

1 **Development of a national health policy logic model to accelerate the integration of**
2 **oncology and palliative care: A nationwide Delphi survey in Japan**

3
4 Yu Uneno¹, Maki Iwai², Naoto Morikawa³, Keita Tagami⁴, Yoko Matsumoto⁵, Junko
5 Nozato⁶, Takaomi Kessoku^{7,8}, Tatsunori Shimoi⁹, Miyuki Yoshida¹⁰, Aya Miyoshi¹¹,
6 Ikuko Sugiyama¹², Kazuhiro Mantani¹³, Mai Itagaki¹⁴, Akemi Yamagishi¹⁵, Tatsuya
7 Morita¹⁶, Akira Inoue^{4*} and Manabu Muto¹

8
9 ¹Department of Therapeutic Oncology, Graduate School of Medicine, Kyoto University, Kyoto
10 606-8507, Japan

11 ² Former Non-profit Organization, Cancer Policy Summit, Tokyo 155-0032, Japan

12 ³Department of Clinical Oncology, Tohoku Rosai Hospital, Sendai 981-8563, Japan

13 ⁴Department of Palliative Medicine, Tohoku University Graduate School of Medicine,
14 Sendai 980-8575, Japan

15 ⁵Specified Non-profit Organization, Ehime Cancer Support Association Orange,
16 Matsuyama 790-0023, Japan

17 ⁶Department of Internal Medicine, Palliative Care, Tokyo Medical and Dental University
18 Hospital, Tokyo 113-8519, Japan

19 ⁷Department of Palliative Medicine, Yokohama City University Hospital, 3-9 Fukuura,
20 Kanazawa-ku, Yokohama 236-0004, Japan

21 ⁸Department of Gastroenterology and Hepatology, Yokohama City University Graduate
22 School of Medicine, 3-9 Fukuura, Kanazawa-ku, Yokohama 236-0004

23 ⁹ Department of Medical Oncology, National Cancer Center Hospital, Tokyo, 104-0045,

24 Japan.

25 ¹⁰ Program for Nursing and Health Sciences, Graduate School of Medicine, Ehime
26 University, Ehime 791-0295, Japan

27 ¹¹ Specified non-profit organization, Cancer Support Kagoshima, Kagoshima 890-8511, Japan

28 ¹² Division of Nursing, Tohoku University Hospital, Sendai 980-8574, Japan

29 ¹³ Cancer support centre, National Hospital Organization, Osaka–Minami Medical Center, Osaka
30 586–8521, Japan

31 ¹⁴ Section of Research administration, National Cancer Center Hospital East, Chiba 277-8577,
32 Japan.

33 ¹⁵ Department of Preventive Medicine and Public Health, School of Medicine, Keio University,
34 Tokyo 160-8582, Japan

35 ¹⁶Department of Palliative and Supportive Care, Seirei Mikatahara General Hospital,
36 Hamamatsu 433-8558

37

38 ***Corresponding author**

39 Akira Inoue, MD

40 Department of Palliative Medicine, Tohoku University Graduate School of Medicine,
41 Sendai 980-8575, Japan

42 Telephone: +81- 22-717-7366; Fax: +81-22-717-7367;

43 E-mail: akira.inoue.b2@tohoku.ac.jp

44

- 45 **Yu Uneno;** yuuneno@kuhp.kyoto-u.ac.jp
46 Telephone: +81- 75-751-3518; Fax: +81-75-751-3519.
- 47 **Maki Iwai;** miwai1103@gmail.com
48 Telephone: n/a; Fax: n/a.
- 49 **Naoto Morikawa;** oncology.morikawa@gmail.com
50 Telephone: +81- 22-275-1111; Fax: +81-120-772-061.
- 51 **Keita Tagami;** keita.tagami.d7@tohoku.ac.jp
52 Telephone: +81- 22-717-7366; Fax: +81-22-717-7367.
- 53 **Yoko Matsumoto;** m.yoko@k7.dion.ne.jp
54 Telephone: +81- 89-997-7638; Fax: +81-89-997-7638.
- 55 **Junko Nozato;** uemotoj@gmail.com
56 Telephone: +81- 3-3813-6111; Fax: +81-3-5803-0110.
- 57 **Takaomi Kessoku;** kessoku-tho@umin.ac.jp
58 Telephone: +81- 45-787-2800; Fax: +81-45-787-2866.
- 59 **Tatsunori Shimoi;** tshimoi@ncc.go.jp
60 Telephone: +81- 3-3542-2511; Fax: +81-3-3542-2547.
- 61 **Miyuki Yoshida;** yoshida.miyuki.dw@ehime-u.ac.jp
62 Telephone: +81- 89-964-5111; Fax: +81-89-960-5131.
- 63 **Aya Miyoshi;** gansapo@aroma.ocn.ne.jp
64 Telephone: +81- 99-220-1888; Fax: +81-99-220-1888.
- 65 **Ikuko Sugiyama;** i.sugiyama@med.tohoku.ac.jp
66 Telephone: +81- 22-717-7366; Fax: +81-22-717-7367.
- 67 **Kazuhiro Mantani;** mantani.kazuhiro.wk@mail.hosp.go.jp
68 Telephone: +81- 721-53-5761; Fax: +81-721-53-8904.

69 **Mai Itagaki;** mitagaki@east.ncc.go.jp

70 Telephone: +81- 4-7133-1111; Fax: +81-4-7131-5390.

71 **Akemi Yamagishi;** akemi-yamagishi@keio.jp

72 Telephone: +81- 3-5363-3758; Fax: +81-3-3359-3686.

73 **Tatsuya Morita;** tmorita@sis.seirei.or.jp

74 Telephone: +81- 53-436-1251; Fax: +81-53-438-2971.

75 **Akira Inoue;** akira.inoue.b2@tohoku.ac.jp

76 Telephone: +81- 22-717-7366; Fax: +81-22-717-7367.

77 **Manabu Muto;** mmuto@kuhp.kyoto-u.ac.jp

78 Telephone: +81- 75-751-3518; Fax: +81-75-751-3519.

79

80

81 **Abstract**

82 **Background:** Despite recommendations to deliver palliative care to cancer patients and
83 their caregivers, their distress has not been alleviated satisfactorily. National health
84 policies play a pivotal role in achieving a comprehensive range of quality palliative care
85 delivery for the public. However, there is no standardised logic model to appraise the
86 efficacy of these policies. This study aimed to develop a logic model of a national health
87 policy to deliver cancer palliative care and to reach consensus towards specific policy
88 proposals.

89 **Methods:** A draft version of the logic model and specific policy proposals were
90 formulated by the research team and the internal expert panel, and the independent
91 external expert panel evaluated the policy proposals based on the Delphi survey to reach
92 consensus.

93 **Results:** The logic model was divided into three major conceptual categories: ‘care-
94 delivery at cancer hospitals’, ‘community care coordination’, and ‘social awareness of
95 palliative care’. There were 18 and 45 major and minor policy proposals, which were
96 categorised into four groups: requirement of government-designated cancer hospitals;
97 financial support; Basic Plan to Promote Cancer Control Programs; and others. These
98 policy proposals were independently evaluated by 64 external experts and the first to
99 third Delphi round response rates were 96.9-98.4%. Finally, 47 policy proposals
100 reached consensus. The priority of each proposal was evaluated within the four policy
101 groups.

102 **Conclusions:** A national health policy logic model was developed to accelerate the
103 provision of cancer palliative care. Further research is warranted to verify the study

104 design to investigate the efficacy of the logic model.

105

106 **Keywords:** cancer; evidence-based policy making; logic model; national health policy;

107 oncology; palliative care.

108

109 **Introduction**

110 Cancer is the world's leading cause of death, accounting for approximately 10.0
111 million deaths each year, and one in six deaths [1]. In addition, cancer is known to cause
112 severe distress (e.g., physical, psychological and social) in patients and their caregivers
113 [2-4]. Strategies are needed to deliver quality care for people suffering from cancer
114 across a comprehensive range of settings including hospitals, local communities, and
115 societies.

116 Palliative care aims to relieve the distress of caregivers and patients with life-
117 threatening illnesses, including cancer, and improve their quality of life at any stage of
118 the illness [5]. Thus far, robust evidence has established that palliative care reduces the
119 distress experienced by cancer patients and their caregivers [6-9]. In addition, since
120 exploratory studies have demonstrated a reduction in unscheduled ER visits and
121 emergency hospitalisations, the delivery of palliative care may benefit the national
122 healthcare economy [6-9]. Accordingly, the continuous and comprehensive palliative
123 care delivery is recognised as an essential part of the oncology practice of various
124 government agencies and cancer-related academic societies [10-14]. Therefore, the
125 development of an effective system for delivering palliative care is a major global
126 concern [15-18].

127 National health policies play a pivotal role in comprehensive quality palliative care
128 delivery to the public [19-21]. The governments of many countries attach great
129 importance to palliative care as a part of their national health policy [19, 22-24]. Since
130 the Cancer Control Act was enacted in 2006, the Japanese government has also
131 consistently promoted palliative care in conjunction with the law [25-27]. Consequently,

132 the nationwide implementation of a palliative care training programme (the PEACE
133 project) has helped increase confidence and skills of healthcare professionals (HCPs)
134 providing palliative care, and policies related to the promotion of cancer community
135 coordination have demonstrably contributed to the development of a close relationship
136 with the regional healthcare community [28-33].

137 Despite these cumulative nationwide efforts, it has been revealed that the distress of
138 cancer patients has not been adequately alleviated and their needs have remained unmet
139 [34-37]. In addition, there are various barriers to the delivery of palliative care, such as a
140 lack of HCPs who provide palliative care, insufficient remuneration for palliative care
141 services, and inaccurate perception of palliative care of patients, caregivers, and HCPs
142 (e.g. stigma, depletion of hope, or learned helplessness) [38-41]. Thus, there are serious
143 concerns that palliative care does not reach patients with cancer and their caregivers
144 sufficiently [42-52]. However, at present, there is no standard theoretical framework to
145 critically appraise cancer palliative care policies.

146 In association with movements in evidence-based policy making (EBPM), focused
147 attention has been paid to the use of logic models as a practice of EBPM. The logic
148 model anticipates a causal relationship between the intervention and outcomes, which is
149 visually depicted by a simple linear model [53]. By using a logic model, the logical
150 structure of the causal relationship between policies and outcomes can be clarified. The
151 implementation of health policies logic model has been actively promoted globally [54-
152 58]. In Japan, the Cabinet Office is also working to promote EBPM and recommends
153 the use of logic models [59]. However, a logic model of a national health policy for
154 cancer palliative care has not yet been developed internationally.

155 Thus, the aim of this study was to develop a logic model of a national health policy to
156 deliver palliative care to cancer patients and their caregivers, and to reach consensus on
157 specific policies that are deemed effective.

