

Quality of cancer treatment care before and after a palliative care pathway: bereaved relatives' perspectives

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► Additional supplemental material is published online only. To view, please visit the journal online (http://dx.doi. org/10.1136/spcare-2023-004495).

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Received 18 July 2023 Accepted 23 October 2023



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To cite: van der Padt -Pruijsten A, Leys MBL, Oomen-de Hoop E, *et al. BMJ Supportive & Palliative Care* Epub ahead of print: [please include Day Month Year]. doi:10.1136/ spcare-2023-004495

ABSTRACT

Objective Appropriate communication between healthcare providers and patients and their families is an essential part of good (palliative) care. We investigated whether implementation of a standardised palliative care pathway (PCP) facilitated communication, that is, aspects of shared decision-making (SDM), including advance care planning (ACP) conversations and satisfaction with care as experienced by bereaved relatives of patients with advanced cancer.

Methods We conducted a prospective preintervention and postintervention study in a hospital. Questionnaires were sent to relatives of patients who died between February 2014 and February 2015 (pre-PCP period) or between November 2015 and November 2016 (post-PCP period). Relatives' perceptions on communication and satisfaction with care were assessed using parts of the Views of Informal Carers—Evaluation of Services and IN-PATSAT32 Questionnaires.

Results 195 (46%) and 180 (42%) bereaved relatives completed the questionnaire in the pre-PCP and post-PCP period, respectively. The majority of all patients in both the pre-PCP period and the post-PCP period had been told they had an incurable illness (92% and 89%, respectively, p=0.544), mostly in the presence of a relative (88% and 85%, respectively, p=0.865) and had discussed their preferences for end-of-life (EOL) treatment (82% and 76%, respectively, p=0.426). Bereaved relatives were reasonably satisfied with the received hospital care in both groups.

Conclusions We found no overall effect of the PCP on the communication process and satisfaction with EOL care of bereaved relatives. Before the use of the PCP bereaved relatives already reported favourably about the EOL care provided.

WHAT IS ALREADY KNOWN ON THIS TOPIC

- ⇒ Early integration of palliative and oncology care is important in order to comply with patients' preferences for medical treatment and care.
- ⇒ Shared decision-making (SDM) is one of the key elements of patient-centred palliative care and requires discussion of medical information and patients' values and preferences.
- ⇒ (Bereaved) relatives' perspectives can inform research on quality of care.

WHAT THIS STUDY ADDS

- ⇒ Use of a standardised palliative care pathway may be beneficial for the quality of hospital care for patients with advanced incurable cancer, but does not necessarily affect relatives' satisfaction with care.
- ⇒ Relatives are aware of challenges with the exchange of information.
- ⇒ Many bereaved relatives appreciate an aftercare discussion.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- ⇒ Improvement of information exchange between healthcare professionals is needed, since bereaved relatives were least satisfied with this aspect of care.
- ⇒ To optimise the quality and consistency of bereavement care, hospitals should routinely offer aftercare discussions to bereaved relatives, especially if patients die in the hospital.

INTRODUCTION

For patients with advanced, incurable cancer early integration of palliative and oncology care is important in order to be timely able to comply with their



preferences for medical treatment and care. 12 Shared decision-making (SDM) is one of the key elements of patient-centred palliative care.²⁻⁵ In SDM, patients with advanced, incurable, cancer may weight the possible benefits of anticancer treatment and potential prolongation of life versus the risk of complications with substantial deterioration of quality of life. Moreover, SDM includes advance care planning (ACP), that is, discussion of preferences for future treatment and care. Making decisions about appropriate treatment requires discussion of medical information (eg, diagnosis, prognosis, treatment options) and patients' values and preferences. Facilitators for SDM are, among others, a positive patient-physician interaction to ensure that patients trust their physicians and feel free to express their preferences, and involvement of family members and/or friends.²⁵ Furthermore, information exchange between healthcare professionals, including information about ACP conversations, is important for patients' satisfaction and continuity of care.8

To support healthcare professionals who are not specialised in palliative care in integrating palliative care in oncology care, we developed a standardised digital palliative care pathway (PCP). This structured electronic medical checklist aims to support healthcare professionals in exploring patients' values, needs and preferences, discussing possible interventions and coordination of (future) care, and documenting these discussions and decisions. The PCP includes guidance on identifying patients who might benefit from palliative care, by using the surprise question ('Would you be surprised if this patient died within the next 12 months?'). After opening the PCP, various prompts guide the physician in exploring patients' needs in all palliative care dimensions: physical, psychosocial and/ or of spiritual nature. Furthermore, the PCP facilitates involvement of family and relatives and coordination of care. This coordination of care is facilitated by suggesting communication with the patient's general practitioner and involvement of a palliative care team, pain team, social worker, psychologist and/or spiritual counsellor (online supplemental file 1). Using this PCP resulted in fewer medical interventions (including anticancer treatments), possibly indicating increased awareness among physicians of patients' impending death. 10

