Wee, 2008; Royal College of General Practitioners, 2016; The College of Family Physicians of Canada, 2016; The Royal Australian College of General Practitioners, 2011), there is no material to facilitate the greater understanding of both the self and the situation in terms of palliative care in primary care.

Thus, to improve the quality of reflection during learning in the daily practice of palliative care, a comprehensive view is required to help family medicine residents refer to their reflective feedback in a self-directed manner and to help faculty members assist residents in becoming reflective practitioners through interactive communication.

We aimed to develop a multidisciplinary, consensus-based comprehensive view to facilitate the reflection on the palliative care approach for family medicine residents in Japan, with the goal that this comprehensive view will serve as a metacognitive framework.

2. Materials and methods

A consensus method based on the subjective opinions of several experts is considered to be appropriate for developing one of the metacognitive frameworks on an educational perspective with a clear methodology. (Grauel et al., 1996; MacDonald, Mount, Boston, & Scott, 1993; Schonwetter & Robinson, 1994; Spiro et al., 1992; Ury, Arnold, & Tulskey, 2002) Using this concept, we developed a comprehensive view of a palliative care approach for family medicine residents by employing a modified Delphi method to build systematic consensus.

We applied cognitive flexibility theory as a theoretical framework to develop the comprehensive view. The strength of this theory is that it focuses on revisiting the same material at different times, in rearranged contexts, and for different purposes; this process leads to different perspectives that are essential for attaining the goals of advanced knowledge acquisition (Sasahara et al., 2009). Therefore, cognitive flexibility theory should be useful to support reflection by residents, since it focuses on the nature of learning in complex and ill-structured domains, such as the palliative care approach. We initially shared this strength of the cognitive flexibility theory with research team members and Delphi members by e-mail, video conferences, and face-to-face meetings.
The study protocol was approved by the Institutional Review Board of the University of Tsukuba (No.991, approved on 16 September 2015). Written informed consent was obtained from all participants. Confidentiality of individual responses was ensured by coding the data.

2.1. Research team members
All eight research team members belonged to the Japan Primary Care Association and had expertise in family medicine and palliative medicine, either in research, education, or clinical experience, and were also knowledgeable about the status of family medicine residency programs in Japan.

2.2. Selection of the delphi panelists
Although there are no universally accepted criteria for the selection of Delphi panelists, using panelists from a broad range of disciplines will best represent the variety of viewpoints available (Fukuma et al., 2017). To gather a wide range of opinions, research team members discussed the number and types of expertise areas of potential Delphi panelists. Based on a recent study, we concluded that at least 10 panelists would be needed (Kunz et al., 2017; Murray et al., 2017; Ueda, Ohtera, Kaso, & Nakayama, 2017), with expertise in family medicine, palliative medicine, home care, geriatrics, nursing, social work, and medical education. We asked several academic societies in the fields of family medicine, palliative medicine, home care, and geriatrics to recommend representatives as Delphi panelists, and all did so. We chose additional Delphi panelists from the following specialty areas: palliative care nursing, geriatric nursing, social work, and medical education.

2.3. Preparatory phase: research team members develop a prototype comprehensive view for palliative care
The eight research team members performed a literature review using PubMed and subsequently communicated with each other by e-mail and video conferences. We concluded that there was no appropriate prior study or guide to deepen multifaceted reflective learning in palliative care, though we found several key articles that described the nature of the illness trajectory at the end of life. (Beernaert et al., 2016; Cavers et al., 2012; Kendall et al., 2015; Kimbell, Murray, Macpherson, & Boyd, 2016; Lloyd, Kendall, Starr, & Murray, 2016; Lynn, 1986; Mason et al., 2016) Research team members shared their opinions with each other by e-mail, video conferences, and face-to-face meetings (during which audio was recorded) from April to September 2017.

2.4. Delphi round 1: evaluation and modification of the prototype comprehensive view by research team members
In the first round, each research team member evaluated the prototype comprehensive view, which consisted of trajectory patterns, situations, viewpoints, and statements, by completing an e-mail survey based on a 4-point scale in October 2017.

We adopted a 4-point scale for the assessment based on Lynn’s determination and quantification of content validity: 1 = very valid; 2 = almost valid; 3 = not quite valid; and 4 = not valid (Polit & Beck, 2008). Full consensus was defined as 78% or more of the responders giving a rating of 1 or 2, according to a previous study. (Morita et al., 2015) We also asked each research team member to suggest different wording or to propose additional trajectory patterns, situations, viewpoints, and statements.

2.5. Delphi round 2: evaluation of the draft comprehensive view by Delphi panelists via an e-mail survey
We performed a similar e-mail survey among the Delphi panelists in November 2017 to evaluate statements in the draft comprehensive view before conducting a face-to-face meeting.
We asked the Delphi panelists to rate the statements by using the same assessment criteria and definition of full consensus as employed in Delphi round 1. We also asked the panelists to suggest different wording, propose additional trajectory patterns, situations, viewpoints, and statements. Non-responders were sent e-mail reminders. No financial incentives were provided.

2.6. Delphi round 3: development of the comprehensive view by Delphi panelists during a panel meeting
On the basis of the results of Delphi round 2, in December 2017 we conducted a face-to-face panel meeting to develop the comprehensive view from the perspective of panel members’ expertise and the cognitive flexibility theory. All of the e-mail survey response scores and all feedback comments were compiled and distributed anonymously to the Delphi panelists.

2.7. Delphi round 4: evaluation of the comprehensive view by Delphi panelists via an e-mail survey
In December 2017, we conducted an e-mail survey based on a 4-point scale and the same definition of full consensus as in Delphi rounds 1 and 2.

2.8. Delphi round 5: review of the modified comprehensive view by Delphi panelists via e-mail
We modified the comprehensive view on the basis of the results obtained by Delphi round 4. We then asked the Delphi panelists to review the full set of trajectory patterns, situations, viewpoints, and statements in January 2018.

3. Results
The backgrounds of research team members and Delphi panelists are shown in Table 1. The details of the Delphi process are shown in Figure 1. A total of 12 multidisciplinary Delphi panelists were selected: 8 physicians (3 females), 3 nurses (3 females), and 1 medical social worker (1 female).

3.1. Preparatory phase: prototype comprehensive view developed by research team members
Based on a literature review (Beernaert et al., 2016; Cavers et al., 2012; Kendall et al., 2015; Kimbell et al., 2016; Lloyd et al., 2016; Lynn, 1986; Mason et al., 2016) and discussion among research team members, we decided that the comprehensive view regarding the characteristics of end-of-life care should be based on different patterns of the illness trajectory, specifically those marked by rapid, intermittent, and gradual functional decline. Since the intermittent and gradual functional decline patterns overlap in many ways, the research team members selected the rapid and intermittent functional decline trajectories to use as patterns in the prototype.

Given the nature of the palliative care approach and the comprehensive perspective of family physicians, it seemed ideal to take into account total pain, self-management, and continuity of context. Thus, we created two axes for each functional decline pattern: the multifaceted viewpoint and the consecutive situation. For each combination of situation and viewpoint, several concrete statements were devised to facilitate reflection.

Research team members created 11 situations and 6 viewpoints for each functional decline pattern in the prototype, including 135 statements about rapid functional decline and 219 statements about intermittent functional decline. Six situations were common to both trajectories, whereas the other five situations differed between the two trajectory patterns. The six viewpoints were common to both patterns. These viewpoints were based on the concept of total pain, which is a principle of palliative care, as well as interprofessional collaborative practice and professionalism, which are essential components of family practice. (Paes & Wee, 2008; Royal College of General Practitioners, 2016; The College of Family Physicians of Canada, 2016; The Royal Australian College of General Practitioners, 2011)
| Research team members | Specialty | Gender | Years of work experience | Years of experience in palliative care | Board of certificate | Certificate of the PEACE* |
|----------------------|-----------|--------|--------------------------|---------------------------------------|---------------------|--------------------------|
| 1 Doctor             | Palliative medicine | Male   | 22                       | 18                                    | Palliative Medicine | Yes                       |
| 2 Doctor             | Medical education | Male   | 15                       | 13                                    | Family Medicine, Medical Education | Yes                       |
| 3 Doctor             | Home care    | Male   | 17                       | 9                                     | Family Medicine, Home care | Yes                       |
| 4 Doctor             | Palliative medicine | Female | 14                       | 18                                    | Family Medicine     | Yes                       |
| 5 Doctor             | Family medicine | Male   | 18                       | 18                                    | Family Medicine, Internal Medicine | Yes                       |
| 6 Doctor             | Family medicine | Male   | 11                       | 6                                     | Family Medicine     | Yes                       |
| 7 Doctor             | Family medicine | Male   | 13                       | 11                                    | Family Medicine, Home care | Yes                       |
| 8 Doctor             | Home care    | Male   | 12                       | 7                                     | Family Medicine, Home care | Yes                       |
| 9 Doctor             | Home care    | Male   | 13                       | 11                                    | Family Medicine, Home care | Yes                       |
| 10 Doctor            | Home care    | Female | 16                       | 16                                    | Family Medicine, Home care | Yes                       |