158 **Materials and methods**

159 The logic model was developed according to the procedure shown in Figure 1. All
160 panel members in this study participated after written informed consent was obtained.
161 This study was reviewed and approved by the Ethics Committee at the Kyoto University
162 Graduate School and Faculty of Medicine, Kyoto University Hospital (Approval
163 Number: R2958), and was conducted according to the Guidance on Conducting and
164 REporting DELphi Studies (CREDES) and relevant guidelines (Supplementary Table 1)
165 [60, 61].

166 ***Formulation of draft version of logic model outcomes***

167 Based on the W. K. Kellogg Foundation Logic Model Development Guide and
168 relevant guidance, the research team drafted short-, medium-, and long-term outcomes
169 of the logic model under the guidance of the health policy expert MI (the 2nd author)
170 [62-64]. The research team comprised six physicians, one health policy expert, and one
171 patient representative.

172 First, the research team confirmed that the definitive long-term outcome of cancer
173 palliative care policies should be to improve the quality of life of the patients and their
174 caregivers. The research team conducted a brainstorming session asking, ‘What should
175 be the short- and medium-term outcomes in hospitals, local communities, and societies
176 in order to achieve the long-term outcome?’ MI categorised the list of candidate
177 outcomes for short- and medium-term outcomes so that the concept is mutually
178 exclusive and collectively exhaustive (MECE). The research team confirmed the logic

179 and MECE of the outcomes through iterative discussions. Following this, as outcome
180 indicators, items were collected from the nationwide “cancer patients’ experience
181 survey”, “bereavement survey”, and “opinion polls” which were conducted by the
182 Japanese government between 2019 and 2020. The “cancer patients’ experience survey”
183 and “opinion polls” is basically conducted every six and three years, respectively. The
184 first nationwide scale “bereavement survey” was conducted in 2020. Furthermore, if
185 there were no corresponding scales or indicators for each outcome, novel ones were
186 proposed and placed where appropriate [65-67].

187 *Formulation of specific policy proposals*

188 To formulate the specific policy proposals which are expected to function within the
189 logic model effectively, we invited an internal expert panel with abundant clinical and
190 work experience at the Ministry of Health, Labour and Welfare (MHLW) in Japan or in
191 the public affairs of cancer palliative care. The seven internal expert panel members
192 comprised one physician, three nurses, one pharmacist, one medical social worker
193 (MSW), and one patient representative.

194 To formulate and propose specific policies, the internal expert panel and research team
195 conducted brainstorming sessions to identify policies expected to work for each short-
196 term outcome, and classified them into policy categories under the guidance of MI. MI
197 and YU (the 1st author) categorised the minor policies attached to the major policy
198 categories, which were labelled ‘requirement for designation (RD)’, ‘basic plan (BP)’,
199 ‘financial support (FS)’, and ‘others’. This was because the national health policy for
200 cancer in Japan is dependent on the Basic Plan to Promote Cancer Control Programs
201 (BP) in conjunction with the Cancer Control Act [27]. BP should be reviewed and
202 revised every six years based on several national surveys, and requirement of

203 government-designated cancer hospitals (RD) (DCH) is based on the BP. The
204 government manages and disseminates quality oncology care in conjunction with BP,
205 RD, and specific FS to DCHs.

206 We thought that it would be difficult to reach consensus if the policy proposals were
207 too detailed, so we developed the proposals at the level of the direction of the policies.
208 Therefore, we did not define resources and inputs (e.g. budget estimation or required
209 labour power), which are important elements in the logic model [53, 62]. Finally, the
210 categorisation and contents of specific policy proposals and logic models were used to
211 confirm logical consistency and MECE.

212 *Study design and sample size*

213 To evaluate the validity of the proposed policies, we employed the Delphi survey to
214 ensure consensus among the external expert panel [60, 61]. This was because the
215 current research participants required consensus and experienced complex issues that
216 required expert input with prominent insight into cancer palliative care.

217 *Selection of the external expert panel members*

218 The external expert panel members were recruited using purposive and snowball
219 sampling, which is commonly employed at Delphi survey since probability sampling
220 techniques (such as random sampling) can be unsuitable method to identify the expert.
221 [60, 61]. The selection criteria for non-patient representative panel members were as
222 follows: 1) people with more than five years of experience in clinical, research,
223 education, and administrative work related to cancer palliative care, or people who had
224 more than three years of experience in awareness-raising, press, educational, or policy
225 evaluation activities of health affairs; and, 2) people who understood the purpose of the
226 research, had insights into cancer palliative care policies. In addition, we thought that

227 Patient and Public Involvement (PPI) was important for deciding upon the cancer
228 palliative care policies, and the following people were included as patient
229 representatives: 1) people who have had cancer themselves, or those whose
230 family/relatives within third-degree kinship have had cancer; and 2) people who
231 understood the purpose of the research, had insights into cancer palliative care.

232 Although the panel size for the Delphi method varies in the literature, it is generally
233 recommended to have at least 20 members [60, 61, 68]. Due to the nature of this
234 research in relation to national health policy, we aimed to recruit more than 50 people,
235 balancing occupations, facility characteristics, and regions, to suit a nationwide survey.
236 Considering a response rate of approximately 80% based on previous studies, the
237 minimum recruitment number was 62 [61].

238 ***Survey development process***

239 We developed an anonymous questionnaire using Google Forms, including a logic
240 model and a policy proposal. The external expert panel members were asked whether
241 the proposed policies should be included to achieve the outcomes of the logic model. To
242 maintain independency, expert panel members were asked to respond based on their
243 own ideas, and the responses were anonymized. Responses were rated on a 5-point
244 Likert scale (where 1 = should definitely be excluded, 2 = should be excluded, 3 =
245 neither, 4 = should be included, and 5 = should definitely be included). We asked for
246 answers aided by free text description to provide comments regarding correction or
247 adding of the policies. In addition, because of the nature of the current study with PPI,
248 abundant annotations such as descriptions of technical terms were added, and only
249 objective facts were described to avoid arbitrariness. To assess the validity of the

250 survey, a pilot survey was conducted with two physicians, four nurses, and four patient
251 representatives.

252 ***Process to reach consensus***

253 Based on the previous literature and the results of the pilot survey, we developed pre-
254 defined consensus criteria: more than 70% of the panel members rated 4 or 5 [60, 61].
255 During each round, the data were confirmed by the research team and the internal expert
256 panel, correction and decisions regarding items to be included in the next round were
257 made. From the second round onwards, the anonymised and summarised results of the
258 previous round were disclosed to the external expert panel and requested to be
259 reviewed. The round was terminated when all proposals met the consensus criteria with
260 no major comments. The Delphi survey was conducted between November 2021 and
261 February 2022.

262 ***Process appropriateness and exploratory evaluation of policy priority***

263 To ensure the validity of the survey, we verified the appropriateness its survey through
264 the panel (e.g. usability of the survey form, explicitness of the questions,
265 appropriateness of information input, and whether there was any arbitrariness) in the
266 first round.

267 Furthermore, to clarify the priority of each proposal that reached consensus in the third
268 round, we evaluated the policies with high priority in the RD, BP, FS, and others
269 categories. This was because Japanese government encourages to evaluate the policy
270 priority in conjunction with the limited administrative resources [69]. Therefore, we
271 asked the external expert panel to evaluate each policy proposal using a Likert-type
272 scale, ranging from 1 to 10 (1 = lowest priority; 10 = highest priority).

273 ***Data analysis***

274 Descriptive statistics were used to summarise the data using Microsoft® Excel® 2019
275 MSO (version 2111; Microsoft, Redmond, WA, USA).

276 **Results**

277 *Proposal of draft policy*

278 Figures 2 and 3 provide an overview of the logic model, policy proposals, and
279 conceptual diagrams. The logic model was divided into three major conceptual
280 categories: ‘care-delivery at cancer hospitals’, ‘community care coordination’, and
281 ‘social awareness of palliative care’. In total, the short-, medium-, and long-term
282 outcomes consisted of eight, five, and one outcome(s) and twenty, sixteen, and seven
283 indicators, respectively. There were 18 and 45 major and minor policy proposals. Of
284 these, 13, 14, 12, and 6 minor policy proposals were regarding RD, BP, FS, and others,
285 respectively.

286 *Expert panel characteristics and response rates*

287 A total of 64 external experts were included nationwide (Table 1). The external expert
288 panel comprised physicians, nurses, pharmacists, MSWs, patient representatives, and
289 others. There were three Delphi rounds, and the first, second, and third round response
290 rates were 98.4% (63/64), 96.9% (62/64), and 96.9% (62/64), respectively.

291 *First Delphi round*

292 The results of the first round are shown in Supplementary Table 2. One policy was
293 rejected due to a low consensus rate. Similarly, two novel policy proposals categorised
294 as BP (4-16- I) and others (4-1-III) were added. A policy regarding FS to protect time
295 to interview caregivers (4-8-III) was converted to BS since clinical fees cannot be

296 calculated for participants other than patients in conjunction with the Japanese health
297 insurance system. In total, 46 policy proposals made it to the second round.

298 *Appropriateness of the Delphi survey process*

299 The appropriateness of the Delphi survey was evaluated at the end of the first round
300 (Figure 4). In total, 88.9% (56/63) and 85.7% (54/63) responded that the survey was
301 easy to use and understand, respectively. Regarding the information input (e.g.
302 annotation and attachments), 93.7% (59/63) responded that it was appropriate and only
303 9.5% (6/63) responded that it was arbitrary.

304 *Second Delphi round*

305 The results of the second round are shown in Supplementary Table 3. There were no
306 policy proposals that did not meet the consensus criteria. Two novel policy proposals
307 categorised as BP (4-10-IV) and FS (4-8-III) were added. Since there were two policy
308 proposals regarding who to contact and how to manage distress at the DCHs (RD) (4-6-
309 I , 4-6-III), they were integrated. In total, 47 policy proposals made it to the third
310 round.

311 *Third Delphi round and exploratory evaluation of policy priority*

312 The results of the third round are presented in Tables 2–5. Researchers decided to
313 terminate the Delphi round because there were no policy proposals which did not meet
314 the consensus criteria and/or elicited major comments from the expert panel. Policy
315 proposals related to FS tended to have a higher consensus and priority than those related
316 to RD. As for proposals related to BP, issues familiar with HCPs, such as caregiver
317 care, community care coordination, and palliative care training tended to have higher

318 consensus and priorities, and peer support tended to be lower. Overall, HCP palliative
319 care education and training were highly acceptable to the expert panel.

320 **Discussion**

321 This study developed a logic model of a national health policy regarding cancer
322 palliative care and proposed the direction of policies to make the logic model function
323 efficaciously. Furthermore, by issuing high-priority policies for each category, these
324 materials potentially support discussions on which policies should be prioritised in
325 future government councils regarding national cancer palliative care policies.