The effect of complex interventions such as early integration of palliative care in oncology care is mainly studied by assessing the use of medical care at the end of life (EOL; eg, emergency room visits, used chemotherapy) or patients' quality of life. ^{11–13} Patients' and (bereaved) relatives' perspectives, and their satisfaction about care are also important outcome measures in research on quality of care. ^{14–20} However, whether early integration of palliative care in oncology care affects the quality of palliative and EOL care has barely been studied. ²¹ ²² We investigated whether

implementation of the PCP facilitated communication, that is, SDM, including ACP conversation, and satisfaction with care at EOL, as experienced by bereaved relatives.

METHODS

Study design and population

This preintervention and postintervention study was part of a project investigating the effects of implementing a standardised PCP for patients with advanced cancer in a large teaching hospital in The Netherlands. Data were collected concerning adult patients who had been treated at the inpatient and/or outpatient clinic of the Departments of Oncology/Haematology and Lung Diseases and who died between February 2014 and February 2015 (pre-PCP period) or between November 2015 and November 2016 (post-PCP period). Details of this study have been reported elsewhere. 9 10

Four weeks after a patient's death, a letter was sent to the home address of the patient with our condolences and an advance notice about a survey studying the quality of and satisfaction with care at EOL as perceived by bereaved relatives. The questionnaire with further information about the survey was sent to the bereaved relatives 10–12 weeks after the patient's death. Relatives who did not wish to participate were asked to voluntarily disclose their reason for non-participation on the front page of the questionnaire and return that page.

Measurements

A questionnaire comprising 73 items was developed (online supplemental file 2). Sociodemographic characteristics of the patients and their relatives included gender, relationship, religion and level of education. The quality of communication between patients, their relatives and healthcare professionals in the last 3 months of life was measured using relevant items of the questionnaire developed by Witkamp et al and from the Views of Informal Carers-Evaluation of Services (VOICES) Questionnaire. 19 20 Questions from the VOICES Questionnaire were translated into Dutch and back into English according to the European Organisation for Research and Treatment of Cancer (EORTC) guidelines for translating questionnaires.²³ The questionnaire was pilot-tested among a mixed group of 13 persons (age between 31 and 66 years; educational level from low to high International Standard Classification of Education (ISCED); both healthcare professionals and lay people). They understood the questions and experienced no difficulties in answering them.

The EORTC IN-PATSAT32 Questionnaire was used to measure relatives' satisfaction with hospital care. ¹⁴ This questionnaire includes 11 multi-item and 3 single-item scales (32 items in total) on the quality of care provided by hospital doctors and nurses, as well as other aspects of the quality of hospital care.

Answers are given on a five-point Likert scale (poor/fair/good/very good/excellent) and scores are standardised through linear transformation to a 0–100 scale. A higher score implies that relatives were more satisfied with care.

The last question in the questionnaire was an open text box where participants could add comments or ask for support if necessary.

Statistical analyses

Participants in this study were relatives of patients who were included in the study in either the pre-PCP or the post-PCP period; in the post-PCP period patients and their relatives were included irrespective of whether the PCP had been used (ie, the intention-to-treat principle was applied). The statistical significance of differences in patients' and relatives' characteristics and outcome measures between the pre-PCP and post-PCP period was tested using Mann-Whitney U tests for continuous variables, χ^2 or Fisher's exact tests for categorical variables, and χ^2 tests for trends for ordinal variables. A power analysis was not performed, since the study concerned a secondary analysis of data from a larger study. A per-protocol analysis was carried out where pre-PCP experiences of bereaved relatives were compared with the experiences of only those relatives of patients in the post-PCP period for whom the PCP had actually been used.

RESULTS

Questionnaires were sent to 424 relatives in the pre-PCP and 426 relatives in the post-PCP period. In the pre-PCP period, 241 (57%) relatives responded, of

whom 46 (11%) filled out the front page only and 195 (46%) completed the questionnaire (figures 1). In the post-PCP period, 230 (54%) relatives responded, of whom 50 (12%) filled out the front page only and 180 (42%) completed the questionnaire. The most common reasons for not participating were not interested to participate; too painful/still in mourning; mourning closed; only a short period of in-hospital care. Some relatives wrote a short statement of gratitude or of not being satisfied with delivered care in the hospital on the front page of the questionnaire (figure 1). In 105 (58%) of the 180 post-PCP patients whose relatives had completed the questionnaire, the PCP had been used in the last phase of their life.