(Continued)
|   | Profession | Specialty           | Gender     | Years of work experience | Years of experience in palliative care | Board of certificate | Certificate of the PEACE* program |
|---|------------|---------------------|------------|--------------------------|---------------------------------------|----------------------|----------------------------------|
| 5 | Doctor     | Palliative medicine | Female     | 18                       | 16                                    | Palliative medicine, Home care, Internal Medicine | Yes                |
| 6 | Doctor     | Geriatrics          | Male       | 28                       | 22                                    | Geriatrics           | No                               |
| 7 | Doctor     | Rural medicine      | Male       | 22                       | 13                                    | Family Medicine      | Yes                              |
| 8 | Doctor     | Medical education   | Male       | 19                       | 17                                    | Medical Education    | No                               |
| 9 | Nurse      | Palliative medicine | Female     | 28                       | 24                                    | Cancer Nursing       | Yes                              |
| 10| Nurse      | Geriatric nursing   | Female     | 27                       | 27                                    | Gerontological Nursing | No                               |
| 11| Nurse      | Medical education   | Female     | 29                       | 5                                     | Medical Education    | No                               |
| 12| Social worker | Social work    | Female     | 15                       | 15                                    | Social Welfare       | No                               |

*PEACE: Palliative care Emphasis program on symptom management and Assessment for Continuous medical Education.
3.2. Delphi round 1: evaluation and modification of the prototype comprehensive view by research team members

All eight research team members evaluated the illness trajectory patterns, situations, viewpoints, and statements in the prototype comprehensive view via e-mail. The research team members failed to reach full consensus on one situation and one viewpoint. They did not reach full consensus on 8 of the 135 statements about rapid functional decline and 5 of the 219 statements about intermittent functional decline. Based on the suggestions in the e-mail survey regarding different wording and additional statements, we modified “at the time of death” to “at the diagnosis of death” in the situations, and changed “existential evaluation” to “spiritual evaluation”.
in the viewpoints. As an example of changes to the statements, we modified “The patient has a place to express the pain of physical care” to “The patient has a place to express the pain of physical care, such as assistance with excretion” in the rapid functional decline trajectory. Finally, the research team members formulated a draft guide that consisted of 135 statements about rapid functional decline and 211 statements about intermittent functional decline, with each statement categorized into 11 situations and 6 viewpoints.

3.3. Delphi round 2: evaluation of the draft comprehensive view by Delphi panelists via an e-mail survey
All 12 Delphi panelists responded to the e-mail survey. We achieved full consensus on 2 trajectory patterns and on 11 situations and 6 viewpoints for each trajectory. However, there was not full consensus on 5 of the 135 statements about rapid functional decline and 28 of the 211 statements about intermittent functional decline. Panelists also suggested several wording changes and proposed additional statements.

3.4. Delphi round 3: modifications of draft comprehensive view by Delphi panelists in a face-to-face panel meeting
Among the 12 panelists, 10 (83.3%) participated in the face-to-face panel meeting. Three research team members were present during the face-to-face panel meeting, though they only facilitated the discussion among the Delphi panelists. As a result of the meeting, statements were added and deleted, or the wording was changed for statements without full consensus. Finally, the modified draft guide consisted of 245 statements about rapid functional decline and 263 statements about intermittent functional decline.

3.5. Delphi round 4: evaluation of the modified comprehensive view by Delphi panelists via an e-mail survey
All 12 Delphi panelists responded to the e-mail survey. There was full consensus on 245 statements about rapid functional decline and 263 statements about intermittent functional decline. Several changes were proposed regarding the wording and combination of statements (Table A1, A2).

3.6. Delphi round 5: review of the re-modified comprehensive view by Delphi panelists
On the basis of the proposals regarding wording changes and combined statements in round 4, the research team members developed the final version. Subsequently, we asked all 12 Delphi members to review the final version, which they all approved. The final version consisted of 2 trajectory patterns, with 11 situations and 6 viewpoints for each trajectory, and 508 statements in total. The summary of the number of statements and the agreement rate are shown in Table 2, and the 11 situations and 6 viewpoints for each trajectory are shown in Table 3. The details of the statements about each trajectory are shown in Table A3, A4.

4. Discussion
We used the modified Delphi method with multidisciplinary input to develop the first comprehensive view, which was kind of metacognitive framework in primary palliative care, that helps family medicine residents refer to their reflective feedback in a self-directed manner, and that assists faculty in communicating interactively with residents so as to help them become reflective practitioners. This metacognitive framework could improve the quality of reflection in both family medicine residents and faculty while they learn in the daily practice of palliative care.

This comprehensive view is based on cognitive flexibility theory. Since this theory focuses on the nature of learning in complex and ill-structured domains, such as the palliative care approach, it encourages the representation of knowledge acquired from different experiences and case perspectives for later use, and promotes the ability to use different case representations to construct a knowledge ensemble tailored to the needs of the situation (Sasahara et al., 2009). Since the thoughts, interpretations, and emotions of residents are largely influenced by their interactions with patients, family members, and members of multidisciplinary teams, the concepts in cognitive
| Illness trajectory pattern | Prototype phase | Delphi round 1 | Delphi round 2 | Delphi round 3 | Delphi round 4 | Delphi round 5 |
|---------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Rapid functional decline  | 135            | 135(94.1)      | 135(96.3)      | 245            | 245(100)       | 245            |
| Intermittent functional decline | 219         | 219(97.7)      | 211(97.0)      | 263            | 263(100)       | 263            |
| Viewpoints | Situations | Intermittent functional decline | Rapid functional decline |
|-----------|------------|-------------------------------|--------------------------|
| 1         | At diagnosis | Evaluation of total pain and the needs of patients and their families | Professional evaluation during treatment of follow-up | Physical evaluation during treatment or follow-up |
| 2         | Discussing the treatment strategy | Interprofessional collaborative practice | | |
| 3         | During active treatment | | | |
| 4         | When treatment is effective | When treatment becomes ineffective | | |
| 5         | When the symptoms have resolved | When treatment is difficult | | |
| 6         | Withdrawal of active treatment | | | |
| 7         | Decline in activities of daily living (ADL) and increased need for physical care | Decline in activities of daily living (ADL) and increased need for physical care | | |
| 8         | Delirium | Delirium | | |
| 9         | Daily prognosis | Daily prognosis | | |
| 10        | At the pronouncement of death | At the pronouncement of death | | |
| 11        | After death | After death | | |
flexibility theory are applicable to fostering skills for handling uncertainty, contradictions, and limitations in medicine, which are inherent components of family medicine and palliative care.

In relation to utilizing this comprehensive view in the clinical setting, we considered several important points. First, it is necessary to prepare a safe environment for learners. For example, faculty should confirm whether residents find it difficult to talk about a topic or would rather not do so, and should clarify that residents can stop the conversation. In addition, faculty should do their best to avoid being judgmental and overly investigative, and should instead adopt empathic and supportive attitudes with residents. Second, instead of using this comprehensive view as a checklist, faculty should deepen the reflections of residents while appropriately asking questions based on the contents of the metacognitive framework so that residents can reflect about the cases they have experienced. Third, faculty should share the feelings and concerns of residents, and ask questions about emotions and consciousness to fill the context, in order to deepen the reflection of residents based on the concepts of cognitive flexibility theory. If a resident has difficulty with verbalization, the faculty member should make deductions about the state and thinking process of the resident and help the resident summarize their opinions in a consistent manner to support learning. Thus, this comprehensive view could prompt residents to deepen their experience and emotions, as suggested by a recent qualitative study (American Academy of Family Physicians, 2015), by establishing an explicit learning opportunity in palliative care. Fourth, this comprehensive view focused on relationships among patients, family members, and multidisciplinary professionals. This is based on the concept of relationalism, which is a unique cultural practice of Asian countries that may motivate an individual to take the most suitable and ideal action when people encounter interpersonal difficulties (Bito et al., 2007). In addition, because this comprehensive view includes many statements regarding relationships among patients, family members, and multidisciplinary professionals, it could be suitable for facilitating a group-oriented approach to end-of-life decision-making with the family, which is preferred by Japanese people. (Jünger, Payne, Brine, Radbruch, & Brearley, 2017) Fifth, the defining feature of this comprehensive view is that it might clarify patients’ and their families’ stories and practices in two types of palliative trajectories, functioning as a type of consultation theory. The previous consultation theories, such as the Calgary-Cambridge guide, are learning aids to help physicians develop their own consultation skills, focus on patients’ perspectives such as the bio-psycho-social aspects of their condition, and facilitate a patient-centered approach. Therefore, the value of this comprehensive view is that it incorporates a time element into the patient’s palliative phase, enabling family medicine residents to reflect on their own behavior and multi-professional collaboration.

The chief strength of this comprehensive view is that it was developed using the modified Delphi method with multidisciplinary input. A recent qualitative study suggested that attending physicians should establish explicit learning opportunities that allow residents to communicate with multidisciplinary team members, and also respect the autonomy of residents and share responsibility in developing their professional identities in relation to end-of-life care (American Academy of Family Physicians, 2015). Thus, we developed this multifactorial, consensus-based and authentic comprehensive view using the multidisciplinary Delphi method.

It is noteworthy that the Delphi panelists emphasized that family medicine residents should collaborate with multidisciplinary health-care providers to assess and manage various situations. This is one reason that the largest number of statements was related to interprofessional collaborative practice. Therefore, this comprehensive view encourages residents to communicate with multidisciplinary team members. In addition, this metacognitive framework could help alleviate the conflict that residents might feel because of their inexperience in coping with a great deal of pressure both as individuals and as physicians, and their confusion due to the highly individual and uncertain nature of the palliative care approach.
This comprehensive view has several limitations. First, the number of Delphi panelists was small compared with other Delphi studies. The reason is that both the reflection and palliative care approaches are not well understood among health-care professionals, except in family medicine. Therefore, we asked only a limited number of academic societies to recommend Delphi panelists.

Second, the comprehensive view was developed for family medicine residents in Japan; thus, it might be difficult to use in other countries with different cultural and religious backgrounds, such as countries with a high proportion of Christians. However, we believe that this comprehensive view is useful in that the value of palliative care was clarified by the Delphi panelists, who consisted of multidisciplinary professionals and educational theoreticians.