326 First, the expert panel welcomed the proposition of national health policies for cancer
327 palliative care using logic models. Previous studies have described the status of cancer
328 palliative care policies in various countries, and it has been reported that high-income
329 countries, including Japan, tend to have all, "national strategy or plan specific to
330 palliative care," "reference to palliative care in national law" and "person/desk/unit in a
331 government department" compared to low-income countries [19]. However, literature
332 on how to plan and evaluate them is limited nonetheless of the national income status
333 [19, 22-24]. In addition, in adherence with the current practices of policy evaluation in
334 Japan, evaluation was performed using indicators, as shown in Figure 2 (e.g., "cancer
335 patients' experience survey", "opinion polls"); however, the policy acting on each
336 indicator was not defined. The expert panel pointed out that the evaluation by the logic
337 model has limitations in reflecting the practical efforts that cannot be measured in
338 numerical values; this means that it is necessary to repeatedly review the validity of the
339 logic model.

340 Staffing and education have been consistently agreed upon and prioritised. Previous
341 studies have shown that the lack of HCPs and educational opportunities regarding
342 palliative care are serious barriers to the delivery of palliative care [38-41]. Evidence of
343 clinical trials in the provision of palliative care presupposes abundant human resources
344 and ample educational opportunities, and the role of the government in implementing
345 these findings seems pivotal [7-9]. Moreover, expanding nationwide palliative care
346 education and training for nurses and pharmacists, as well as palliative care education
347 prior to post-graduation, can be ensured only by the government.

348 Although peer support and information and communication technology (ICT) distress
349 management systems are expected to be solutions to the limitations of clinical
350 resources, they have consistently exhibited lower consensus rates and priorities.
351 Possible reasons for this may be the lack of evidence and implementation strategies. As
352 a similar intervention for peer support, lay health worker interventions have been shown
353 to have promising efficacy in various settings [70-72]. These lay health workers are
354 structurally trained, but peer supporters' interventions may have problems regarding
355 variance, quality, and uneven distribution of peer supporters in each community. In
356 addition, ICT distress management systems such as ePRO are being actively
357 implemented in many countries along with robust evidence, but their cost-effectiveness
358 and sustainable implementation strategies also remain unclear [73-78]. However,
359 because these proposals met the consensus criteria of this study, it is considered that this
360 did not indicate a negative evaluation from the expert panel. Further research is required
361 to overcome these challenges.

362 This study has several limitations. First, the current research does not mention
363 resources and inputs related to policies. This was because this study aimed to present

364 the major direction of the policies and not propose a detailed policy design. This is
365 expected to be considered by the future government council, based on our proposals.
366 The second limitation is the limited information input. Although the information input
367 was composed of scientific evidence and open resources from the government and
368 evaluated as appropriate by the panel, the information we provided potentially
369 influenced the judgement of the expert panel due to the limited quality and quantity of
370 the information input. Third, there was no mention of how to measure the causal
371 relationship between policies and outcomes. By proposing a logic model, we were able
372 to present the causal structure of policies and outcomes. However, it is necessary to
373 develop a method to clarify the causal relationship by adjusting for confounding and
374 bias. The last was external validity. In foreign countries or local governments, caution
375 should be exercised when extrapolating our model. However, the development process
376 of the logic model proposed here can be applied to cancer palliative care policies in
377 other countries or settings.

378 **Conclusion**

379 A national health policy logic model has been developed to accelerate the cancer
380 palliative care delivery. Further research is warranted to verify the study design to
381 investigate the causal relationship derived from the logic model.

382

383 **Declarations**

384 *Ethics approval and consent to participate*

385 All expert panel members in this study participated after written informed consent was
386 obtained. This study was reviewed and approved by the Ethics Committee at the Kyoto

387 University Graduate School and Faculty of Medicine, Kyoto University Hospital, based
388 on the national ethical guidelines of epidemiological studies in Japan (Approval
389 Number: R2958)

390 ***Competing interests***

391 The authors declare that they have no conflict of interest.

392 ***Funding***

393 This work was supported by the Ministry of Health, Labour and Welfare of Japan
394 (Health Labor Science Research Grant: Grant number 20EA1009). The funder had no
395 role in the conception and/or design of the work, the acquisition, analysis, interpretation
396 of data and/or the drafting of this manuscript.

397 ***Authors' contributions***

398 All authors made substantial contributions to the manuscript, including to the
399 conception (YU, MI, NM, KT, YM, JN, TK, TS, MY, AM, IS, KM, MI, AY, TM, AI,
400 MM) and design (YU, MI, NM, KT, YM, JN, TK, TM) of the study, to the literature
401 search (YU, MI, NM, KT, YM, JN, TK), collection of the data (YU, MI, NM, KT, YM,
402 JN, TK, TS, MY, AM, IS, KM, MI, AY, AI), and to the draft and final revision of the
403 manuscript (YU, MI, NM, KT, YM, JN, TK, TS, MY, AM, IS, KM, MI, AY, TM, AI,
404 MM). All authors provided final approval of the final version and its submission.

405

406 ***Acknowledgements***

407 We would like to thank all the Delphi panel members (Akira Yoshioka, Asami Wada,
408 Atsushi Sato, Ayumi Okizaki, Chiharu Hamamoto, Chikako Shimizu, Eisuke Suzuki,

409 Emi Ryu, Fumihiro Yamadera, Fumiko Yamada, Fumiyoshi Kumagai, Harue Arao,
410 Haruto Ikeyama, Hidehito Tamura, Hideki Ueno, Hideyuki Kashiwagi, Hina Uetake,
411 Hiromi Uehara, Hisashi Nakahashi, Hisashi Suyama, Hisateru Yasui, Ikuko Kazama,
412 Jun Hamano, Kaori Takeuchi, Keiichi Uemura, Keiko Eguchi, Keiko Tamura, Ken
413 Kaneko, Kikuko Kanno, Kimiko Nakano, Mayumi Noda, Midori Kawaguchi, Natsu
414 Kato, Natsuko Okita, Nobuhisa Nakajima, Noriaki Hidaka, Noriya Koshida, Osamu
415 Okamura, Rie Sasaki, Ryo Yamamoto, Sachiko Shimizu, Satofumi Shimoyama, Satoko
416 Miyawaki, Satoko Tamura, Satoshi Miyake, Shigeru Tanda, Shihoko Yokokawa,
417 Shosuke Kita, Susumu Iwamoto, Takako Ohta, Takashi Muramoto, Takashi Sakugawa,
418 Tatsuo Akechi, Tatsuya Suzuki, Toru Tanaka, Toshimi Takano, Wakako Nishimura,
419 Yayoi Ando, Yoichi Nakamura, Yoichi Shimizu, Yoko Kasahara, Yoshiaki Okamoto,
420 Yuichi Shinada and Yuya Ise) for their insightful input. Moreover, we would like to
421 thank the pilot survey participants for their helpful feedback in advance of the Delphi
422 survey (Izumi Hayashida, Kiyofumi Oya, Shoko Tsuji, Yuki Kawano, Yusuke
423 Hiratsuka, Yusuke Kanno, and other people who wish to remain anonymous). We
424 would like to express our gratitude to Dr. Masashi Kato and Professor Kenichi Hanioka
425 for their contributions in planning and conducting this research.

426

427 **Figure captions**

428 Figure 1. Overview of the current Delphi survey process

429 Figure 2. Conceptual schema of the policy proposals

430 Footnote: Abbreviations. EBPM, evidence-based policy making; HCP, healthcare
431 professional; ICT, information and communication technology.

432 Figure 3. Proposing a national cancer palliative care policy logic model

433 Footnote: Abbreviations. DCH, government-designated cancer hospital; HCP,
434 healthcare professional; ICT, information and communication technology.

435

436 Figure 4. Appropriateness of the Delphi survey process evaluated by the external expert
437 panel members

438

439 **Table titles**

440 Table 1. Characteristics of the external expert panel members

441 Footnote: Abbreviations. CNS, Certified Nurse Specialist; DCH, government-
442 designated cancer hospital.

443

444 Table 2. Final policy proposals list regarding designation requirement of government-
445 designated cancer hospitals

446 Footnote: Abbreviations. DCH, government-designated cancer hospital; ICT,
447 information and communication technology; NRS, numerical rating scale; RD,
448 requirement for designation.

449

450 Table 3. Final policy proposals list regarding Basic Plan to Promote Cancer Control
451 Programs

452 Footnote: Abbreviations. FS, financial support; ICT, information and communication
453 technology; NRS, numerical rating scale.

454

455 Table 4. Final policy proposals list regarding financial support

456 Footnote: Abbreviations. BP, basic plan; DCH, government-designated cancer hospital;
457 MEXT, Ministry of Education, Culture, Sports, Science and Technology of Japan; NRS,
458 numerical rating scale.

459

460 Table 5. Final policy proposals list regarding the others

461 Footnote: Abbreviations. ICT, information and communication technology; MHLW, the
462 Ministry of Health, Labour and Welfare; NRS, numerical rating scale.

463

464 **Supplementary table titles**

465 Supplementary Table 1. Disclosure the compliance with the Guidance on Conducting and
466 REporting DElphi Studies (CREDES)

467

468 Supplementary Table 2. Results of the first Delphi round in policy proposals

469 Footnote: Abbreviations. BP, basic plan; DCH, government-designated cancer hospital;
470 FS, financial support; HCP, healthcare professional; ICT, information and
471 communication technology; MEXT, Ministry of Education, Culture, Sports, Science
472 and Technology of Japan; MHLW, the Ministry of Health, Labour and Welfare; RD,
473 requirement for designation.

474

475 Supplementary Table 3. Results of the second Delphi round in policy proposals

476 Footnote: Abbreviations. BP, basic plan; DCH, government-designated cancer hospital;
477 FS, financial support; HCP, healthcare professional; ICT, information and
478 communication technology; MEXT, Ministry of Education, Culture, Sports, Science
479 and Technology of Japan; MHLW, the Ministry of Health, Labour and Welfare; RD,
480 requirement for designation.