Characteristics of patients and relatives

The mean age of the patients whose relatives completed the questionnaires was 71 years in the pre-PCP period and 73 years in the post-PCP period (p=0.042); somewhat more than half of all patients were male (58% and 59%, respectively). Gastrointestinal cancer was the most common primary cancer in both groups (34% and 33%, respectively). The majority of patients was married or living with a partner (76% and 77%, respectively) and had children (81% and 86%, respectively). Of all patients, one-third were religious, of whom a small part were Islamic (1% and 3%, respectively). Finally, most patients died outside the hospital and home was the most common place of death (45% and 42%, respectively). The relatives participating in the study had a mean age of 64 and 62 years, respectively, and were predominately the patient's partner (70% and 59%, respectively) and in good health (62%)

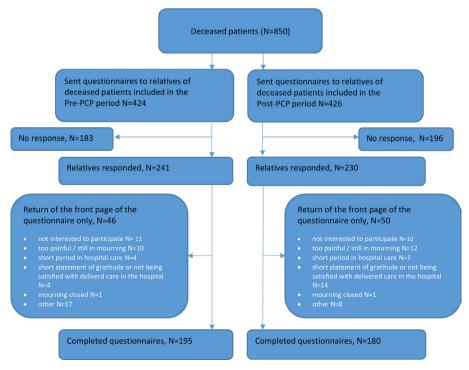


Figure 1 Flow chart of inclusion.

and 58%, respectively) (table 1). No significant differences regarding the characteristics of relatives were found between the preintervention and postintervention periods. Similar results were found in the perprotocol analyses.

Communication

No significant differences were found in relatives' appreciation of communication characteristics between the pre-PCP and post-PCP period. According to relatives, most patients had been told they had an incurable illness in the presence of a relative (88% and 85%, in pre-PCP and post-PCP period, respectively) and most patients had discussed their preferences EOL treatment (82% and 76%, respectively). Relatives also reported that 14% of the patients in the pre-PCP period and 13% in the post-PCP period had needed more discussion about their preferences; 12% and 13% of the relatives, respectively, were not sure whether the patients had needed more discussion. For more than half of the patients in both groups the message of having an incurable disease had been discussed more than 3 months before death. Most relatives (79% and 79%, respectively) had been able to find out all they wanted to know about the illness of their loved ones, but for 25% and 29% of the relatives, respectively, more detailed information had been desirable. In both periods, most relatives had been involved with decisions about their loved one's care and were satisfied with their involvement. Furthermore, the majority had been told their loved one was likely to die (86% and 82%, respectively), with two-thirds being satisfied with how this was told (68% and 71%, respectively) (table 2). In the per-protocol analysis, more relatives had been told their loved ones were likely to die in the post-PCP period compared with the pre-PCP period (86% and 90% respectively, p=0.042).

Place of death and bereavement support for relatives

Two-thirds of the patients had died at their preferred place of death (66% and 58%, respectively) and the majority of relatives felt the place of death had been the right place (88% and 85%, respectively (table 3)). Around a quarter of the relatives in both groups had spoken with a hospital healthcare professional after the death of their loved ones; 18% of the relatives in the pre-PCP period and 21% of the relatives in the post-PCP period would have appreciated a conversation with a healthcare professional in the hospital after the death of their loved one. One-third of the relatives in both groups had great difficulty to cope with sorrow and to focus on other activities. The majority received (amply) sufficient help from family and friends (93% and 91%, respectively). A small percentage (10% and 8%, respectively) of the relatives had needed help or support from health and/or social services after the death of the patient (table 3). Differences between

the pre- and post-PCP period were not significant and similar results were found in the per-protocol analyses.

Satisfaction with hospital care

The median score for general satisfaction with hospital care was 75 in both the pre-PCP and post-PCP period. Satisfaction scores were lowest for doctors' availability, waiting time in general, hospital access and exchange of information (median scores on all four items 50 and 50, respectively). Satisfaction scores with the exchange of information were lower in the post-PCP period (p=0.042). Satisfaction scores were highest for nurses' technical skills (75 and 71, respectively), nurses' interpersonal skills (75 and 67, respectively) and for general satisfaction (75 and 75, respectively) (table 4). Similar results were found in the per-protocol analyses.

DISCUSSION

This study evaluated the effect of implementing a PCP on bereaved relatives' experiences of communication and their satisfaction with EOL care. We found that bereaved relatives reported quite positively about communication and satisfaction with care even before implementation, and that their experience did not further improve after implementation of the PCP.