Third, this comprehensive view was not reviewed or approved by an external authority, and both processes are recommended in guidance on conducting and reporting Delphi studies (CREDES) in palliative care (Arai et al., 2017), although our multidisciplinary Delphi panelists were nominated by several academic societies. Thus, we need to obtain review and approval by an external authority in the future.

Fourth, as this was a development preliminary study, we did not verify the feasibility of residents and attending physicians using this comprehensive view, although we suggested several important points regarding its use in the clinical setting. Thus, we have planned a feasibility study to assess whether residents and faculty use the comprehensive view as a metacognitive framework.

Fifth, the discussion time was limited and 2 of the 12 panelists were unable to participate in the face-to-face meetings.

5. Conclusion
A comprehensive view to reflection on palliative care approach was developed for family medicine residents in Japan using the modified Delphi method with multidisciplinary input. This comprehensive view as a metacognitive framework may help family medicine residents and faculty become reflective practitioners through interactive communication.

Acknowledgements
The authors would like to acknowledge the following Delphi panel members: Dr. Mariko Shuto, Dr. Maiko Kodama, Dr. Ai Oishi, Prof. Katsuya Iijima, Dr. Hideyuki Kashiwagi, Dr. Koki Katou, Dr. Muneyoshi Aomatsu, Dr. Kazushio Motomura, Ms. Satsuki Uno, Dr. Keiko Abe, and Prof. Machiko Ohara. And the authors also would like to thank for Dr. Tesshu Kusaba for supporting our study.

Funding
This project received funding from Sasakawa Memorial Health Foundation (2017A-7). The funder had no role in the design and conduct of the study; the collection, management, analysis, and interpretation of data; the preparation, review, or approval of the manuscript; or the decision to submit the manuscript for publication.

Author details
Jun Hamano
E-mail: junhamano1012@gmail.com

Junji Haruta
E-mail: junharujp@gmail.com

Naoto Ishimaru
E-mail: maru-tlb@umin.ac.jp

Takahiro Otsuka
E-mail: otsuka0729@hotmail.com

Naoko Den
E-mail: naokohola@gmail.com

Keiichiro Sakato
E-mail: sakato.keni@gmail.com

Takuma Kimura
E-mail: takuma7kimura@gmail.com

Ryo Yamamoto
E-mail: sokupct@sakuhp.or.jp

1. Division of Clinical Medicine, Faculty of Medicine, University of Tsukuba, Tsukuba, Japan.
2. Department of General Medicine and Primary Care, University of Tsukuba Hospital, Tsukuba, Japan.
3. Department of General Internal Medicine, Akashi Medical Center, Akashi, Japan.
4. Aketa-otsuka clinic, Japan.
5. Tokyo Hokuto Medical cooperative association Oji co-op hospital, Japan.
6. Kensei Kuroishi Clinic, Japan.
7. Department of Palliative Medicine, Saku Central Hospital Advanced Care Center, Japan.
8. Department of Palliative Medicine, Saku Central Hospital Advanced Care Center, Japan.

Conflict Disclosure
The authors have declared no competing financial interests.

Citation information
Cite this article as: A comprehensive view to reflection on the palliative care approach for family medicine residents: A modified Delphi method, Jun Hamano, Junji Haruta,
References

American Academy of Family Physicians. (2015). Recommended curriculum guidelines for family medicine residents: Palliative and end-of-life care [Internet]. Retrieved from https://www.aafp.org/dam/AAFP/documents/medical_education_residency/program_directors/Reprint269_Palliative.pdf

Arai, K., Saiki, T., Imafuku, R., Kawakami, C., Fujisaki, K., & Suzuki, Y. (2017). What do Japanese residents learn from treating dying patients? The implications for training in end-of-life care. BMC Medical Education, 17(1), 205. doi:10.1186/s12909-017-0929-6

Beernroet, K., Pardon, K., Van den Block, L., Devroey, D., De Laat, M., Geboes, K.,…Cohen, J. (2016). Palliative care needs at different phases in the illness trajectory: A survey study in patients with cancer. European Journal of Cancer Care, 25(4), 534–543. doi:10.1111/ecc.2016.25.issue-4

Bito, S., Matsumuro, S., Singer, M. K., Meredith, L. S., Fukuhara, S., & Wenger, N. S. (2007). Acculturation and end-of-life decision making: Comparison of Japanese and Japanese-American focus groups. Bioethics, 21(5), 251–262. doi:10.1111/j.1521-8597.2007.00511.x

Covers, D., Hacking, B., Erriage, S. E., Kendall, M., Morris, P. G., & Murray, S. A. (2012). Social, psychological and existential well-being in patients with glioma and their caregivers: A qualitative study. Canadian Medical Association Journal, 184(7), E373–E382. doi:10.1503/cmaj.1111622

The College of Family Physicians of Canada. (2016). Specific standards for family medicine residency programs accredited by the college of family physicians of Canada [Internet]. Retrieved from https://www.cfcpc.ca/uploads/red%20book%20english.pdf

Fukumoto, S., Shimizu, S., Niihata, K., Soda, K.-E., Yonogita, M., Hotta, T.,…Shibagaki, Y. (2017). Development of quality indicators for care of chronic kidney disease in the primary care setting using electronic health data: A RAND-modified Delphi method. Clinical and Experimental Nephrology, 21(2), 247–256. doi:10.1007/s10157-016-1274-8

Grauel, R. R., Eger, R., Finley, R. C., Hawthin, C., Keay, T., O’Brien, W., & Ross, D. D. (1996). Educational program in palliative and hospice care at the University of Maryland School of Medicine. Journal of Cancer Education, 11(3), 144–147. doi:10.1080/0885819609528417

Jünger, S., Payne, S. A., Brine, J., Radbruch, L., & Brearley, S. G. (2017). Guidance on conducting and REporting DELphi Studies (CREDES) in palliative care: Recommendations based on a methodological systematic review. Palliative Medicine, 31(8), 684–706. doi:10.1177/0269216317709685

K V, M., Holmes, D. B., Hayes, V. M., Burge, F. I., & Viscount, P. W. (2001). Community family medicine teachers’ perceptions of their teaching role. Medical Education, 35(3), 278–285. doi:10.1046/j.1365-2938.2001.00769.x

Kendall, M., Corduff, E., Lloyd, A., Kimbell, B., Cavers, D., Buckingham, S., & Murray, S. A. (2015). Different experiences and goals in different advanced diseases: Comparing serial interviews with patients with cancer, organ failure, or frailty and their family and professional carers. Journal of Pain and Symptom Management, 50(2), 216–224. doi:10.1016/j.jpainsymman.2015.07.017

Kimbell, B., Murray, S. A., Macpherson, S., & Boyd, K. (2016). Embracing inherent uncertainty in advanced illness. BMJ, 354, i3802. doi:10.1136/bmj.i3802

Kunz, D., Pariyadath, M., Wittler, M., Askew, K., Manthey, D., & Hartman, N. (2017). Derivation of a performance checklist for ultrasound-guided arthrocentesis using the modified Delphi method. Journal of Ultrasound in Medicine, 36(6), 1147–1152. doi:10.7863/ultra.16.08004

Lloyd, A., Kendall, M., Starr, J. M., & Murray, S. A. (2016). Physical, social, psychological and existential trajectories of loss and adaptation towards the end of life for older people living with frailty: A serial interview study. BMC Geriatrics, 16(1), 176. doi:10.1186/s12877-016-0350-y

Lynn, M. R. (1986). Determination and quantification of content validity. Nursing Research, 35(6), 382–386. doi:10.1097/00006199-198611000-00017

MacDonald, N., Mount, B., Boston, W., & Scott, J. (1993). The Canadian palliative care undergraduate curriculum. Journal of Cancer Education, 8(3), 197–201. doi:10.1088/08851999309528229

Mason, B., Nanton, V., Epiphaniou, E., Murray, S. A., Donaldson, A., Shipman, C.,…Boyd, K. (2016). “My body’s falling apart.” Understanding the experiences of patients with advanced multimorbidity to improve care: Serial interviews with patients and carers. BMJ Supportive & Palliative Care, 6(1), 60–65. doi:10.1136/bmjspcare-2013-000639

Morita, T., Oyama, Y., Cheng, S.-Y., Suh, S.-Y., Koh, S. J., Kim, H. S.,…Tsuneto, S. (2015). Palliative care physicians’ attitudes toward patient autonomy and a good death in East Asian countries. Journal of Pain and Symptom Management, 50(2), 190–199.e1. doi:10.1016/j.jpainsymman.2015.02.020

Murray, S. A., Kendall, M., Mitchell, G., Moine, S., Amblós-Novellas, J., & Boyd, K. (2017). Palliative care from diagnosis to death. BMJ, 356, j878. doi:10.1136/bmj.j878

Poes, P., & Wee, B. (2008). A Delphi study to develop the ASSOCIATION FOR PALLIATIVE MEDICINE Consensus syllabus for undergraduate palliative medicine in Great Britain and Ireland. Palliative Medicine, 22(4), 360–364. doi:10.1177/026921630809769

Pollit, D. F., Beck, C. T. (2008). Developing and testing self-report scale. In Nursing research. 8th ed. pp. 474–486. Philadelphia: Lippincott Williams & Wilkins.

Radbruch, L. P. S. (2009). White Paper on standards and norms for hospice and palliative care in Europe: Part 1. European Journal of Palliative Care, 16(6), 278–289.