481

482 **Reference**

- 483 1. Sung H, Ferlay J, Siegel RL, Laversanne M, et al. (2020) Global cancer statistics
484 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36
485 cancers in 185 countries. *CA A Cancer J Clin.*71:209–49.
- 486 2. Huynh L, Moore J. (2021) Palliative and end-of-life care for the older adult with
487 cancer. *Curr Opin Support Palliat Care.*15:23–8.
- 488 3. Riches JC, Voigt LP. (2021) Palliative, ethics, and end-of-life care issues in the
489 cancer patient. *Crit Care Clin.*37:105–15.
- 490 4. Albert RH. (2017) End-of-life care: Managing common symptoms. *Am Fam*
491 *Phys.*95:356–61
- 492 5. Radbruch L, De Lima L, Knaul F, et al. (2020) Redefining palliative care-A new
493 consensus-based definition. *J Pain Symptom Manage.*60:754–64.
- 494 6. Maetens A, Beernaert K, De Schreye R, et al. (2019) Impact of palliative home
495 care support on the quality and costs of care at the end of life: A population-level
496 matched cohort study. *BMJ Open.*9:e025180.
- 497 7. Vanbutsele G, Pardon K, Van Belle S, et al. (2018) Effect of early and systematic
498 integration of palliative care in patients with advanced cancer: A randomised
499 controlled trial. *Lancet Oncol.*19:394–404.
- 500 8. Haun MW, Estel S, Rücker G, et al. (2017) Early palliative care for adults with
501 advanced cancer. *Cochrane Database Syst Rev.*6:CD011129.
- 502 9. Kavalieratos D, Corbelli J, Zhang D, et al. (2016) Association between palliative
503 care and patient and caregiver outcomes: A systematic review and meta-analysis.
504 *JAMA.* 316:2104–14.
- 505 10. Sleeman KE, de Brito M, Etkind S, et al. (2019) The escalating global burden of

- 506 serious health-related suffering: Projections to 2060 by world regions, age groups,
507 and health conditions. *Lancet Glob Health*.7:e883–92.
- 508 11. Ferrell BR, Temel JS, Temin S, et al. (2017) Integration of palliative care into
509 standard oncology care: American Society of Clinical Oncology clinical practice
510 guideline update. *J Clin Oncol*.35:96–112.
- 511 12. Jordan K, Aapro M, Kaasa S, et al. (2018) European Society for Medical
512 Oncology (ESMO) position paper on supportive and palliative care. *Ann Oncol*.
513 29:36–43.
- 514 13. Pivodic L, Pardon K, Van den Block L, et al. (2013) Palliative care service use in
515 four European countries: A cross-national retrospective study via representative
516 networks of general practitioners. *PLOS ONE*.8:e84440.
- 517 14. Craigs CL, West RM, Hurlow A, et al. (2018) Access to hospital and community
518 palliative care for patients with advanced cancer: A longitudinal population
519 analysis. *PLOS ONE*.13:e0200071. <https://doi.org/10.1371/journal.pone.0200071>
- 520 15. van Riet Paap J, Vernooij-Dassen M, Brouwer F, et al. (2014) Improving the
521 organization of palliative care: identification of barriers and facilitators in five
522 European countries. *Implement Sci*.16;9:130. doi: 10.1186/s13012-014-0130-z.
- 523 16. van Riet Paap J, Vernooij-Dassen M, Sommerbakk R, et al. (2015)
524 Implementation of improvement strategies in palliative care: an integrative review.
525 *Implement Sci*. 26;10:103. doi: 10.1186/s13012-015-0293-2.
- 526 17. Nilsen P, Wallerstedt B, Behm L, et al. (2018) Towards evidence-based palliative
527 care in nursing homes in Sweden: a qualitative study informed by the
528 organizational readiness to change theory. *Implement Sci*. 4;13(1):1. doi:
529 10.1186/s13012-017-0699-0.

- 530 18. Zubkoff L, Lyons KD, Dionne-Odom JN, et al. (2021) A cluster randomized
531 controlled trial comparing Virtual Learning Collaborative and Technical
532 Assistance strategies to implement an early palliative care program for patients
533 with advanced cancer and their caregivers: a study protocol. *Implement Sci.*
534 11;16(1):25. doi: 10.1186/s13012-021-01086-3.
- 535 19. Clelland D, van Steijn D, Whitelaw S, et al. (2020) Palliative care in public policy:
536 Results from a global survey. *Palliat Med Rep.* 1:183–90.
- 537 20. Reinke LF, Meier DE. (2017) Research priorities in subspecialty palliative care:
538 Policy initiatives. *J Palliat Med.* 20:813–20.
- 539 21. Van den Block L. (2014) The need for integrating palliative care in ageing and
540 dementia policies. *Eur J Public Health.* 24:705–6.
- 541 22. Van Beek K, Woitha K, Ahmed N, et al. (2013) Comparison of legislation,
542 regulations and national health strategies for palliative care in seven European
543 countries (Results from the Europall Research Group): A descriptive study. *BMC*
544 *Health Serv Res.* 13:275.
- 545 23. Pivodic L, Smets T, Gott M, et al. (2021) Inclusion of palliative care in health care
546 policy for older people: A directed documentary analysis in 13 of the most rapidly
547 ageing countries worldwide. *Palliat Med.* 35:369–88.
- 548 24. Woitha K, Carrasco JM, Clark D, et al. (2003) Policy on palliative care in the
549 WHO European region: An overview of progress since the Council of Europe's
550 (2003) Recommendation 24. *Eur J Public Health.* 26:230–5.
- 551 25. Nakazawa Y, Kato M, Miyashita M, et al. (2021) Growth and challenges in
552 hospital palliative cancer care services: An analysis of nationwide surveys over a
553 decade in Japan. *J Pain Symptom Manage.* 61:1155–64.

- 554 26. Maeda I, Tsuneto S, Miyashita M, et al. (2014) Progressive development and
555 enhancement of palliative care services in Japan: Nationwide surveys of
556 designated cancer care hospitals for three consecutive years. *J Pain Symptom*
557 *Manage.* 48:364–73.
- 558 27. Ministry of Health, Labour and Welfare of Japan website. Overview of the
559 “Cancer Control Act.” URL: [https://www.mhlw.go.jp/english/wp/wp-hw3/dl/2-](https://www.mhlw.go.jp/english/wp/wp-hw3/dl/2-077.pdf)
560 [077.pdf](https://www.mhlw.go.jp/english/wp/wp-hw3/dl/2-077.pdf) (Last access date: 27th Feb, 2022)
- 561 28. Nakazawa Y, Kato M, Miyashita M, et al. (2018) Changes in nurses’ knowledge,
562 difficulties, and self-reported practices toward palliative care for cancer patients
563 in Japan: An analysis of two nationwide representative surveys in 2008 and 2015.
564 *J Pain Symptom Manage.* 55:402–12.
- 565 29. Inoue A, Yamaguchi T, Tanaka K, et al, (2019) Benefits of a nationwide palliative
566 care education program on lung cancer physicians. *Intern Med.* 58:1399–403.
- 567 30. Yamamoto R, Kizawa Y, Nakazawa Y, et al. (2015) Outcome evaluation of the
568 Palliative care Emphasis program on symptom management and assessment for
569 continuous medical education: Nationwide physician education project for
570 primary palliative care in Japan. *J Palliat Med.* 18:45–9.
- 571 31. Nakazawa Y, Yamamoto R, Kato M, et al. (2018) Improved knowledge of and
572 difficulties in palliative care among physicians during 2008 and 2015 in Japan:
573 Association with a nationwide palliative care education program. *Cancer.*
574 124:626–35.
- 575 32. Morita T, Miyashita M, Yamagishi A, et al. (2013) Effects of a programme of
576 interventions on regional comprehensive palliative care for patients with cancer:
577 A mixed-methods study. *Lancet Oncol.* 14:638–46.

- 578 33. Imura C, Morita T, Kato M, et al. (2014) How and why did a regional palliative
579 care program lead to changes in a region? A qualitative analysis of the Japan
580 OPTIM study. *J Pain Symptom Manage.*47:849–59.
- 581 34. Wang T, Molassiotis A, Chung BPM, et al. (2018) Unmet care needs of advanced
582 cancer patients and their informal caregivers: A systematic review. *BMC Palliat*
583 *Care.*17:96.
- 584 35. Molassiotis A, Yates P, Li Q, et al. (2017) Mapping unmet supportive care needs,
585 quality-of-life perceptions and current symptoms in cancer survivors across the
586 Asia-Pacific region: Results from the International STEP Study. *Ann Oncol.*
587 28:2552–8.
- 588 36. Okamura M, Fujimori M, Sato A, et al. (2021) Unmet supportive care needs and
589 associated factors among young adult cancer patients in Japan. *BMC Cancer.*
590 21:17.
- 591 37. Sakai H, Umeda M, Okuyama H, et al. (2020) Differences in perception of breast
592 cancer treatment between patients, physicians, and nurses and unmet information
593 needs in Japan. *Support Care Cancer.*28:2331–8.
- 594 38. Zhi WI, Smith TJ. (2015) Early integration of palliative care into oncology:
595 Evidence, challenges and barriers. *Ann Palliat Med.*4:122–31.
- 596 39. Kain DA, Eisenhauer EA. (2016) Early integration of palliative care into standard
597 oncology care: Evidence and overcoming barriers to implementation. *Curr Oncol.*
598 23:374–7.
- 599 40. Dalgaard KM, Bergenholtz H, Nielsen ME, et al. (2014) Early integration of
600 palliative care in hospitals: A systematic review on methods, barriers, and
601 outcome. *Palliat Support Care.*12:495–513.

- 602 41. Abrahm JL. (2012) Integrating palliative care into comprehensive cancer care. J
603 Natl Compr Canc Netw.10:1192–8.
- 604 42. Uneno Y, Sato K, Morita T, et al. (2020) Current status of integrating oncology
605 and palliative care in Japan: A nationwide survey. BMC Palliat Care.19:12.
- 606 43. Nakazawa Y, Miyashita M, Morita T, et al. (2012) The current status and issues
607 regarding hospital-based specialized palliative care service in Japanese Regional
608 Cancer Centers: A nationwide questionnaire survey. Jpn J Clin Oncol. 42:432–41.
- 609 44. Hui D, Cherny N, Latino N, et al. (2017) The “critical mass” survey of palliative
610 care programme at ESMO designated centres of integrated oncology and
611 palliative care. Ann Oncol.28:2057–66.
- 612 45. Hui D, Elsayem A, De la Cruz M, et al. (2010) Availability and integration of
613 palliative care at US cancer centers. JAMA.303:1054–61.
- 614 46. Hui D, De La Rosa A, Chen J, et al. (2020) State of palliative care services at US
615 cancer centers: An updated national survey. Cancer.126:2013–23.
- 616 47. Miyashita M, Morita T, Sato K, et al. (2015) A nationwide survey of quality of
617 end-of-life cancer care in designated cancer centers, inpatient palliative care units,
618 and home hospices in Japan: The J-HOPE Study. J Pain Symptom Manage. 50:38–
619 47.e3.
- 620 48. Davis MP, Strasser F, Cherny N, et al. (2015) MASCC/ESMO/EAPC survey of
621 palliative programs. Support Care Cancer.23:1951–68.
- 622 49. Cartmell KB, Sterba KR, Pickett K, et al. (2018) Availability of patient-centered
623 cancer support services: A statewide survey of cancer centers. PLOS ONE.
624 13:e0194649.
- 625 50. Dalal S, Bruera S, Hui D, et al. (2016) Use of palliative care services in a tertiary