In the pre-PCP period, 92% of all patients had been told they had an incurable illness and 82% had discussed their preferences for EOL treatment. In our study, communication practices in the pre-PCP period were comparable to practices after interventions to improve EOL or ACP conversations in several randomised controlled trials.^{24–26} Timely discussing patients' prognosis and EOL issues, preferably in the presence of a relative, is considered an important element of ACP and high-quality palliative care. ¹² In our study, EOL discussions mostly took place in the presence of a relative (about 85% in both groups) and for a third of the patients this occurred at least 1 year before death. Most relatives were pleased with their involvement in decision-making about their loved one's care in both periods. In other studies, diagnosis and EOL issues are less often explicitly addressed, and also less frequently discussed in the presence of a relative. 27 28 In a survey in seven countries of physicians' intentions regarding discussing prognosis with terminally ill patients with cancer and their relatives, training in palliative care and a younger age of the physician were found to be associated with an active intention to discuss prognosis.²⁷ The relatively high involvement of relatives in SDM in our study might be associated with a relatively young age of physicians at the participating departments, as well ass a preexisting policy to promote palliative care.

To support bereaved relatives in coping with grief after the death of a loved one, an aftercare discussion with the involved healthcare professional can be helpful.²⁹ In addition to closure, such discussions can also identify relatives with long-term grief

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Table 1	Characteristics of the	nationts and their	relatives in the	nre-P(Pn	eriod and the	nnst-Pl P narind
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	Pre-PCP (n=195)	Post-PCP (n=180)	P value
Patients			
Age at death (years) (mean SD)	71.0 (10.3)	72.9 (11.0)	0.042
Gender			
Male	113 (58)	106 (59)	0.854
Primary cancer			
Gastrointestinal	66 (34)	59 (33)	0.209
Lung	65 (32)	44 (23)	
Urogenital	24 (12)	28 (16)	
Haematological	22 (11)	31 (16)	
Breast	15 (7)	21 (11)	
Other	10 (5)	11 (6)	
Marital status			
Married/living with a partner	148 (76)	138 (77)	0.979
Widowed	31 (16)	28 (16)	
Other	15 (8)	13 (7)	
Children	(-)	. (*)	
Yes	158 (81)	155 (86)	0.254
Living situation		. 23 (00)	0.23
Alone	40 (21)	30 (17)	0.079
With partner	137 (70)	120 (67)	0.075
Other	17 (9)	29 (16)	
Education*	17 (3)	23 (10)	
Low (ISCED level 1–2)	74 (38)	61 (34)	0.163
Intermediate (ISCED 3–4)	77 (39)	75 (42)	0.105
High (ISCED 5–6)	32 (16)	36 (20)	
Other	7 (4)	1 (1)	
Religion	, (")	1 (1)	
Yes	71 (36)	71 (39)	0.681
Catholic/Protestant	58 (30)	59 (33)	0.001
Islamic	1 (1)	3 (2)	
Other	11 (6)	9 (5)	
Place of death	11 (0)	9 (3)	
Patient's own home	95 (49)	75 (42)	0.736
		75 (42)	0.750
Relatives' home	9 (5)	10 (6)	
Hospital	49 (25)	45 (25)	
Hospice	26 (13)	25 (14)	
Care home/nursing home	13 (7)	14 (8)	
Other	2 (1)	5 (3)	
Relatives	C2 C /11 O	(2.2/12.0)	0.503
Age (years) (mean SD)	63.6 (11.8)	62.2 (13.8)	0.502
Gender	442 (21)	406 (50)	2.522
Female	119 (61)	106 (59)	0.629
Relation	/		
Partner/spouse of patient	137 (70)	106 (59)	0.096
Child (in law) of patient	40 (21)	56 (31)	
Other	17 (9)	16 (9)	
General health			
Very good	22 (11)	28 (17)	0.668
Good	123 (62)	105 (58)	
Average	35 (18)	29 (16)	
Good days/bad days	15 (8)	13 (7)	
Bad	2 (1)	4 (2)	

ISCED, International Standard Classification of Education; PCP, palliative care pathway.