The Royal College of General Practitioners [Internet]. The RACGP Curriculum for Australian General Practice. (2011) Palliative care. Retrieved from https://www.racgp.org.au/FSDEDEV/media/documents/Education/Curriculum/2011-Curriculum.pdf

Royal College of General Practitioners. (2016). Position statement on palliative and end of life care [Internet]. Retrieved from: https://www.rcgp.org.uk/clinical-and-research-resources/resources/a-to-z-clinical-resources/end-of-life-care-resources-for-gps.aspx

Sasahara, T., Kizawa, Y., Morita, T., Iwamoto, Y., Otaki, J., Okamura, H.,…Bito, S. (2009). Development of a standard for hospital-based palliative care consultation teams using a modified Delphi method. Journal of Pain and Symptom Management, 35(3), 216–224. doi:10.1016/j.jpainsymman.2008.11.017

Shibagaki, Y. (2015). Limitations of current cancer curriculum in the context of changing attitudes toward patient autonomy and end-of-life care. Canadian Journal of Hospice Palliative Care Education, 356(1), 35–40.
Schonwetter, R. S., & Robinson, B. E. (1994). Educational objectives for medical training in the care of the terminally ill. Academic Medicine, 69(8), 688–690. doi:10.1097/00001888-199408000-00021

Spiro, R. J., Feltovich, P. J., Jacobson, M. J., & Coulson, R. L. (1992). Cognitive flexibility, constructivism, and hypertext: Random access instruction for advanced knowledge acquisition in ill-structured domains. In T. M. Duffy & D. H. Jonassen (Eds.), Constructivism and the technology of instruction: A conversation (pp. 57–75). Lawrence Erlbaum Associates, Inc.

Ueda, K., Ohtera, S., Kaso, M., & Nakayama, T. (2017). Development of quality indicators for low-risk labor care provided by midwives using a RAND-modified Delphi method. BMC Pregnancy and Childbirth, 17(1), 315. doi:10.1186/s12884-017-1468-4

Ury, W. A., Arnold, R. M., & Tulsky, J. A. (2002). Palliative care curriculum development: A model for a content and process-based approach. Journal of Palliative Medicine, 5(4), 539–548. doi:10.1089/109662102760269779
Table A1. The details of number of statements and agreement rate in rapid functional decline

| Delphi Round 1 | Physical evaluation | Mental evaluation | Social evaluation | Existential evaluation |
|----------------|---------------------|-------------------|-------------------|------------------------|
|                | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) |
| Diagnosis disclosure | 1 | 100 | 2 | 100 | 2 | 100 | 3 | 66.7 |
| Discussion of treatment strategy | 3 | 100 | 2 | 100 | 2 | 100 | 3 | 66.7 |
| When treatment is effective | 2 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| When treatment becomes ineffective | 1 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| Withdrawal of active treatment | 1 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| Reduced oral intake | 6 | 66.7 | 2 | 100 | 2 | 100 | 2 | 100 |
| Reduced activities of daily living and increased need for physical care | 2 | 100 | 2 | 100 | 2 | 100 | 2 | 100 |
| Delirium | 4 | 75.0 | 1 | 100 | 3 | 100 | 2 | 100 |
| Daily prognosis | 1 | 100 | 1 | 100 | 2 | 100 | 2 | 100 |
| At the time of death | 1 | 100 | 5 | 100 | 4 | 100 | 0 | 0 |
| After death | 0 | 0 | 4 | 100 | 0 | 0 | 0 | 0 |
| Total number of statements | 22 | 28 | 23 | 23 |
| Delphi Round 1 | Cooperation among multidisciplinary professionals | Professional judgment | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
|---------------|-----------------------------------------------|------------------------|---------------------------|-----------------------------------|--------------------------|
|               | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) | | |
| Diagnosis disclosure | 3 | 100 | 1 | 100 | 12 | 1 | 91.7 |
| Discussion of treatment strategy | 3 | 100 | 1 | 100 | 14 | 1 | 92.9 |
| When treatment is effective | 2 | 100 | 1 | 100 | 13 | 0 | 100.0 |
| When treatment becomes ineffective | 2 | 100 | 1 | 100 | 12 | 0 | 100.0 |
| Withdrawal of active treatment | 3 | 100 | 1 | 100 | 13 | 0 | 100.0 |
| Reduced oral intake | 3 | 66.7 | 1 | 100 | 16 | 3 | 81.3 |
| Reduced activities of daily living and increased need for physical care | 2 | 100 | 1 | 100 | 11 | 0 | 100.0 |
| Delirium | 2 | 50.0 | 1 | 100 | 13 | 2 | 84.6 |
| Daily prognosis | 3 | 100 | 2 | 100 | 11 | 0 | 100.0 |
| At the time of death | 1 | 100 | 1 | 100 | 12 | 0 | 100.0 |
| After death | 3 | 100 | 1 | 0 | 8 | 1 | 87.5 |
| Total number of statements | 27 | 12 | 135 | 8 | 94.1 |
| Delphi Round 2 | Physical evaluation | Mental evaluation | Social evaluation | Spiritual evaluation |
|---------------|---------------------|-------------------|-------------------|---------------------|
|               | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) |
| Diagnosis disclosure | 1 | 100 | 2 | 100 | 2 | 100 | 3 | 100 |
| Discussion of treatment strategy | 3 | 100 | 2 | 100 | 2 | 100 | 3 | 100 |
| When treatment is effective | 2 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| When treatment becomes ineffective | 1 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| Withdrawal of active treatment | 1 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| Reduced oral intake | 6 | 100 | 2 | 100 | 2 | 100 | 2 | 100 |
| Reduced activities of daily living and increased need for physical care | 2 | 100 | 2 | 100 | 2 | 100 | 2 | 100 |
| Delirium | 4 | 100 | 1 | 100 | 3 | 100 | 2 | 100 |
| Daily prognosis | 1 | 100 | 2 | 100 | 2 | 100 | 2 | 100 |
| At the time of death | 1 | 100 | 4 | 100 | 4 | 50.0 | 0 | 0 |
| After death | 0 | 50.0 | 0 | 0 | 0 | 100 | 0 | 0 |
| Total number of statements | 22 | | 28 | | 23 | | 23 | |
| Delphi Round 2 | Cooperation among multidisciplinary professionals | Professional judgment | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
|---------------|--------------------------------------------------|-----------------------|---------------------------|-----------------------------------|-------------------------|
|               | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) |                           |                         |
| Diagnosis disclosure | 3 | 100 | 1 | 100 | 12 | 0 | 100.0 |
| Discussion of treatment strategy | 3 | 100 | 1 | 100 | 14 | 0 | 100.0 |
| When treatment is effective | 2 | 100 | 1 | 100 | 13 | 0 | 100.0 |
| When treatment becomes ineffective | 2 | 100 | 1 | 100 | 12 | 0 | 100.0 |
| Withdrawal of active treatment | 3 | 100 | 1 | 100 | 13 | 0 | 100.0 |
| Reduced oral intake | 3 | 100 | 1 | 100 | 16 | 0 | 100.0 |
| Reduced activities of daily living and increased need for physical care | 2 | 100 | 1 | 100 | 11 | 0 | 100.0 |
| Delirium | 2 | 50.0 | 1 | 100 | 13 | 1 | 92.3 |
| Daily prognosis | 3 | 100 | 2 | 100 | 12 | 0 | 100.0 |
| At the time of death | 1 | 100 | 1 | 100 | 11 | 2 | 81.8 |
| After death | 3 | 100 | 1 | 100 | 8 | 2 | 75.0 |
| Total number of statements | 27 | 12 | 135 | 5 | 96.3 |
| Delphi Round 4 | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|---------------|---------------------|---------------------------------|------------------|---------------------|
|               | Number of statements| Agreement rate (%)               | Number of statements| Agreement rate (%) | Number of statements| Agreement rate (%) | Number of statements| Agreement rate (%) | Number of statements| Agreement rate (%) |
| Diagnosis disclosure | 1 | 100 | 5 | 100 | 2 | 100 | 6 | 100 |   |
| Discussion of treatment strategy | 3 | 100 | 3 | 100 | 2 | 100 | 6 | 100 |   |
| When treatment is effective | 3 | 100 | 3 | 100 | 4 | 100 | 6 | 100 |   |
| When treatment becomes ineffective | 3 | 100 | 3 | 100 | 4 | 100 | 6 | 100 |   |
| Withdrawal of active treatment | 3 | 100 | 3 | 100 | 4 | 100 | 6 | 100 |   |
| Reduced oral intake | 5 | 100 | 3 | 100 | 2 | 100 | 6 | 100 |   |
| Reduced activities of daily living and increased need for physical care | 2 | 100 | 4 | 100 | 2 | 100 | 6 | 100 |   |
| Delirium | 4 | 100 | 1 | 100 | 4 | 100 | 6 | 100 |   |
| Daily prognosis | 2 | 100 | 2 | 100 | 2 | 100 | 6 | 100 |   |
| At the time of death | 1 | 100 | 3 | 100 | 3 | 100 | 6 | 100 |   |
| After death | 0 |   | 2 | 100 | 0 |   | 0 |   |   |
| Total number of statements | 27 | 32 | 29 | 54 |   |   |   |   |   |