- 626 cancer center. *Oncologist*.21:110–8.
- 627 51. Hui D, De La Rosa A, Bruera E. (2020) State of integration of palliative care at
628 National Cancer Institute-Designated and nondesignated cancer centers. *JAMA*
629 *Oncol.* 6:1292–5.
- 630 52. Hammer SL, Clark K, Grant M, et al. (2015) Seventeen years of progress for
631 supportive care services: A resurvey of National Cancer Institute-designated
632 comprehensive cancer centers. *Palliat Support Care*.13:917–25.
- 633 53. Tabriz AA, Flocke SA, Shires D, et al. (2020) Logic model framework for
634 considering the inputs, processes and outcomes of a healthcare organisation-
635 research partnership. *BMJ Qual Saf*.29:746–55.
- 636 54. Hayes H, Parchman ML, Howard R. (2011) A logic model framework for
637 evaluation and planning in a primary care practice-based research network
638 (PBRN). *J Am Board Fam Med*.24:576–82.
- 639 55. Kiendrébéogo JA, Thoumi A, Mangam K, et al. (2021) Reinforcing locally led
640 solutions for universal health coverage: A logic model with applications in Benin,
641 Namibia and Uganda. *BMJ Glob Health*. 6. [https://doi.org/10.1136/bmjgh-2020-](https://doi.org/10.1136/bmjgh-2020-004273)
642 [004273](https://doi.org/10.1136/bmjgh-2020-004273)
- 643 56. Ken-Opulum J, Darbshire L, Miller DK, et al. (2020) Assessing rural health
644 coalitions using the public health logic model: A systematic review. *Am J Prev*
645 *Med*.58:864–78.
- 646 57. Stoto MA, Nelson C, Savoia E, et al. (2017) A public health preparedness logic
647 model: Assessing preparedness for cross-border threats in the European region.
648 *Health Secur*.15:473–82.
- 649 58. Nutbeam D, Padmadas SS, Maslovskaya O, et al. (2015) A health promotion logic

- 650 model to review progress in HIV prevention in China. *Health Promot Int.* 30:270–
651 80.
- 652 59. Cabinet Office of Japan website. Efforts for EBPM by the Cabinet Office (in
653 Japanese). URL: <https://www.cao.go.jp/others/kichou/ebpm/ebpm.html> (Last
654 access date: 27th Feb, 2022)
- 655 60. Hasson F, Keeney S, McKenna H. (2000) Research guidelines for the Delphi
656 survey technique. *J Adv Nurs.* 32:1008–15.
- 657 61. Jünger S, Payne SA, Brine J, et al. (2017) Guidance on Conducting and REporting
658 DELphi Studies (CREDES) in palliative care: Recommendations based on a
659 methodological systematic review. *Palliat Med.* 31:684–706.
- 660 62. W.K. Kellogg Foundation. Using Logic Models to Bring Together Planning,
661 Evaluation, and Action. *Logic Model Development Guide*. 2004. (available at:
662 <https://wkkf.issuelab.org/resource/logic-model-development-guide.html>)
- 663 63. World Health Organization. Cancer Control Knowledge into Action WHO Guide
664 for Effective Programmes. 2006. (available at:
665 https://apps.who.int/iris/bitstream/handle/10665/43467/9241546999_eng.pdf;jsessionid=60B1D97ACFC9E0451D1ABEA0E0B2EB34?sequence=1)
666
- 667 64. Andrew Oar, Fabio Y Moraes, Yannick Romero, et al. (2019) Core elements of
668 national cancer control plans: a tool to support plan development and review.
669 *Lancet Oncol.* 20(11):e645-e652.
- 670 65. Yoko Nakazawa, Mitsunori Miyashita, Tatsuya Morita, et al. (2010) The palliative
671 care self-reported practices scale and the palliative care difficulties scale:
672 reliability and validity of two scales evaluating self-reported practices and
673 difficulties experienced in palliative care by health professionals. *J Palliat Med.*

- 674 13(4):427-37.
- 675 66. Mitsunori Miyashita, Maho Aoyama, Misato Nakahata, et al. (2017) Development
676 the Care Evaluation Scale Version 2.0: a modified version of a measure for
677 bereaved family members to evaluate the structure and process of palliative care
678 for cancer patient. *BMC Palliat Care*.16(1):8.
- 679 67. Mitsunori Miyashita, Makoto Wada, Tatsuya Morita, et al. (2014).Care evaluation
680 scale-patient version: measuring the quality of the structure and process of
681 palliative care from the patient's perspective. *J Pain Symptom Manage*. 48(1):110-
682 8.
- 683 68. McKenna HP. (1994) The Delphi technique: A worthwhile research approach for
684 nursing? *J Adv Nurs*.19:1221–5.
- 685 69. Ministry of Internal Affairs and Communications of Japan website. Final report
686 on policy evaluation. URL:
687 https://www.soumu.go.jp/main_sosiki/hyouka/81883.htm (Last access date: 27th
688 Feb, 2022)
- 689 70. Patel MI, Sundaram V, Desai M, et al. (2018) Effect of a lay health worker
690 intervention on goals-of-care documentation and on health care use, costs, and
691 satisfaction among patients with cancer: A randomized clinical trial. *JAMA Oncol*.
692 4:1359–66.
- 693 71. Patel MI, Ramirez D, Agajanian R, et al. (2020) Association of a lay health worker
694 intervention with symptom burden, survival, health care use, and total costs
695 among medicare enrollees with cancer. *JAMA Netw Open*.3:e201023.
- 696 72. Dias A, Azariah F, Anderson SJ, et al. (2019) Effect of a lay counselor intervention
697 on prevention of major depression in older adults living in low- and middle-

- 698 income countries: A randomized clinical trial. *JAMA Psychiatry*.76:13–20.
- 699 73. Basch E, Deal AM, Dueck AC, et al. (2017) Overall survival results of a trial
700 assessing patient-reported outcomes for symptom monitoring during routine
701 cancer treatment. *JAMA*.318:197–8.
- 702 74. Basch E, Deal AM, Kris MG, et al. (2016) Symptom monitoring with patient-
703 reported outcomes during routine cancer treatment: A randomized controlled trial.
704 *J Clin Oncol*. 34:557–65.
- 705 75. Strasser F, Blum D, von Moos R, et al. (2016) The effect of real-time electronic
706 monitoring of patient-reported symptoms and clinical syndromes in outpatient
707 workflow of medical oncologists: E-MOSAIC, a multicenter cluster-randomized
708 phase III study (SAKK 95/06). *Ann Oncol*.27:324–32.
- 709 76. Basch E, Stover AM, Schrag D, et al. (2020) Clinical utility and user perceptions
710 of a digital system for electronic patient-reported symptom monitoring during
711 routine cancer care: Findings from the PRO-TECT trial. *JCO Clin Cancer Inform*.
712 4:947–57.
- 713 77. Manalili K, Santana MJ, ISOQOL PROMs/PREMs in clinical practice
714 implementation science work group. (2021) Using implementation science to
715 inform the integration of electronic patient-reported experience measures
716 (ePREMs) into healthcare quality improvement: Description of a theory-based
717 application in primary care. *Qual Life Res*.30:3073–84.
- 718 78. Stover AM, Haverman L, van Oers HA, et al. (2021) Using an implementation
719 science approach to implement and evaluate patient-reported outcome measures
720 (PROM) initiatives in routine care settings. *Qual Life Res*.30:3015–33.

Formulation of the draft version of the logic model outcomes

Research team members (n = 8) .



Formulation of the specific policy proposals

Internal expert panel members (n = 8) and research team members (n = 7) .



First Delphi round to evaluate the policy proposals

Independent external expert panelists (n= 64)



Quantitative and qualitative data analysis and finalising contents for the next round

Internal expert panel members (n = 8) and research team members (n = 7) .



Second Delphi round

Independent external expert panel members (n = 64)



Data analysis and decisions for the next round

Internal expert panel members (n = 8) and research team members (n = 7) .



Third Delphi round

Independent external expert panel members (n = 64)



Data analysis and decision to terminate the rounds

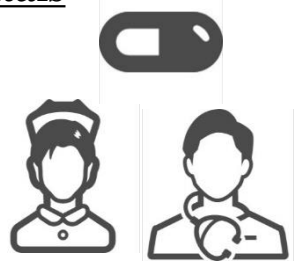
Internal expert panel members (n = 8) and research team members (n = 7) .



Finalising the national health policy logic model

The research report was submitted to the Ministry of Health, Labour and Welfare of Japan

Cancer treatment hospitals



Palliative Care Centre

4-1 Standardisation of evaluation and recording distress
4-2 Implementation of ICT for distress management
4-6 Improving access to palliative care depending on patients' needs

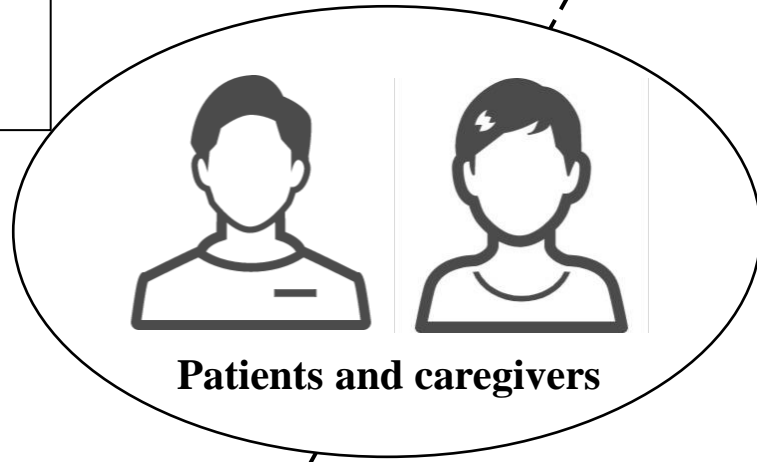
4-3 Outpatient placement of full-time HCPs to manage distress
4-8 Ensuring opportunities for discussions between patients and HCPs



Oncology Unit

Cancer Consultation & Support Centre

4-7 Encouraging the use of cancer consultation and support centres



Patients and caregivers



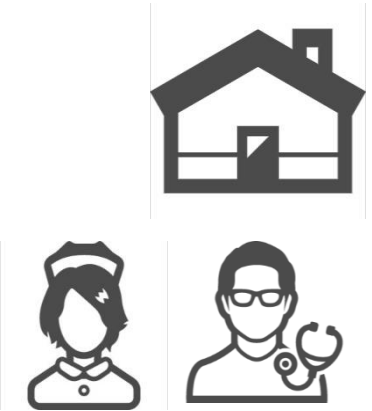
Peer supporters

4-9 Facilitation of peer support activities
4-13 Facilitation of bereavement care