Table 2 Communication end-of-life

	Pre-PCP (n=195)	Post-PCP (n=180)	
	n (%)	n (%)	P value
Patient was told he/she had an incurable illness*			0.544
Yes, by a physician in the hospital (medical specialist/ward physician)	173 (92)	154 (89)	
Yes, by a family doctor or physician in a nursing home	6 (3)	6 (3)	
No	9 (5)	11 (6)	
Relative was present at the time of this message/discussion	171 (88)	153 (85)	0.865
How long before death the patient was told of his/her incurable illness			0.481
More than 12 months before death	53 (27)	55 (31)	
3–12 months before death	54 (28)	46 (26)	
1 week-3 months before death	65 (33)	57 (32)	
Less than a week before death	13 (7)	6 (3)	
Patient had discussed preference for EOL medical treatment with:	160 (82)	137 (76)	0.426
Partner	112 (57)	90 (50)	0.517
Children and/or other family members and/or friends	97 (50)	104 (58)	
Medical specialist/family doctor/ physician in a nursing home/nurse	130 (67)	113 (63)	
Patient had needed more discussion regarding his/her preferences for EOL medical treatment			0.866
No	136 (70)	122 (68)	
Yes	27 (14)	23 (13)	
Don't know	23 (12)	24 (13)	
Relative had been able to find out all he/ she wanted to know about his/her loved one's illness and how it would probably affect him/her during the illness	154 (79)	143 (79)	0.641
Relative would have liked to receive more detailed information	48 (25)	52 (29)	0.220
Relative's involvement with decisions about his/her loved ones's care			0.186
Very involved	157 (81)	150 (83)	
Fairly involved	29 (15)	19 (11)	
Not involved	5 (3)	3 (2)	
Don't know	3 (2)	2 (1)	
Relative' satisfaction about his/her involvement			0.899
Yes, satisfied	167 (86)	154 (86)	
No, wished to be more involved	18 (9)	13 (7)	
No, wished to be less involved	1 (1)	1 (1)	
Don't know	8 (4)	6 (3)	
Relative was told his/her loved one was likely to die	167 (86)	148 (82)	0.992
Relative was satisfied with how it was told The number of missings varied between n=		127 (71)	0.523

^{*}Multiple answers possible: 16 relatives in the pre-PCP group and 9 relatives in the post-PCP group gave two answers; in the post-PCP group one patient was told about the incurable disease by a nurse.

[†]Multiple answers possible; patients had discussed preferences for medical care with somebody else in 13 times in the pre-PCP period and 11 times in the post-PCP period.

EOL, end-of-life; PCP, palliative care pathway.

Table 3 Flace of death and beleaveillent support for relative	Table 3	Place of death and bereavement support	for relatives
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	Pre-PCP (n=195)	Post-PCP (n=180)	P value
	n (%)	n (%)	
Patient died at his/her preferred place of death	129 (66)	104 (58)	0.571
On balance, relatives felt their loved one died in the right place			0.994
Yes	172 (88)	153 (85)	
No	13 (7)	12 (7)	
Not sure	7 (4)	6 (3)	
Relative had an aftercare discussion with a hospital healthcare professional regarding the death of their loved one	46 (24)	48 (27)	0.377
Relative felt this discussion was helpful			0.731
Yes	36 (78)	34 (71)	
No	4 (9)	4 (8)	
Don't know	6 (13)	9 (19)	
Relative did not have, but would have appreciated an aftercare discussion			0.539
Yes	26 (18)	25 (21)	
No	66 (45)	58 (48)	
Don't know	53 (36)	36 (30)	
How much effort does it take for the relative to detach from thoughts of, or grief over their loved one and focus on other possible new obligations, activities or contacts			0.028
Much effort	75 (38)	58 (32)	
Some effort	97 (50)	75 (42)	
No effort	18 (9)	37 (21)	
Relative had received support from family and friends to cope with the grief and loss of his/her loved one			0.537
Amply sufficient	119 (61)	98 (54)	
Sufficient	63 (32)	67 (37)	
Insufficient	9 (5)	4 (2)	
Relative had needed support from the health and/or social services since their loved one's death	20 (10)	15 (8)	0.552
The number of missings varied between $n=0-7$ i PCP, palliative care pathway.	n the pre-PCP period and n=1-	–11 in the post-PCP period.	

disorders who should be referred to formal grief support services. 29 30 In our study, aftercare discussions in the hospital occurred in approximately 25% of all cases in both groups; the majority of bereaved relatives were helped by these discussions. About 20% in both groups would have appreciated an aftercare discussion. A recent study of grief care focussing on support after a death in the hospital found that this care was provided ad hoc, based on the good will of individual staff members. 30 This service should be offered routinely to optimise the quality and consistency of bereavement care.