| Delphi Round 4 | Cooperation among multidisciplinary professionals | Professional judgment | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
|---------------|-----------------------------------------------|------------------------|---------------------------|-----------------------------------|-------------------------|
|               | Number of statements | Agreement rate (%)     | Number of statements | Agreement rate (%) | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
| Diagnosis disclosure | 7 | 100 | 4 | 100 | 25 | 0 | 100.0 |
| Discussion of treatment strategy | 7 | 100 | 4 | 100 | 25 | 0 | 100.0 |
| When treatment is effective | 6 | 100 | 4 | 100 | 26 | 0 | 100.0 |
| When treatment becomes ineffective | 6 | 100 | 4 | 100 | 26 | 0 | 100.0 |
| Withdrawal of active treatment | 7 | 100 | 4 | 100 | 27 | 0 | 100.0 |
| Reduced oral intake | 7 | 100 | 4 | 100 | 27 | 0 | 100.0 |
| Reduced activities of daily living and increased need for physical care | 6 | 100 | 4 | 100 | 24 | 0 | 100.0 |
| Delirium | 6 | 100 | 4 | 100 | 25 | 0 | 100.0 |
| Daily prognosis | 7 | 100 | 5 | 100 | 24 | 0 | 100.0 |
| At the time of death | 2 | 100 | 1 | 100 | 10 | 0 | 100.0 |
| After death | 3 | 100 | 1 | 100 | 6 | 0 | 100.0 |
| Total number of statements | 64 | 39 | 245 | 0 | 100.0 |
| Physical evaluation | Mental evaluation | Social evaluation | Existential evaluation | Agreement rate (%) |
|---------------------|-------------------|-------------------|-----------------------|-------------------|
| When the palliative care approach is required | 10 | 11 | 81.8 | 100 |
| During periods of slow decline | 3 | 100 | 4 | 100 |
| When the patient develops any symptoms | 2 | 100 | 3 | 100 |
| When the symptoms have resolved | 1 | 100 | 2 | 100 |
| When treatment is difficult | 1 | 100 | 5 | 100 |
| Reduced oral intake | 2 | 100 | 4 | 100 |
| Reduced activities of daily living and increased need for physical care | 4 | 75.0 | 5 | 100 |
| Delirium | 3 | 100 | 4 | 100 |
| Daily prognosis | 2 | 100 | 2 | 100 |
| At the time of death | 1 | 100 | 5 | 100 |
| After death | 0 | 0 | 4 | 100 |
| Total number of statements | 29 | 47 | 36 | 38 |

Table A2: The details of number of statements and agreement rate in intermittent functional decline

Hamano et al., Cogent Medicine (2019), 6: 1704137
https://doi.org/10.1080/2331205X.2019.1704137
| Delphi Round 1 | Cooperation among multidisciplinary professionals | Professional judgment | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
|---------------|---------------------------------------------------|------------------------|---------------------------|-----------------------------------|--------------------------|
|               | Number of statements | Agreement rate (%) | Number of statements | Agreement rate (%) |                  |                      |
| When the palliative care approach is required | 13 | 100 | 10 | 100 | 69 | 3 | 95.7 |
| During periods of slow decline | 6 | 100 | 1 | 100 | 21 | 0 | 100.0 |
| When the patient develops any symptoms | 4 | 100 | 2 | 100 | 16 | 0 | 100.0 |
| When the symptoms have resolved | 4 | 100 | 2 | 100 | 17 | 0 | 100.0 |
| When treatment is difficult | 5 | 100 | 2 | 100 | 19 | 0 | 100.0 |
| Reduced oral intake | 2 | 100 | 1 | 100 | 16 | 1 | 93.8 |
| Reduced activities of daily living and increased need for physical care | 2 | 50.0 | 1 | 100 | 14 | 1 | 92.9 |
| Delirium | 2 | 100 | 1 | 100 | 14 | 0 | 100.0 |
| Daily prognosis | 3 | 100 | 2 | 100 | 13 | 0 | 100.0 |
| At the time of death | 1 | 100 | 1 | 100 | 12 | 0 | 100.0 |
| After death | 3 | 100 | 1 | 0 | 8 | 0 | 100.0 |
| Total number of statements | 45 | 24 | 219 | 5 | 97.7 |
| Delphi Round 2 | Physical evaluation | Mental evaluation | Social evaluation | Spiritual evaluation |
|---------------|---------------------|------------------|------------------|---------------------|
|               | Number of           | Agreement rate (%) | Number of           | Agreement rate (%) | Number of           | Agreement rate (%) | Number of           | Agreement rate (%) | Number of           | Agreement rate (%) |
|               | statements          |                   | statements          |                   | statements          |                   | statements          |                   | statements          |                   |
| When the palliative care approach is required | 9 | 77.8 | 8 | 100 | 13 | 53.8 | 12 | 50.0 |
| During periods of slow decline | 3 | 100 | 3 | 100 | 4 | 75.0 | 4 | 100 |
| When the patient develops any symptoms | 2 | 100 | 3 | 100 | 2 | 100 | 3 | 100 |
| When the symptoms have resolved | 1 | 100 | 3 | 100 | 2 | 100 | 5 | 100 |
| When treatment is difficult | 2 | 100 | 3 | 100 | 2 | 100 | 4 | 100 |
| Reduced oral intake | 4 | 100 | 5 | 80.0 | 1 | 100 | 3 | 100 |
| Reduced activities of daily living and increased need for physical care | 1 | 100 | 4 | 100 | 2 | 100 | 3 | 100 |
| Delirium | 3 | 66.7 | 2 | 100 | 4 | 100 | 2 | 50.0 |
| Daily prognosis | 2 | 100 | 3 | 100 | 2 | 100 | 2 | 50.0 |
| At the time of death | 1 | 100 | 4 | 100 | 4 | 0 | 0 | 0 |
| After death | 0 | 4 | 50.0 | 0 | 0 | 0 | 0 |
| Total number of statements | 28 | 42 | 36 | 38 | 0 | 0 | 0 | 0 |
| Delphi Round 2                                                                 | Cooperation among multidisciplinary professionals | Professional judgment | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
|--------------------------------------------------------------------------------|--------------------------------------------------|------------------------|---------------------------|-----------------------------------|-------------------------|
|                                                                                  | Number of statements | Agreement rate (%)     | Number of statements | Agreement rate (%)              |                         |                         |
| When the palliative care approach is required                                   | 13                   | 84.6                  | 10                      | 80.0                             | 65                      | 17                      | 73.8                    |
| During periods of slow decline                                                  | 6                    | 100                   | 1                       | 100                              | 21                      | 1                       | 95.2                    |
| When the patient develops any symptoms                                          | 4                    | 100                   | 2                       | 100                              | 16                      | 0                       | 100.0                   |
| When the symptoms have resolved                                                 | 4                    | 100                   | 2                       | 100                              | 17                      | 0                       | 100.0                   |
| When treatment is difficult                                                      | 3                    | 100                   | 2                       | 100                              | 16                      | 0                       | 100.0                   |
| Reduced oral intake                                                             | 2                    | 100                   | 1                       | 100                              | 16                      | 1                       | 93.8                    |
| Reduced activities of daily living and increased need for physical care         | 2                    | 100                   | 1                       | 100                              | 13                      | 0                       | 100.0                   |
| Delirium                                                                        | 2                    | 50.0                  | 1                       | 100                              | 14                      | 3                       | 78.6                    |
| Daily prognosis                                                                  | 3                    | 100                   | 2                       | 100                              | 14                      | 1                       | 92.9                    |
| At the time of death                                                             | 1                    | 100                   | 1                       | 100                              | 11                      | 3                       | 72.7                    |
| After death                                                                     | 3                    | 100                   | 1                       | 100                              | 8                       | 2                       | 75.0                    |
| Total number of statements                                                       | 43                   | 24                    | 211                     | 28                               | 86.7                    |
| Delphi Round 4                        | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|-------------------------------------|---------------------|---------------------------------|-------------------|----------------------|
|                                     | Number of statements | Agreement rate (%)              | Number of statements | Agreement rate (%)  | Number of statements | Agreement rate (%)  | Number of statements | Agreement rate (%)  |
| When the palliative care approach is required | 5                   | 100                             | 4                 | 100                  | 6                   | 100                  | 6                   | 100                  |
| During periods of slow decline      | 3                   | 100                             | 4                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| When the patient develops any symptoms | 2                   | 100                             | 4                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| When the symptoms have resolved     | 1                   | 100                             | 4                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| When treatment is difficult         | 3                   | 100                             | 5                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| Reduced oral intake                 | 5                   | 100                             | 5                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| Reduced activities of daily living and increased need for physical care | 2                   | 100                             | 6                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| Delirium                            | 4                   | 100                             | 5                 | 100                  | 4                   | 100                  | 6                   | 100                  |
| Daily prognosis                     | 3                   | 100                             | 6                 | 100                  | 2                   | 100                  | 6                   | 100                  |
| At the time of death                | 1                   | 100                             | 4                 | 100                  | 3                   | 100                  | 0                   |                      |
| After death                         | 0                   | 100                             | 1                 | 100                  | 0                   | 100                  | 0                   | 100                  |
| Total number of statements          | 29                  |                                 | 48                |                       | 27                  |                       | 54                  |                       |
### Delphi Round 4