Home care, community network, and administrative offices

4-10 Early coordination of community care
4-11 Consultations on palliative care from other institutions
4-12 Close relationships among community healthcare workers

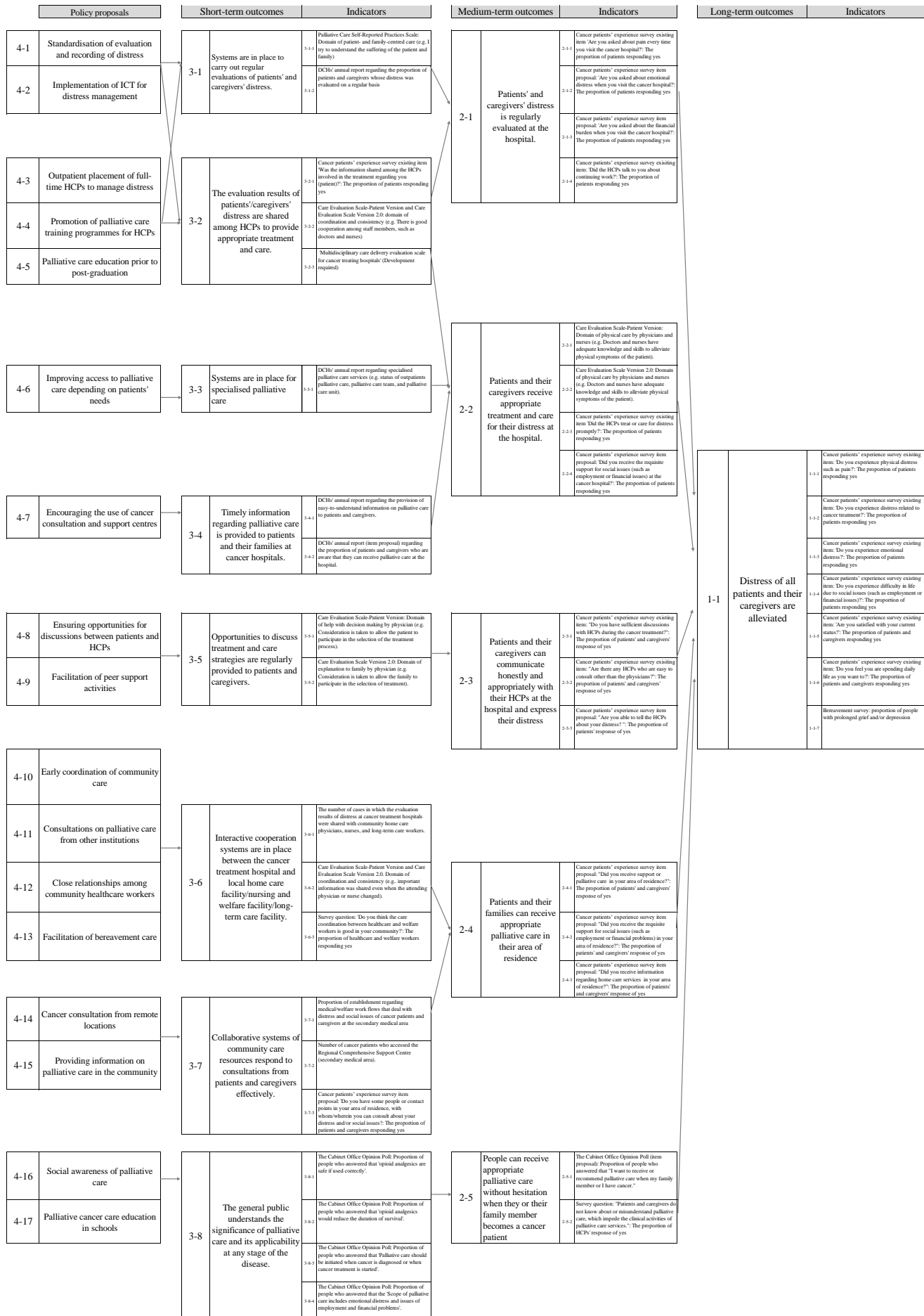
4-14 Cancer consultations from remote locations



4-15 Providing information on palliative care in the community



4-0 Acceleration of EBPM using the logic model; 4-4 Promotion of palliative care training programmes for HCPs; 4-5 Palliative care education prior to post-graduation; 4-16 Social awareness of palliative care; 4-17 Palliative cancer care education in schools



1. "Was this form of the Delphi survey easy to use?"



2. "Were the questions easy to understand?"



3. "Were the contents comprising informational input (e.g. annotations and attachments) appropriate?"



4. "Do you think that the questions, annotations, and attachments comprised arbitrary content that guided the responses to either extremes?"

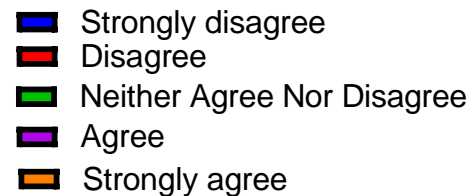


Table 1. Characteristics of the external expert panel members

	n	Percentage of total (%)
Sex		
Male	36	56.3
Female	28	43.8
Age range (in years)		
30-39	7	10.9
40-49	22	34.4
50-59	26	40.6
60-69	7	10.9
70-	2	3.1
Primary occupation		
Oncologist	11	17.2
Palliative care physician	11	17.2
Nurse (CNS)	7	10.9
Nurse (non-CNS)	5	7.8
Board certified pharmacist	7	10.9
Non-board certified pharmacist	3	4.7
Medical social worker	9	14.1
Patient and Bereaved caregiver representatives	8	12.5
Others	3	4.7
Average professional experience (in years)		
Overall	25.3	
Oncologist	22.8	
Palliative care physician	27.3	
Nurse (CNS)	26	
Nurse (non-CNS)	32.2	
Board certified pharmacist	22.1	
Non-board certified pharmacist	20.3	
Medical social worker	24.1	
Others	29	
Work or activity base		
Hokkaido	3	4.7
Tohoku	7	10.9
Kanto	21	32.8
Chubu	6	9.4
Kinki	10	15.6
Chugoku	4	6.3
Shikoku	5	7.8
Kyushu	8	12.5

Working environment		
DCHs	45	70.3
Non-DCHs	7	10.9
Do not work at hospitals	12	18.8
Public work experience related to cancer and palliative care as a full-time administrative officer of the local or national government		
Yes	8	12.5
No	56	87.5
Experience to be involved in public services or activities as a cancer and palliative care consignment project or committee member of the local or national government		
Yes	31	48.4
No	33	51.6

Table 2. Final policy proposals list regarding designation requirement of government-designated cancer hospitals

ID	Group	Policy proposals	Priority NRS (95% confidence interval)	Consensus rate (%)	Mean
4-3- I	RD	Establishment of DCHs' novel requirements for 'outpatient palliative care' to encourage the placement of full-time nurses at outpatient oncology units. In addition, a system in which pharmacists, psychologists and medical social workers can encounter patients when required at the outpatient palliative care unit is desirable.	8.13 (7.64-8.62)	90.32	4.26
4-7- I	RD	Encouragement to inform all cancer patients and caregivers regarding the use of cancer consultation and support centres from the time of their first visit, to inform them about the availability of palliative care services	8.08 (7.60-8.57)	95.16	4.37
4-1- I	RD	Proposing a government-standardised distress screening procedure	7.90 (7.42-8.39)	85.48	4.16
4-6- I	RD	Encouragement to provide patients and their caregivers with information regarding the facilities to consult regarding their distress	7.89 (7.36-8.42)	98.39	4.47
4-6- II	RD	The palliative care centre leads the management of palliative care delivery (including 4-6- I) at the DCHs	7.79 (7.28-8.30)	95.16	4.16
4-14- I	RD	Encouragement of cancer counselling and support using ICT systems or telephone for people living in remote locations, away from DCHs	7.60 (7.10-8.10)	90.32	4.24
4-11- I	RD	Encouragement to disseminate information on palliative care consultations from non-DCHs and other healthcare institutions to DCHs	7.55 (7.05-8.04)	91.94	4.16
4-7- II	RD	Adding 'information provision related to usage of palliative care services' and 'care coordination at DCHs and community' to the operation list of cancer consultation and support centres	7.50 (6.94-8.06)	90.32	4.16
4-2- III	RD	Encouragement of the implementation of ICT systems at DCHs to enhance distress management strategies	7.34 (6.81-7.87)	72.58	3.92
4-1- II	RD	Requesting the DCHs to report the status of patients screened for distress annually	7.34 (6.77-7.91)	83.87	3.97
4-9- I	RD	Encouragement of peer support advocated by DCHs	6.53 (5.98-7.08)	80.65	4.00

Table 3. Final policy proposals list regarding Basic Plan to Promote Cancer Control Programs

ID	Group	Policy proposals	Priority NRS (95% confidence interval)	Consensus rate (%)	Mean
4-8-IV	BP	Encouragement of care delivery toward caregivers and promote related effective initiatives	8.56 (8.16-8.97)	95.16	4.32
4-10-IV	BP	Encouragement of community care coordination	8.50 (8.08-8.92)	100.00	4.45
4-4- I	BP	Correction of the completion target of the palliative care training from 'all physicians involved in cancer treatment' to 'all physicians, nurses and pharmasists involved in cancer treatment'	7.76 (7.22-8.30)	80.65	4.10
4-7-IV	BP	Encouragement of the use of cancer consultation and support centres for people not availing the services of DCHs	7.69 (7.19-8.20)	88.71	4.19
4-16- I	BP	Encouragement of activities to improve the image of palliative care as an essential clinical practice and ensure its acceptability among patients and their caregivers as early as possible	7.69 (7.16-8.22)	87.10	4.23
4-15- II	BP	Encouragement of the coordination between the reception of the 4-15 – I and cancer hospitals, when patients with related needs emerged	7.53 (7.04-8.02)	93.55	4.21
4-17- I	BP	Encouragement of the dissemination of cancer education materials published by the MEXT to be used in school education	7.37 (6.89-7.85)	91.94	4.27
4-17- II	BP	Encouragement to conduct cancer education workshops for faculty development to increase number of the external lecturers and promote understanding of school teachers	7.35 (6.85-7.86)	93.55	4.32
4-15- I	BP	Distribution of materials and information regarding palliative care at comprehensive support centres, healthcare centres and city-/town-halls in the region in cooperation with prefectures	7.32 (6.83-7.82)	96.77	4.31
4-16- II	BP	Encouragement of social awareness related to palliative care through social networking services, newspapers, and television	7.32 (6.74-7.90)	85.48	4.18
4-16-III	BP	Encouragement of social awareness related to palliative care for patients screened for cancer and corporate employees	7.16 (6.62-7.70)	85.48	4.10
4-17- III	BP	Publish the list of external lecturers providing cancer education, who have completed the faculty development in prefectures limited to prefectural board of education	6.82 (6.22-7.42)	85.48	4.15
4-9-IV	BP	Encouragement of peer support activities conducted by patient support groups	6.74 (6.26-7.22)	87.10	4.19
4-9- V	BP	Encouragement to improve peer support training programmes	6.68 (6.16-7.19)	83.87	4.11
4-9- II	BP	Encouraging the development of regional general consultation support centres in cooperation with prefectures to enhance peer support activities for planning, operating and managing.	6.52 (6.01-7.02)	80.65	3.98
4-13- I	BP	Creating an environment to deliver the bereavement care	6.45 (5.87-7.03)	79.03	3.98
4-9- III	BP	Encouraging the implementation of peer supporter training courses in cooperation with prefectures	6.34 (5.81-6.86)	88.71	4.11