We found that bereaved relatives were reasonably satisfied with the care as received in the pre-PCP and the post-PCP period, with a median score of 75 (range: 0–100). Bereaved relatives' satisfaction was lowest for doctors' availability, waiting time in general, hospital access and exchange of information. Comparison with other studies is difficult since the IN-PATSAT32

Questionnaire is generally used to assess satisfaction of care of hospitalised patients. ¹⁴ ¹⁶ ³¹ However, since information exchange between different care settings is important for the continuity of care, especially at EOL, improvement trajectories seem to be required. ³²

Strengths and limitations

This study has several strengths: it is the first prospective preintervention and postintervention study in the daily practice on an inpatient and outpatient clinic for oncology patients where a standardised digital PCP was implemented, supporting healthcare professionals not specialised in palliative care in providing structured palliative care and the initiation of ACP conversations. We have measured the communication process and satisfaction with care at EOL from a bereaved relatives perspective with two validated questionnaires (VOICES and IN-PATSAT32). Yet, the IN-PATSAT32 was validated to measure inpatients'

Table 4 Satisfaction with hospital care according to EORTC-IN-PATSAT32

		Completed questions Pre-PCP		Completed questions Post-PCP		
	Scale name	n	Pre-PCP	n	Post-PCP	P value
		Median (IQR)			Median (IQR)	
Doctors	Technical skills	193	67 (50–83)	169	67 (50–83)	0.388
	Interpersonal skills	192	67 (42–83)	169	67 (42–92)	0.606
	Information provision	191	67 (50–75)	168	58 (50–83)	0.642
	Availability	168	50 (38–75)	148	50 (38–75)	0.549
Nurses	Technical skills	179	75 (50–92)	148	71 (50–85)	0.567
	Interpersonal skills	182	75 (50–92)	150	67 (50–92)	0.238
	Information provision	174	58 (50-75)	149	58 (50–75)	0.398
	Availability	179	63 (50–75)	148	50 (38–75)	0.077
Other areas	Other personal interpersonal skills and information provision	182	58 (50–75)	157	58 (50–75	0.876
	Waiting time	179	50 (38–75)	161	50 (50–75)	0.451
	Hospital access	186	50 (38–75)	163	50 (38–75)	0.169
	Exchange information	174	50 (50-75)	152	50 (25–75)	0.042
	Comfort/cleanness	185	50 (50-75)	162	75 (50–75)	0.637
	General satisfaction	180	75 (50–100)	159	75 (50–75)	0.326
EORTC, European	n Organisation for Research ar	nd Treatment of Canc	er.			

satisfaction with care, whereas we used it to measure bereaved relatives' perspectives even though it has not been validated for this purpose. In future research, validation of the IN-PATSAT 32 questionnaire to assess relatives' perspectives of care could be considered.

A limitation of the study concerns the background of the included patients and their relatives. Mainly relatives with a Catholic/Protestant religious background responded, even though we invited all bereaved relatives of patients fulfilling the inclusion criteria. We expected more diversity in their backgrounds since our hospital is situated in an urban area with a diverse population. What is perceived as high-quality palliative care may vary based on people's religious backgrounds and cultural values.³³ For future research more diversity is needed with participants with diverse religious and ethnic backgrounds whose primary language may not be the dominant language in the country where the study is performed.³⁴

CONCLUSION

Implementation of the PCP in a large teaching hospital did not improve communication, including SDM and ACP conversations, or satisfaction with care at the EOL as experienced by bereaved relatives. However, communication and quality of care were experienced as rather good before the implementation of the PCP. This suggests a pre-existing awareness of the importance of high-quality palliative care, probably created by a previously deployed policy in the hospital to promote palliative care. Exchange of information between different health care professionals remains an

area of attention, as bereaved relatives were least satisfied with this aspect of the care provided.

Acknowledgements The authors would like to thank K Mataw and M Pruijsten for data collection and entry; H Sprokkop-Janssen for secretarial support; and C de Hoog, E Zijp, HJ van Esch, I Rietveld and H Penders for translation of the questionnaires according EORTC guidelines.

Contributors AvdP-P is principal investigator and conceived the study together with ML, CCDvdR and AvdH. Data were analysed by AvdP-P and EO-dH and they interpreted the results together with ML, CCDvdR and AvdH. AvdP-P drafted the manuscript and all authors read and, edited draft versions and approved the final version. AvdP-P is the guarantor.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests CCDvdR received consulting fees from Lilly Nederland BV (via her institution) and (grants from the Netherlands Organization for Health Research and Development and from the Dutch Cancer Society for work outside the submitted work.

Patient consent for publication Not applicable.

Ethics approval This study was conducted in accordance with the Declaration of Helsinki and was approved by the Medical Ethical Research Committee of the Maasstad Hospital (TWOR 2013/51). Netherlands Trial Register; clinical trial number: NL4400 (NTR4597); date registered: 27-04-2014.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement The data of this study are kept by AP and are available upon reasonable request.