| Professional judgment | Total number of statements | Total number of not full consensus | Total Agreement rate (%) |
|-----------------------|---------------------------|-----------------------------------|--------------------------|
| **Cooperation among multidisciplinary professionals** | **Number of statements** | **Agreement rate (%)** | **Number of statements** | **Agreement rate (%)** |
| When the palliative care approach is required | 6 | 100 | 7 | 100 | 34 | 0 | 100.0 |
| During periods of slow decline | 6 | 100 | 4 | 100 | 25 | 0 | 100.0 |
| When the patient develops any symptoms | 6 | 100 | 5 | 100 | 25 | 0 | 100.0 |
| When the symptoms have resolved | 6 | 100 | 5 | 100 | 24 | 0 | 100.0 |
| When treatment is difficult | 6 | 100 | 5 | 100 | 27 | 0 | 100.0 |
| Reduced oral intake | 7 | 100 | 4 | 100 | 29 | 0 | 100.0 |
| Reduced activities of daily living and increased need for physical care | 6 | 100 | 4 | 100 | 26 | 0 | 100.0 |
| Delirium | 6 | 100 | 4 | 100 | 29 | 0 | 100.0 |
| Daily prognosis | 7 | 100 | 4 | 100 | 28 | 0 | 100.0 |
| At the time of death | 2 | 100 | 1 | 100 | 11 | 0 | 100.0 |
| After death | 3 | 100 | 1 | 100 | 5 | 0 | 100.0 |
| **Total number of statements** | 61 | 44 | 263 | 0 | 100.0 |
### Table A3. Comprehensive view for rapid functional decline

| Viewpoints | Evaluation of total pain and the needs of patients and their families |
|------------|---------------------------------------------------------------------|
|            | **Physical evaluation**    | **Mental/psychological evaluation** | **Social evaluation** | **Spiritual evaluation** |
| When palliative care or a palliative approach is required (for evaluation, refer to "Time for palliative care or approach" in the attached sheet) | □ Relieve physical distress, including pain, dyspnea, and fatigue. | □ Consider providing feasible medical care for the current disease or condition. | □ Assess what the patient and his or her family understand about the patient’s current condition and its impact. Take appropriate actions. | □ Ask the patient and his or her family about their experience of illness thus far. |
|            | □ Confirm that symptoms can be caused by the current disease or condition. | □ Consider the possible impact of the current disease or condition on the patient’s future activities of daily living (ADL) and life expectancy. | □ Confirm how far and with whom the diagnosis should be discussed in advance. | □ Confirm changes of daily life and care services according to the patient’s disease or condition. |
|            | □ Confirm the stage for each disease or condition. | □ Assess causes of the decline in ADL, weight loss, and pain, in order to consider providing feasible medical care. | □ Assess the patient for depression and anxiety, and take appropriate actions. | □ Affirm the patient’s dignity and recognize the patient’s suffering by finding out about the meaning of his or her existence, based on understanding of individual differences in terms of timing and modes of expression. |
|            | □ Organize multidisciplinary roles based on shared information and consider establishing a support system with multidisciplinary professionals. | □ Assess what the patient thinks about his or her role in the family. | □ Confirm what kind of distress the patient is experiencing due to differences between the ideal and the actual. | □ Confirm how the patient wants to cope with a life-threatening condition or symptom according to the patient’s state. |
|            | □ Share with other staff what the patient values and how the patient wants to live his or her life. | □ Share how the patient and his or her family interpret the patient’s current symptoms and clinical status with other staff. | □ Create a relaxed atmosphere for the patient and his or her family to express their “worries.” Sympathize with them if they express “worries.” | □ Share how the patient and his or her family interpret the patient’s current symptoms and clinical status with other staff. |
| Viewpoints | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|---------------------|---------------------------------|-------------------|----------------------|
| During periods of slow decline (e.g., the patient's birth month, the Bon Festival, New Year's Eve, the New Year, and clinic visits with the patient's family without any marked changes of symptoms and the general condition) | □ Confirm whether the patient has any new or persistent symptoms. | □ Confirm the patient has any new or persistent symptoms. | □ Share the “worries” of the patient and his or her family with other staff. | |
| □ Assess social reasons for ADL decline, weight loss, and distress to consider specific ways of coping with them. | □ Confirm what the patient and his or her family value and how they want to live their lives. | □ Confirm how the patient feels about depending on care from others. | |
| □ Assess whether the patient and his or her family have expectations that are in agreement. | □ Confirm whether the patient has any new or persistent symptoms. | □ Evaluate changes in the patient's level of social involvement during the past year. | |
| □ Discuss possible financial and institutional problems caused by the patient's death with the patient and his or her family to consider specific ways to cope with them. | □ Confirm whether the patient has any new or persistent symptoms. | □ Evaluate changes in the patient's level of social involvement during the past year. | |

(Continued)
| Viewpoints                                      | Evaluation of total pain and the needs of patients and their families |
|------------------------------------------------|-----------------------------------------------------------------------|
| Situations                                     | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
| During an acute exacerbation                   | When the patient develops symptoms                                  | □ Evaluate changes in the daily activities of the patient and his or her family, and care services that the patient has received in the past year. | | |
| □ Relieve physical distress, including pain, dyspnea, and fatigue. | □ Review indications for treatment, while considering the wishes of the patient and his or her family. | □ Confirm which daily activities have or have not been impacted by the patient's current condition. | | |
| □ Confirm whether the patient's family relationships have been changed according to patient's condition. | | □ Suggest treatment options for the current condition, in consideration of the patient's wishes. | | |

(Continued)
| Viewpoints | Evaluation of total pain and the needs of patients and their families |
|------------|---------------------------------------------------------------|
|            | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
| **Situations** | □ Confirm whether there are any changes in daily activities of the patient and their families or care services that patient has received as a result of an acute exacerbation. | □ Consider arranging services according to changes in the patient's condition. | □ Suggest options for the current condition, even if treatment is difficult, in consideration of the patient's wishes. | □ Confirm whether it is expected that impairment will affect the patient's daily activities and share information with the patient and his or her family. |
| When the symptoms have resolved | □ Recognize the demerits and deterioration of QOL caused by treatment for the patient's primary disease. | | | |
| When treatment is difficult | | | | |

(Continued)
| Viewpoints | Situations | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|------------|---------------------|---------------------------------|------------------|---------------------|
|            |            | □ Consider alleviation of symptoms caused by the primary disease and new symptoms. | □ Assess whether the patient and his or her family recognize that treatment for the current condition is difficult, and take action. | □ Consider arranging medical or nursing care services according to changes in the patient’s condition. | □ Ask the patient and his or her family about their wishes with regard to “eating,” and consider the balance between medical issues and their QOL when coping with the problem. |
|            | Death width period | Reduced oral intake | □ Consider treatable causes of loss of appetite and provide appropriate therapy if a cause is identified. | □ Assess the meaning of “eating” for the patient and his or her family. | □ Discuss favorite or easy-to-eat foods for the patient with the family. |
|            |            | □ Assess the patient’s eating and swallowing functions and decide on appropriate foods by talking with the patient and his or her family. | □ Assess the understanding of the patient and his or her family regarding reduced oral intake, and take action. | □ Ask what the patient’s family thinks about “being unable to eat.” Share the meaning of “eating” with them, focusing on the quality of life (QOL) of the patient and his or her family. |
|            |            |                      |                                 |                  |                     |
| Viewpoints | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|---------------------|---------------------------------|-------------------|---------------------|
| Inform the patient and his or her family about the advantages of maintaining as much oral intake as possible, if loss of appetite is associated with the primary disease. | □ | □ | □ | □ |
| Review treatments and prescriptions. Consider changing the administration route (e.g., transdermal administration, suppository, and intravenous infusion) at an early stage. | □ | □ | □ | □ |
| Decline in activities of daily living (ADL) and increased need for physical care | □ | □ | □ | □ |
| Consider how to maintain physical function, including rehabilitation. | □ | □ | □ | □ |
| Assess and treat anxiety and depression associated with decline of ADL. | □ | □ | □ | □ |
| In consideration of the patient’s wishes and the intentions of the family, confirm the ideal place of care and suggest applying for long-term care insurance or a change of care service. | □ | □ | □ | □ |
| Discuss with the patient and his or her family what the patient can do and what the patient wants to do, even if his or her ADL have declined. | □ | □ | □ | □ |
| Viewpoints | Evaluation of total pain and the needs of patients and their families |
|------------|---------------------------------------------------------------|
|            | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
| Situations | □ Provide a supportive environment for the patient to express distress associated with receiving physical care, including assistance with excretion. | □ Consider the introduction of a walking stick, wheelchair, or electric bed or mattress along with the decline of ADL. | □ Assess the understanding of patient and his or her family regarding the decline of ADL and increased physical care, and take action. | □ Confirm with multidisciplinary professionals and the patient’s family whether the patient can live by his or her own values. |
|            | □ Consider how to treat delirium, if it is treatable. | □ Consider delirium in the differential diagnosis of patients with night-time behavioral disorders, disorientation, diurnal variation of consciousness, lassitude, and apathy. | □ Explain to the patient’s family that the patient has developed delirium. | |
| Delirium   | □ Assess the understanding of patient and his or her family regarding the decline of ADL and increased physical care, and take action. | □ | □ | |

(Continued)
| Viewpoints | Situations | Physical evaluation | Social evaluation | Mental/psychological evaluation |
|------------|------------|---------------------|------------------|-------------------------------|
| Evaluation of total pain and the needs of patients and their families |

| (continued) |
|------------|------------|---------------------|------------------|-------------------------------|
| □ Determine if delirium had been misdiagnosed based on behavior driven by a desire to defecate and/or urinate. |
| □ Assess the understanding of "delirium" by the patient’s family and its impact on the family, and take action. |
| □ Consider putting a clock or calendar near the patient to reinforce orientation to time. |
| □ Give priority to treatment or care focusing on QOL when terminal delirium is suspected. |
| □ Consider possible progression of delirium with changes in the environment. |
| □ Confirm whether it is hard for the patient’s family to see the patient suffering from delirium. |

Daily prognosis: |

□ Tell the patient’s family about his or her current status and possible physical changes. |
□ Be mindful that the patient’s family can display anticipatory grief. Care for the family if they display grief. |
□ Explain to the patient’s family that the patient can recognize them by listening to their voices and touching them, even if it is difficult to communicate with the patient. Advise them that they can comfort the patient by just being nearby. |