Table 4. Final policy proposals list regarding financial support

ID	Group	Policy proposals	Priority NRS (95% confidence interval)	Consensus rate (%)	Mean
4-8-V	FS	Removal of the restrictions on outpatient palliative care management fees for patients only receiving opioid for pain management	8.85 (8.39-9.32)	95.16	4.61
4-3-III	FS	Revision of the regulations so that the 'cancer patient rehabilitation fee' can be calculated for not only for inpatients but also outpatients	8.24 (7.70-8.78)	95.16	4.44
4-8-II	FS	Revision of the upper limit of the number of calculations six times per patient in the Cancer Patient Management Fee, Section B (e.g. psychological distress)	8.19 (7.66-8.73)	87.10	4.32
4-8-I	FS	Revision of the upper limit of the number of calculations once per patient in the Cancer Patient Management Fee, Section A (e.g. advance care planning)	8.10 (7.52-8.67)	90.32	4.40
4-7-VI	FS	Increasing the subsidy limit of the cancer counselling and support centres, the implementation of more detailed incentives, and the appointment of several counsellors and improvement of training opportunities.	8.03 (7.55-8.51)	88.71	4.19
4-14-III					
4-10-I	FS	Revision to make the home care medical fee available (originally only provided to those unable to visit hospitals) for patients with terminal cancer	8.03 (7.50-8.56)	91.94	4.39
4-10-III	FS	Continued access to home care coordination fee and home care emergency conferences fee	7.95 (7.42-8.48)	93.55	4.35
4-8-III	FS	Revision of the upper limit of the number of calculations six times per patient in the Cancer Patient Management Fee, Section C (e.g. medication guidance by a pharmacist including opioid)	7.87 (7.30-8.45)	93.55	4.39
4-10-II	FS	Revision of the upper limit to calculate the outpatient home cooperation guidance fee	7.87 (7.30-8.44)	91.94	4.31
4-12-I	FS	Continue financial support for the community palliative care coordination meetings and workshops	7.63 (7.09-8.17)	88.71	4.15
4-2-I	FS	Establishment of novel financial support for cancer hospitals to enhance the implementation of ICT in the distress management system	7.58 (6.98-8.18)	82.26	4.19
4-3-II	FS	Establishment of a system of medical fees that encourages nurses to undergo palliative care-related training	7.37 (6.82-7.92)	85.48	4.11
4-8-V					

Supplementary Table 1. Disclosure the compliance with the Guidance on Conducting and REporting DElphi Studies (CREDES)

CREDES major items	CREDES minor items	Comments	Page and line numbers
	1. Justification	The rationale for choosing the Delphi method can be found in the 'Study design and sample size' subsection of the 'Methods' section.	<i>Page 10 Line 213-216 and Page 11 Line 232-237</i>
Planning and design			
	2. Planning and process	Detailed planning and process of Delphi survey is described on the page and in the lines mentioned in the right-hand-side column.. A pilot survey was conducted. Three iterative rounds were conducted and how data should be handled between rounds was described.	<i>Page 11 Line 239- Page 13 Line 272</i>
	3. Definition of consensus	The consensus criteria were defined in advance, and items that did not meet the criteria were excluded. Items were revised while referring to the comments form the external expert panel to improve the consensus rate.	<i>Page 12 Line 252-261</i>
Study conduct			
	4. Informational input	Researchers provided objective and neutral information. We asked panel members to evaluate the appropriateness and arbitrariness of the survey. In addition, these pilot surveys were amended in advance.	<i>Page 11 Line 247-251 Page 12 Line 262-272</i>
	5. Prevention of bias	Researchers provided objective and neutral information. We asked panel members to evaluate the appropriateness and arbitrariness of the survey. In addition, these pilot surveys were amended in advance.	<i>Page 11 Line 247-251 Page 12 Line 262-273</i>
	6. Interpretation and processing of results	The interpretation of the results is described in the 'Discussion' section. Peer support and distress management ICT consistently exhibited low consensus rates, and we developed a discussion of the reasons of the same.	<i>Page 15 Line 321- Page 18 Line 377</i>
	7. External validation	The proposals derived from this study were submitted to the government (i.e. the Ministry of Health, Labour and Welfare in Japan) and the validity is going to be examined by the government-led council.	<i>Figure 1</i>
Reporting			
	8. Purpose and rationale	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 7 Line 109- Page 9 Line 157</i>
	9. Expert panel	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 11 Line 217- Page 12 Line 237</i>
	10. Description of the methods	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 9 Line 158- Page 14 Line 275</i>
	11. Procedure	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 13 Line 252- 261</i>
	12. Definition and attainment of consensus	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 13 Line 252- 262</i>
	13. Results	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 14 Line 276- Page 16 Line 319</i>
	14. Discussion of limitations	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 17 Line 362- Page 18 Line 377</i>
	15. Adequacy of conclusions	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Page 18 Line 378-381</i>
	16. Publication and dissemination	This has been described on the page and in the lines mentioned in the right-hand-side column.	<i>Figure 1</i>

Supplementary Table 2. Results of the first Delphi round in policy proposals

ID	Group	Policy proposals	Consensus rate (%)	Mean	Number of comments	Decision
4-0 Acceleration of EBPM using the logic model						
4-0- I	Others	Encouragement of the use of logic models for planning and evaluating the national palliative care policies for cancer	92.19	4.32	26	Passed
4-1 Standardisation of evaluation and recording distress						
4-1- I	RD	Proposing the establishment and encouragement of the use of a government-standardised distress screening procedure	85.94	4.24	47	Passed
4-1- II	RD	Requesting DCHs to report the status of patients screened for distress (using the 4-1- I procedure), annually	81.25	4.05		Passed
4-2 Implementation of ICT for distress management						
4-2- I	FS	Establishment of novel financial support for cancer hospitals to enhance the implementation of ICT in the distress management system	84.38	4.29	45	Passed
4-2- II	Others	Encouragement of the optimisation of law and commercialisation related to the utilisation of ICT to aid the implementation of the same in cancer hospitals	90.63	4.3		Passed
4-2- III	RD	Encouragement of the implementation of ICT systems at DCHs to enhance distress management strategies	78.13	4.02		Passed with modifications
4-3 Outpatient placement of full-time HCPs to manage distress						
4-3- I	RD	Establishment of DCHs' novel requirements for 'outpatient palliative care' to encourage the placement of full-time nurses (and if possible, psychologists) to manage distress at outpatient oncology units	73.44	4.03	49	Passed with modifications
4-3- II	FS	Ease the requirements for more than 600 hours of training for nurses with aim of cancer patient management medical fees for the delivery of palliative care	70.31	4		Passed with modifications
4-8- V						
4-3- III	FS	Revision of the regulations so that the 'cancer patient rehabilitation fee' can be calculated for not only for inpatients but also outpatients	89.06	4.37		Passed
4-4 Promotion of palliative care training programmes for HCPs						
4-4- I	BP	Correction of the completion target of the palliative care training from 'all physicians involved in cancer treatment' to 'all physicians, nurses, and cancer counselling support centre staff involved in cancer treatment'	76.56	4.02	48	Passed with modifications
4-5 Palliative care education prior to post-graduation						
4-5- I	Others	Encouragement of pre-graduate training on palliative care in the core curriculum of medical, nursing, and pharmacy students	92.19	4.48	40	Passed
4-5- II	Others	Encouragement of mandatory palliative care training in postgraduate clinical training for physicians, nurses, and pharmacists	90.63	4.38		Passed
4-5- III	Others	Encouragement to establish departments of palliative care in medical universities	92.19	4.35		Passed
4-6 Improving access to palliative care depending on patients' needs						
4-6- I	RD	Establishment of 'distress reception' at DCHs to encourage the access to palliative care services	76.56	3.92	44	Passed with modifications
4-6- II	RD	The palliative care centre leads the management of palliative care delivery at DCHs	79.69	4.02		Passed with modifications
4-6- III	RD	Announcing the availability of 'distress reception' at DCHs	85.94	4.14		Passed with modifications
4-7 Encouraging the use of cancer consultation and support centres						
4-7- I	RD	Encouragement of the use of cancer consultation and support centres for all cancer patients and caregivers from the time of their first visit, to inform them about the availability of palliative care services	75	4.03	41	Passed with modifications
4-7- II	RD	Adding 'information provision related to correct understanding and usage of palliative care services' and 'care coordination at DCHs' to the operation list of cancer consultation and support centres	71.88	3.95		Passed with modifications
4-7- IV	BP	Encouragement of the use of cancer consultation and support centres for people not availing the services of DCHs	87.5	4.13		Passed
4-7- VI	FS	Increasing the subsidy limit of cancer consultation and support centres and the implementation of more detailed incentives	79.69	4.08		Passed
4-14- III						
4-8 Ensuring opportunities for discussions between patients and HCPs						
4-8- I	FS	Revision of the upper limit of the number of calculations once per patient in the Cancer Patient Management Fee, Section A (e.g. advance care planning)	87.5	4.37	36	Passed
4-8- II	FS	Revision of the upper limit of the number of calculations six times per patient in the Cancer Patient Management Fee, Section B (e.g. psychological distress)	81.25	4.21		Passed
4-8- III	FS	Revision of the Cancer Patient Management Fee, Sections A/B, so that interviews with caregivers can be evaluated	79.69	4.05		Passed with modifications
4-8- IV	FS	Removal of the restrictions on outpatient palliative care management fees for patients only receiving opioid for pain management	90.63	4.51		Passed
4-9 Facilitation of peer support activities						
4-9- I	RD	Encouraging the provision of a room to perform peer support activities at DCHs	81.25	4.05	34	Passed
4-9- II	BP	Encouraging the development of regional general consultation support centres in cooperation with prefectures to enhance peer support activities for planning, operating, and managing	70.31	3.92		Passed
4-9- III	BP	Encouraging the implementation of peer supporter training courses in cooperation with prefectures	79.69	4.03		Passed
4-9- IV	BP	Encouragement of peer support activities conducted by patient support groups	81.25	4.08		Passed
4-9- V	BP	Encouragement to improve peer support training programmes	81.25	4.08		Passed
4-10 Early coordination of community care						
4-10- I	FS	Revision to make the home care medical fee available (originally only provided to those unable to visit hospitals) for patients with terminal cancer	84.38	4.24	32	Passed
4-10- II	FS	Revision of the upper limit to calculate the outpatient home cooperation guidance fee	87.5	4.22		Passed
4-10- III	FS	Continued access to home care coordination fee and home care emergency conferences fee	85.94	4.19		Passed
4-11 Consultations on palliative care from other institutions						
4-11- I	RD	Encouragement of palliative care consultations from non-DCHs and other healthcare institutions to DCHs	79.69	4	32	Passed with modifications
4-12 Close relationships among community healthcare workers						
4-12- I	RD	Requesting DCHs to provide annual reports regarding the detailed status of the meetings and training on palliative care skills in the community	68.75	3.83	32	Rejected
4-12- II	FS	Continue financial support for the community palliative care coordination meetings and workshops	81.25	4		Passed
4-13 Facilitation of bereavement care						
4-13- I	BP	Encouragement of the development of a bereavement care program along with the existing peer support training programmes	76.56	3.89	34	Passed with modifications
4-13- II	Others	Encouragement of research and development on bereavement care funded by the MHLW research grants	79.69	4.06		Passed with modifications
4-14 Cancer consultations from remote locations						
4-14- I	RD	Encouragement of cancer counselling and support using ICT systems for people living in remote locations, away from DCHs	85.94	4.11	35	Passed with modifications
4-15 Providing information on palliative care in the community						
4-15- I	BP	Distribution of materials and information regarding palliative care at regional comprehensive support centres and healthcare centres in the region, in cooperation with prefectures	95.31	4.25	30	Passed with modifications
4-15- II	BP	Encouragement of the coordination between the reception of the 4-15 - ③ and cancer hospitals, when patients with related needs emerged	93.75	4.25		Passed
4-16 Social awareness of palliative care						
4-16- II	BP	Encouragement of social awareness related to palliative care through social networking services	85.94	4.24	34	Passed
4-16- III	BP	Encouragement of social awareness related to palliative care towards patients screened for cancer	75	3.95		Passed
4-17 Palliative cancer care education in schools						
4-17- I	BP	Encouragement of the dissemination of cancer education materials published by the MEXT to be used in school education	89.06	4.24	32	Passed
4-17- II	BP	Encouragement to conduct cancer education workshops for faculty development and to increase the number of external lecturers	87.5	4.17		Passed
4-17- III	BP	Publish the list of external lecturers involved in cancer education who have ensured faculty development in prefectures	76.56	3.94		Passed