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REFERENCES

- 1 Aspinal F, Addington-Hall J, Hughes R, *et al*. Using satisfaction to measure the quality of palliative care: a review of the literature. *J Adv Nurs* 2003;42:324–39.
- 2 Kaasa S, Loge JH, Aapro M, et al. Integration of oncology and palliative care: a lancet oncology commission. Lancet Oncol 2018;19:e588–653.
- 3 Elwyn G, Laitner S, Coulter A, et al. Implementing shared decision making in the NHS. BMJ 2010;341:bmj.c5146.
- 4 Stiggelbout AM, Van der Weijden T, De Wit MPT, et al. Shared decision making: really putting patients at the centre of healthcare. BMJ 2012;344:bmj.e256.
- 5 Covvey JR, Kamal KM, Gorse EE, et al. Barriers and facilitators to shared decision-making in oncology: a systematic review of the literature. Support Care Cancer 2019;27:1613– 37.
- 6 Goto Y, Miura H, Yamaguchi Y, et al. Evaluation of an advance care planning training program for practice professionals in Japan incorporating shared decision making skills training: a prospective study of a curricular intervention. BMC Palliat Care 2022;21:135.
- 7 Crawford GB, Dzierżanowski T, Hauser K, et al. Care of the adult cancer patient at the end of life: ESMO clinical practice guidelines. ESMO Open 2021;6:100225.
- 8 Haggerty JL, Reid RJ, Freeman GK, *et al.* Continuity of care: a multidisciplinary review. *BMJ* 2003;327:1219–21.
- 9 van der Padt-Pruijsten A, Leys MBL, Oomen-de Hoop E, *et al*. Effects of implementation of a standardized palliative care pathway for patients with advanced cancer in a hospital: a prospective pre- and postintervention study. *J Pain Symptom Manage* 2021;62:451–9.
- 10 van der Padt-Pruijsten A, Leys MBL, Hoop EO, *et al*. The effect of a palliative care pathway on medical interventions at the end of life: a pre-post-implementation study. *Support Care Cancer* 2022;30:9299–306.
- Bakitas M, Lyons KD, Hegel MT, et al. Effects of a palliative care intervention on clinical outcomes in patients with advanced cancer: the project ENABLE II randomized controlled trial. JAMA 2009;302:741–9.
- 12 Vanbutsele G, Van Belle S, Surmont V, *et al*. The effect of early and systematic integration of palliative care in oncology on quality of life and health care use near the end of life: a randomised controlled trial. *Eur J Cancer* 2020;124:186–93.
- 13 Nottelmann L, Groenvold M, Vejlgaard TB, *et al*. Early, integrated palliative rehabilitation improves quality of life of