Hamano et al., Cogent Medicine (2019), 6: 1704137

https://doi.org/10.1080/2331205X.2019.1704137
| Situations | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|---------------------|---------------------------------|-------------------|---------------------|
| At the pronouncement of death | □ (If a monitor is attached, it should be removed or set on mute.) Confirm that all of those who wanted to be present at the patient’s final moments are there. Confirm the absence of a pupillary light reflex, carotid pulse, respiration, and heartbeat. | □ Tell the patient’s family that we will evaluate the patient’s discomfort through facial expressions and movements if verbal communication is not possible, and we will take appropriate action. | □ Confirm who wants to be present at the patient’s final moments and how to contact them in advance. | □ By expressing a sincere attitude as a doctor, touch the deceased patient and his or her family. |

Table A3. (Continued)
| Viewpoints                          | Evaluation of total pain and the needs of patients and their families |
|------------------------------------|-----------------------------------------------------------------------|
|                                    | Physical evaluation                                                  | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
| Situations                         | □ Offer soothing words to the patient and his or her family.          | □ Promote attendance of the patient’s family at the after-death procedure and bed bath, in consideration of the wishes of the patient and his or her family. | □ Together with multidisciplinary professionals, provide the bereaved family with information on procedures regarding the death certificate and the account for treatment. |
|                                    | □ Provide enough time for the family to say their last goodbyes to the patient. |                                      | □ Provide medical care to the patient to ensure a peaceful end of life, in consideration of wishes of the patient and his or her family. | |
| After death                        | □ Care about the health condition of the bereaved family members.     |                                      | □ Offer soothing words to the patient and his or her family. | □ Provide a supportive environment for multidisciplinary professionals involved in the patient’s care to share and express their grief. |
| Viewpoints | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|---------------------|---------------------------------|-------------------|---------------------|
| Situations |                     | [□ Provide referral to a psychiatrist or counselor who can give special support for family members expected to have complicated grief.](#) |                   | [□ Make an effort to identify complicated grief and burnout among multidisciplinary professionals at an early stage.](#) [□ In cooperation with multidisciplinary professionals, consider providing psychological support to the members of the patient’s family who express their grief, including sending a letter to confirm their situation, arranging a personal visit, or providing referral to a bereaved association.](#) |

Hamano et al., Cogent Medicine (2019), 6: 1704137  
[https://doi.org/10.1080/2331205X.2019.1704137](https://doi.org/10.1080/2331205X.2019.1704137)
| Situations                                                                 | Interprofessional collaborative practice                                                                 | Professionalism                                                                                                                                 |
|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| When palliative care or a palliative approach is required                 | □ Try to provide the best treatment to the patient after discussing the therapeutic strategy with a specialist for the target disease, as necessary. | □ Be aware of conflicts regarding limited treatment indications as a doctor. Consider appropriate treatment in light of the patient’s disease process and quality of life (QOL). |
|                                                                          | □ Discuss how to cope with life-threatening situations, in consideration of the wishes of the patient and his or her family. |                                                                                                                                    |
|                                                                          | □ Share both medical information and information about the patient’s psychological and social background with multidisciplinary professionals. | □ Consider telling the patient and his or her family about the prognosis according to the patient’s wishes. |
|                                                                          |                                                                                                            |                                                                                                                                              |
| During periods of slow decline (e.g., the patient’s birth month, the Bon Festival, New Year’s Eve, the New Year, and clinic visits with the patient’s family without any marked changes of symptoms and the general condition) | □ Discuss providing care to maintain the patient’s dignity when the patient’s wishes cannot be confirmed directly. |                                                                                                                                              |
|                                                                          |                                                                                                            |                                                                                                                                              |
| During an acute exacerbation                                               |                                                                                                            | □ Be aware of conflicts when determining a treatment strategy as a doctor. |
|                                                                          |                                                                                                            | □ Avoid providing no treatment according to the sole judgment of the medical providers based on the patient’s age and general condition. |
## Viewpoints

| Situations       | What to do as a doctor                                                                 |
|------------------|----------------------------------------------------------------------------------------|
|                  | Interprofessional collaborative practice                                               |
| Death watch period | □ Provide medical information to multidisciplinary professionals. Collect information on reduced oral intake from the patient’s family and multidisciplinary professionals. Examine the possible causes of reduced oral intake and consider how to care for the patient based on the cause together with multidisciplinary professionals. |
|                  | □ Discuss the risks of oral intake with multidisciplinary professionals and provide an optimal way of ensuring oral intake for the patient. |
|                  | □ Share the feelings of the patient and his or her family on “being unable to eat” and their wishes about “eating” with multidisciplinary professionals. Consider the optimal way to cope with their feelings and meet their wishes according to the patient’s condition. |
|                  | □ Provide medical information to multidisciplinary professionals. Collect information on the patient’s ADL from family members and multidisciplinary professionals. Examine the causes of a decline in ADL and consider how to physically care for the patient based on the cause together with multidisciplinary professionals. |
|                  | □ If the medical situation and the wishes of patients and his or her family are divergent, do not be biased toward either, but consider mutually acceptable interventions |
## Viewpoints

| Situations | Interprofessional collaborative practice | Professionalism |
|------------|------------------------------------------|-----------------|
| □ Discuss the limits to improvement of ADL with multidisciplinary professionals and consider optimal care according to the patient's condition. | □ Consider the expected prognosis of the patient and discuss with multidisciplinary professionals whether we have contributed to relieving the distress of the patient and his or her family. | □ Consider how to relieve the distress of the patient and his or her family instead of giving up the doctor's role. |
| □ Provide medical information to multidisciplinary professionals. Collect information on delirium from the patient's family and multidisciplinary professionals. Examine the causes of delirium and somnolence, and consider how to care for the patient based on the cause together with multidisciplinary professionals. | □ Discuss whether the patient has delirium with multidisciplinary professionals. | |
| □ Discuss whether the patient has refractory distress with multidisciplinary professionals. | □ Discuss whether palliative sedation is indicated with multidisciplinary professionals, if the distress is refractory. | |
| □ Be aware of your own grief and burnout. | | |

*1 Multidisciplinary professionals: specialists, nurses, social workers, care managers, pharmacists, physical therapists, occupational therapists, speech-language-hearing therapists, dietitians, dentists, dental hygienists, etc.
Table A4. Comprehensive view for intermittent functional decline

| Viewpoints | Evaluation of total pain and the needs of patients and their families |
|------------|---------------------------------------------------------------|
| Situations                                                                 |
| When palliative care or a palliative approach is required (for evaluation, refer to “Time for palliative care or approach” in the attached sheet) |

- □ Relieve physical distress, including pain, dyspnea, and fatigue.
- □ Consider providing feasible medical care for the current disease or condition.
- □ Assess what the patient and his or her family understand about the patient's current condition and its impact. Take appropriate actions.
- □ Ask the patient and his or her family about their experience of illness thus far.
- □ Confirm changes of daily life and care services according to the patient's disease or condition.
- □ Affirm the patient's dignity and recognize the patient's suffering by finding out about the meaning of his or her existence, based on understanding of individual differences in terms of timing and modes of expression.
- □ Confirm how the patient wants to cope with a life-threatening condition or symptom according to the patient's state.
- □ Share with other staff what the patient values and how the patient wants to live his or her life.
- □ Share how the patient and his or her family interpret the patient's current symptoms and clinical status with other staff.

- □ Confirm that symptoms can be caused by the current disease or condition.
- □ Consider the possible impact of the current disease or condition on the patient's future activities of daily living (ADL) and life expectancy.
- □ Confirm how far and with whom the diagnosis should be discussed in advance.
- □ Consider social support according to the patient's ADL and instrumental activities of daily living (IADL).
- □ Create a relaxed atmosphere for the patient and his or her family to express their “worries.” Sympathize with them if they express “worries.”
- □ Share with the patient and his or her family the “worries” of the patient and his or her family with other staff.

- □ Confirm the stage for each disease or condition.
- □ Assess causes of the decline in ADL, weight loss, and pain, in order to consider providing feasible medical care.
- □ Assess the patient for depression and anxiety, and take appropriate actions.
- □ Assess what the patient thinks about his or her role in the family.
- □ Confirm what kind of distress the patient is experiencing due to differences between the ideal and the actual.
- □ Organize multidisciplinary roles based on shared information and consider establishing a support system with multidisciplinary professionals.

- □ Assess social reasons for ADL, decline, weight loss, and distress to consider specific ways of coping with them.
- □ Confirm what the patient and his or her family value and how they want to live their lives.
- □ Share the “worries” of the patient and his or her family with other staff.

- □ Assess whether the patient and his or her family have expectations that are in agreement.
- □ Confirm how the patient feels about depending on care from others.