Supplementary Table 3. Results of the second Delphi round in policy proposals

ID	Group	Policy proposals	Consensus Rate (%)	Mean	Number of comments	Decision
4-0 Acceleration of EBPM using the logic model						
4-0- I	Others	Encouragement of the use of logic models for planning and evaluating the national palliative care policies for cancer	93.75	4.27	24	Passed
4-1 Standardisation of evaluation and recording distress						
4-1- I	RD	Proposing the establishment and encouragement of the use of a government-standardised distress screening procedure	87.5	4.18		Passed with modifications
4-1- II	RD	Requesting DCHs to report the status of patients screened for distress (using the 4-1- I procedure), annually	73.44	3.85	32	Passed with modifications
4-1- III	Others	Research grant of the MHLW to develop methods for identifying patients who have an urgent need to be screened for distress and its optimal procedure	87.5	4.21		Passed with modifications
4-2 Implementation of ICT for distress management						
4-2- I	FS	Establishment of novel financial support for cancer hospitals to enhance the implementation of ICT in the distress management system	81.25	4.18		Passed
4-2- II	Others	Encouragement of the optimisation of law and commercialisation related to the utilisation of ICT to aid the implementation of the same in cancer hospitals	87.5	4.29	34	Passed
4-2- III	RD	Encouragement of the implementation of ICT systems at DCHs to enhance distress management strategies after assessing the effects of 4-2- I and 4-2- II	70.31	3.87		Passed with modifications
4-3 Outpatient placement of full-time HCPs to manage distress						
4-3- I	RD	Establishment of DCHs' novel requirements for 'outpatient palliative care' to encourage the placement of full-time nurses at outpatient oncology units. In addition, a system in which pharmacists, psychologists and medical social workers can encounter patients when required at the outpatient palliative care unit is desirable	85.94	4.45		Passed
4-3- II	FS	Establishment of a system for medical fees that encourage nurses to undergo palliative care-related training	81.25	4.18	37	Passed
4-3- III	FS	Revision of the regulations so that the 'cancer patient rehabilitation fee' can be calculated for not only for inpatients but also outpatients	89.06	4.37		Passed
4-4 Promotion of palliative care training programmes for HCPs						
4-4- I	BP	Correction of the completion target of the palliative care training from 'all physicians involved in cancer treatment' to 'all physicians, nurses and pharmacists involved in cancer treatment'	79.69	4.16	35	Passed
4-5 Palliative care education prior to post-graduation						
4-5- I	Others	Encouragement of pre-graduate training on palliative care in the core curriculum of medical, nursing and pharmacy students	89.06	4.47		Passed
4-5- II	Others	Encouragement of mandatory palliative care training in postgraduate clinical training for physicians, nurses and pharmacists	89.06	4.35	30	Passed
4-5- III	Others	Encouragement to establish departments of palliative care in medical universities	85.94	4.37		Passed
4-6 Improving access to palliative care depending on patients' needs						
4-6- I	RD	Encouragement to provide patients and their caregivers with information regarding the facilities to consult regarding their distress	93.75	4.44		Passed
4-6- II	RD	The palliative care centre leads the management of palliative care delivery (including 4-6- I) at the DCHs	81.25	4.03	32	Passed
4-6- III	RD	Encouragement to provide patients and their caregivers with information regarding the facilities to consult regarding their distress	89.06	4.26		Deleted due to duplicate concept as 4-6- I
4-7 Encouraging the use of cancer consultation and support centres						
4-7- I	RD	Encouragement to inform all cancer patients and caregivers regarding the use of cancer consultation and support centres from the time of their first visit, to inform them about the availability of palliative care services	90.63	4.42		Passed
4-7- II	RD	Adding 'information provision related to usage of palliative care services' and 'care coordination at DCHs' to the operation list of cancer consultation and support centres	89.06	4.23	30	Passed with modifications
4-7- IV	BP	Encouragement of the use of cancer consultation and support centres for people not availing the services of DCHs	87.5	4.24		Passed
4-7- VI	FS	Increasing the subsidy limit of cancer consultation and support centres and the implementation of more detailed incentives	78.13	4.10		Passed with modifications
4-8 Ensuring opportunities for discussions between patients and HCPs						
4-8- I	FS	Revision of the upper limit of the number of calculations once per patient in the Cancer Patient Management Fee, Section A (e.g. advance care planning)	90.63	4.48		Passed
4-8- II	FS	Revision of the upper limit of the number of calculations six times per patient in the Cancer Patient Management Fee, Section B (e.g. psychological distress)	82.81	4.31	28	Passed
4-8- III	BP	Encouragement of care delivery toward caregivers and promote related effective initiatives	95.31	4.47		Passed
4-8- IV	FS	Removal of the restrictions on outpatient palliative care management fees for patients only receiving opioid for pain management	92.19	4.52		Passed
4-9 Facilitation of peer support activities						
4-9- I	RD	Encouraging the provision of a room to perform peer support activities at DCHs	75	3.95		Passed with modifications
4-9- II	BP	Encouraging the development of regional general consultation support centres in cooperation with prefectures to enhance peer support activities for planning, operating and managing	79.69	3.94		Passed
4-9- III	BP	Encouraging the implementation of peer supporter training courses in cooperation with prefectures	84.38	4.00	22	Passed
4-9- IV	BP	Encouragement of peer support activities conducted by patient support groups	90.63	4.11		Passed
4-9- V	BP	Encouragement to improve peer support training programmes	89.06	4.10		Passed
4-10 Early coordination of community care						
4-10- I	FS	Revision to make the home care medical fee available (originally only provided to those unable to visit hospitals) for patients with terminal cancer	87.5	4.32		Passed
4-10- II	FS	Revision of the upper limit to calculate the outpatient home cooperation guidance fee	89.06	4.31	26	Passed
4-10- III	FS	Continued access to home care coordination fee and home care emergency conferences fee	89.06	4.31		Passed
4-11 Consultations on palliative care from other institutions						
4-11- I	RD	Encouragement to disseminate information on palliative care consultations from non-DCHs and other healthcare institutions to DCHs	87.5	4.16	16	Passed
4-12 Close relationships among community healthcare workers						
4-12- I	FS	Continue financial support for the community palliative care coordination meetings and workshops	87.5	4.18	18	Passed
4-13 Facilitation of bereavement care						
4-13- I	BP	Creating an environment where training on bereavement care is provided to peer supporters who wish to receive the training	78.13	3.97	23	Passed with modifications
4-13- II	Others	Encouragement of research to investigate the optimal strategies on bereavement care delivery through the Health and Labour Sciences Research Grants of the MHLW	84.38	4.19		Passed
4-14 Cancer consultations from remote locations						
4-14- I	RD	Encouragement of cancer counselling and support using ICT systems or telephone for people living in remote locations, away from DCHs	84.38	4.11	22	Passed
4-15 Providing information on palliative care in the community						
4-15- I	BP	Distribution of materials and information regarding palliative care at comprehensive support centres, healthcare centres and city-/town-halls in the region in cooperation with prefectures	89.06	4.32	20	Passed
4-15- II	BP	Encouragement of the coordination between the reception of the 4-15 - ① and cancer hospitals, when patients with related needs emerged	89.06	4.31		Passed
4-16 Social awareness of palliative care						
4-16- I	BP	Encouragement of activities to dispel the negative image of palliative care such as the end of life care, and improve the image of palliative care as an essential clinical practice	71.88	3.97		Passed with modifications
4-16- II	BP	Encouragement of social awareness related to palliative care through social networking services	82.81	4.11	24	Passed with modifications

4-16-III	BP	Encouragement of social awareness related to palliative care towards patients screened for cancer	82.81	4.02		Passed with modifications
4-17 Palliative cancer care education in schools						
4-17- I	BP	Encouragement of the dissemination of cancer education materials published by the MEXT to be used in school education	85.94	4.19		Passed
4-17- II	BP	Encouragement to conduct cancer education workshops for faculty development and to increase the number of external lecturers	90.63	4.32	23	Passed with modifications
4-17- III	BP	Publish the list of external lecturers involved in cancer education who have ensured faculty development in prefectures	75	3.98		Passed with modifications