(Continued)
Table A4. (Continued)

| Viewpoints                                                                 | Evaluation of total pain and the needs of patients and their families |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| **Situations**                                                             | **Physical evaluation** | **Mental/psychological evaluation** | **Social evaluation** | **Spiritual evaluation** |
| During periods of slow decline (e.g., the patient’s birth month, the Bon Festival, New Year’s Eve, the New Year, and clinic visits with the patient’s family without any marked changes of symptoms and the general condition) | □ Confirm whether the patient has any new or persistent symptoms | | □ Evaluate changes in the patient’s level of social involvement during the past year. | |
| During an acute exacerbation when the patient develops symptoms | □ Relieve physical distress, including pain, dyspnea, and fatigue. | □ Review indications for treatment, while considering the wishes of the patient and his or her family. | | □ Confirm which daily activities have or have not been impacted by the patient’s current condition. | □ Suggest treatment options for the current condition, in consideration of the patient’s wishes. |
| Viewpoints | Situations | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|------------|---------------------|---------------------------------|------------------|---------------------|
| When the symptoms have | □ Confirm whether the patient's family relationships have been changed according to patient's condition. | □ Confirm whether there are any changes in daily activities of the patient and their families or care services that patient has received as a result of an acute exacerbation. | □ Confirm whether it is expected that impairment will affect the patient's daily activities and share information with the patient and his or her family. | □ Consider arranging medical or nursing care services according to changes in the patient's condition. | |
| | □ Recognize the demerits and deterioration of QOL caused by treatment for the patient's primary disease. | □ Suggest options for the current condition, even if treatment is difficult, in consideration of the patient's wishes. | □ Assess whether the patient and his or her family recognize that treatment for the current condition is difficult, and take action. | □ Consider arranging medical or nursing care services according to changes in the patient's condition. | |
Table A4. (Continued)

| Viewpoints | Evaluation of total pain and the needs of patients and their families |
|------------|---------------------------------------------------------------|
|            | Situations                  | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
| Death period | Reduced intake          | □ Consider treatable causes of loss of appetite and provide appropriate therapy if a cause is identified. | □ Assess the meaning of “eating” for the patient and his or her family. | □ Discuss favorite or easy-to-eat foods for the patient with the family. | □ Ask the patient and his or her family about their wishes with regard to “eating” and consider the balance between medical issues and their QOL when coping with the problem. |
|            | □ Assess the patient’s eating and swallowing functions and decide on appropriate foods by talking with the patient and his or her family. | □ Assess the understanding of the patient and his or her family regarding reduced oral intake, and take action. | □ Ask what the patient’s family thinks about “being unable to eat.” Share the meaning of “eating” with them, focusing on the quality of life (QOL) of the patient and his or her family. | □ Inform the patient and his or her family about the advantages of maintaining as much oral intake as possible, if loss of appetite is associated with the primary disease. | □ Review treatments and prescriptions. Consider changing the administration route (e.g., transdermal administration, suppository, and intravenous infusion) at an early stage. |
Table A4. (Continued) Evaluation of total pain and the needs of patients and their families

| Viewpoints | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|------------|---------------------|---------------------------------|-------------------|----------------------|
| Decline in activities of daily living (ADL) and increased need for physical care | □ Consider how to maintain physical function, including rehabilitation. | □ Assess and treat anxiety and depression associated with decline of ADL. | □ In consideration of the patient’s wishes and the intentions of the family, confirm the ideal place of care and suggest applying for long-term care insurance or a change of care service. | □ Discuss with the patient and his or her family what the patient can do and what the patient wants to do, even if his or her ADL have declined. |
| Delirium | □ Consider how to treat delirium, if it is treatable. | □ Consider delirium in the differential diagnosis of patients with night-time behavioral disorders, disorientation, diurnal variation of consciousness, lassitude, and apathy. | □ Explain to the patient’s family that the patient has developed delirium. | □ Confirm with multidisciplinary professionals and the patient’s family whether the patient can live by his or her own values. |
Table A4. (Continued)

| Viewpoints | Evaluation of total pain and the needs of patients and their families |
|------------|--------------------------------------------------|
|            | Situations                                      | Physical evaluation | Mental/psychological evaluation | Social evaluation | Spiritual evaluation |
|            | □ Determine if delirium had been misdiagnosed based on behavior driven by a desire to defecate and/or urinate. |
|            | □ Assess the understanding of "delirium" by the patient’s family’s and its impact on the family, and take action. |
|            | □ Consider putting a clock or calendar near the patient to reinforce orientation to time. |
|            | □ Give priority to treatment or care focusing on QOL when terminal delirium is suspected. |
|            | □ Consider possible progression of delirium with changes in the environment. |
|            | □ Confirm whether it is hard for the patient’s family to see the patient suffering from delirium. |
| Daily prognosis | □ Tell the patient’s family about his or her current status and possible physical changes. |
|            | □ Be mindful that the patient’s family can display anticipatory grief. Care for the family if they display grief. |
|            | □ Explain to the patient’s family that the patient can recognize them by listening to their voices and touching them, even if it is difficult to communicate with the patient. Advise them that they can comfort the patient by just being nearby. |

(Continued)
| Situations                  | Physical evaluation                                                                 | Mental/psychological evaluation                                                                 | Social evaluation                                                                                                                                                                                                 | Spiritual evaluation                                                                                                                                                                                                 |
|-----------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| At the pronouncement of death | □ (If a monitor is attached, it should be removed or set on mute.) Confirm that all of those who wanted to be present at the patient’s final moments are there. Confirm the absence of a pupillary light reflex, carotid pulse, respiration, and heartbeat. | □ Create an appropriate atmosphere for the death watch. □ Offer soothing words to the patient and his or her family. □ Provide enough time for the family to say their last goodbyes to the patient. □ Discuss the after-death procedure with the patient’s family. □ Promote attendance of the patient’s family at the after-death procedure and bed bath, in consideration of the wishes of the patient and his or her family. □ Provide medical care to the patient to ensure a peaceful end of life, in consideration of wishes of the patient and his or her family. | □ Confirm who wants to be present at the patient’s final moments and how to contact them in advance. □ Provide care that can be implemented by the patient’s family. □ Contact medical providers involved in the patient’s care to give them the opportunity to say a final farewell to the patient. □ Together with multidisciplinary professionals, provide the bereaved family with information on procedures regarding the death certificate and the account for treatment. | □ By expressing a sincere attitude as a doctor, touch the deceased patient and his or her family. |

(Continued)
Table A4. (Continued)

| Viewpoints | Evaluation of total pain and the needs of patients and their families | What to do as a doctor |
|------------|---------------------------------------------------------------------|-----------------------|
| **Viewpoints** | **What to do as a doctor** | **Interprofessional collaborative practice** | **Professionalism** |
| **Situations** | **Physical evaluation** | **Mental/psychological evaluation** | **Social evaluation** | **Spiritual evaluation** |
| After death | | Care about the health condition of the bereaved family members. | | Provide a supportive environment for multidisciplinary professionals involved in the patient’s care to share and express their grief. |
| | | Provide referral to a psychiatrist or counselor who can give special support for family members expected to have complicated grief. | Make an effort to identify complicated grief and burnout among multidisciplinary professionals at an early stage. |
| | | | In cooperation with multidisciplinary professionals, consider providing psychological support to the members of the patient’s family who express their grief, including sending a letter to confirm their situation, arranging a personal visit, or providing referral to a bereaved association. |

(Continued)
| Viewpoints                                      | What to do as a doctor                                                                 |
|------------------------------------------------|---------------------------------------------------------------------------------------|
| Interprofessional collaborative practice       | □ Discuss how to cope with the present illness or condition, in consideration of the  |
|                                                | wishes of the patient and his or her family                                           |
|                                                | □ Consider telling the patient and his or her family about the prognosis according to  |
|                                                | the patient’s wishes                                                                   |
|                                                | □ Discuss providing care to maintain the patient’s dignity when the patient’s wishes    |
|                                                | cannot be confirmed directly                                                          |
| Professionalism                                | □ Consider what can be prevented and countermeasures against future events, such as   |
|                                                | cessation of smoking, vaccination, and cancer screening                                |
|                                                | □ Be aware of conflicts when determining a treatment strategy as a doctor.             |
|                                                | □ Avoid providing no treatment according to the sole judgment of the medical providers|
|                                                | based on the patient’s age and general condition                                       |
|                                                | □ If the medical situation and the wishes of patients and his or her family are       |
|                                                | divergent, do not be biased toward either, but consider mutually acceptable            |
|                                                | interventions                                                                         |

(Continued)
Table A4. (Continued)

| Viewpoints | What to do as a doctor |
|------------|------------------------|
| Situations | Interprofessional collaborative practice |  |
|           | Professionalism         |  |
| □ Share the feelings of the patient and his or her family on “being unable to eat” and their wishes about “eating” with multidisciplinary professionals. Consider the optimal way to cope with their feelings and meet their wishes according to the patient’s condition. |  |
| □ Provide medical information to multidisciplinary professionals. Collect information on the patient’s ADL from family members and multidisciplinary professionals. Examine the causes of a decline in ADL and consider how to physically care for the patient based on the cause together with multidisciplinary professionals. |  |
| □ Discuss the limits to improvement of ADL with multidisciplinary professionals and consider optimal care according to the patient’s condition. |  |
| □ Provide medical information to multidisciplinary professionals. Collect information on delirium from the patient’s family and multidisciplinary professionals. Examine the causes of delirium and somnolence, and consider how to care for the patient based on the cause together with multidisciplinary professionals. |  |
| □ Discuss whether the patient has delirium with multidisciplinary professionals. |  |
| □ Consider the expected prognosis of the patient and discuss with multidisciplinary professionals whether we have contributed to relieving the distress of the patient and his or her family. | □ Consider how to relieve the distress of the patient and his or her family instead of giving up the doctor’s role. |
| Viewpoints | What to do as a doctor |
|------------|------------------------|
| **Situations** | **Interprofessional collaborative practice** | **Professionalism** |
| | □ Discuss whether the patient has refractory distress with multidisciplinary professionals. |
| | □ Discuss whether palliative sedation is indicated with multidisciplinary professionals, if the distress is refractory. |
| | □ Be aware of your own grief and burnout. |

* Multidisciplinary professionals: specialists, nurses, social workers, care managers, pharmacists, physical therapists, occupational therapists, speech-language-hearing therapists, dietitians, dentists, dental hygienists, etc.