- patients with newly diagnosed advanced cancer: the pal-rehab randomized controlled trial. *Palliat Med* 2021;35:1344–55.
- 14 Brédart A, Bottomley A, Blazeby JM, et al. An international prospective study of the EORTC cancer in-patient satisfaction with care measure (EORTC IN-Patsat32). Eur J Cancer 2005;41:2120–31.
- 15 van Roij J, Zijlstra M, Ham L, *et al*. Prospective cohort study of patients with advanced cancer and their relatives on the experienced quality of care and life (eQuiPe study): a study protocol. *BMC Palliat Care* 2020;19:139.
- 16 Engel M, Brinkman-Stoppelenburg A, Nieboer D, et al. Satisfaction with care of hospitalised patients with advanced cancer in the Netherlands. Eur J Cancer Care (Engl) 2018;27:e12874.
- 17 Neijenhuijs KI, Jansen F, Aaronson NK, et al. A systematic review of the measurement properties of the European organisation for research and treatment of cancer in-patient satisfaction with care questionnaire, the EORTC IN-Patsat32. Support Care Cancer 2018;26:2551–60.
- 18 Bausewein C, Daveson BA, Currow DC, et al. EAPC white paper on outcome measurement in palliative care: improving practice, attaining outcomes and delivering quality services recommendations from the European association for palliative care (EAPC) task force on outcome measurement. Palliat Med 2016;30:6–22.
- 19 Addington-Hall JM, O'Callaghan AC. A comparison of the quality of care provided to cancer patients in the UK in the last three months of life in in-patient hospices compared with hospitals, from the perspective of bereaved relatives: results from a survey using the VOICES questionnaire. *Palliat Med* 2009;23:190–7.
- 20 Witkamp FE, van Zuylen L, Borsboom G, et al. Dying in the hospital: what happens and what matters, according to bereaved relatives. J Pain Symptom Manage 2015;49:203–13.
- 21 van Baal K, Wiese B, Müller-Mundt G, *et al.* Quality of endof-life care in general practice - a pre-post comparison of a two-tiered intervention. *BMC Prim Care* 2022;23:90.
- 22 Epstein RM, Duberstein PR, Fenton JJ, et al. Effect of a patient-centered communication intervention on oncologistpatient communication, quality of life, and health care utilization in advanced cancer: the VOICE randomized clinical trial. JAMA Oncol 2017;3:92–100.
- 23 Johnson C, Aaronson N, Blazeby JM, et al. EORTC quality of life group guidelines for developing questionnaire modules. In: Module Development Guidelines Version 4 (2011). 4th edn. EORTC – Quality of Life, 2011.
- 24 Rodenbach RA, Brandes K, Fiscella K, et al. Promoting end-oflife discussions in advanced cancer: effects of patient coaching and question prompt lists. J Clin Oncol 2017;35:842–51.
- 25 Johnson SB, Butow PN, Bell ML, et al. A randomised controlled trial of an advance care planning intervention for patients with incurable cancer. Br J Cancer 2018;119:1182–90.
- 26 Korfage IJ, Carreras G, Arnfeldt Christensen CM, et al. Advance care planning in patients with advanced cancer: a 6-country, cluster-randomised clinical trial. PLoS Med 2020;17:e1003422.
- 27 Voorhees J, Rietjens J, Onwuteaka-Philipsen B, et al. Discussing prognosis with terminally ill cancer patients and relatives: a survey of physicians' intentions in seven countries. Patient Educ Couns 2009;77:430–6.
- 28 Evans N, Pasman HR, Vega Alonso T, et al. End-of-life decisions: a cross-national study of treatment preference discussions and surrogate decision-maker appointments. PLoS One 2013;8:e57965.
- 29 IKNL/Palliactief. Netherlands quality framework for palliative care. Utrecht; 2017. Available: netherlands-quality-frameworkfor-palliative-care_2.pdf(palliaweb.nl)
- 30 Boven C, Dillen L, Van den Block L, *et al.* In-hospital bereavement services as an act of care and a challenge: an

- integrative review. *J Pain Symptom Manage* 2022;63:e295–316.
- 31 Aboshaiqah A, Al-Saedi TSB, Abu-Al-Ruyhaylah MMM, *et al.* Quality of life and satisfaction with care among palliative cancer patients in Saudi Arabia. *Palliat Support Care* 2016;14:621–7.
- 32 Engel M, van der Padt-Pruijsten A, Huijben AMT, *et al*. Quality of hospital discharge letters for patients at the end of life: a retrospective medical record review. *Eur J Cancer Care* (*Engl*) 2022;31:e13524.
- 33 Torensma M, Suurmond JL, van der Heide A, et al. Care and decision-making at the end of life for patients with a non-Western migration background living in the Netherlands: a nationwide mortality follow-back study. J Pain Symptom Manage 2020;59:990–1000.
- 34 Gabler BS, Barrios A, Kakishita S, et al. Increasing diversity in research through dedicated language access services. Contemp Clin Trials 2021;106:106439.

Supplementary file 1: Description of the digital PCP

Palliative Care Pathway	Yes	No				
Button web link						
Pallialine.nl						
General						
Start date PCP	Open text box					
Name physician who started the PCP	Open text box					
Diagnosis	ICD10 list					
Explanation diagnosis which led to starting the PCP	Open text box					
Prognosis	Progressive (> mont	:hs)	Progressive deterio	ration (weeks)	Dying phase (d	days)
Criteria for entering palliative phase	Progressive disease	Deteriorating patient's condition	Severe complication of a medical treatment	No more anticancer treatment options available	Patients' wish to stop all medical treatments.	
WHO score	0: Able to carry out all normal activity without restriction	1: Restricted in strenuous activity but ambulatory and able to carry out light work	2: Ambulatory and capable of all self- care but unable to carry out any work activities; up and about more than 50% of waking hours	3: Symptomatic and in a chair or in bed for greater than 50% of the day but not bedridden	4: Completely disabled; cannot carry out any self- care; totally confined to bed or chair.	
Button ESAS in electronic health record ^a						
Button to add the patient to the multidisciplinary PCP meeting list						
Button to send notification to spiritual care						
End-of-Life discussion						
Is patient competent?	Yes	No				
Present at discussion	Relative(s)	Nurse(s)	Open text box			
Role of attending relatives	Partner	Child(ren)	Parent(s)	Brother(s) / sister(s)	Friend(s) / neighbour(s)	Open text box
Name attending relatives	Open text box					
Button web link RDMA brochure end-of-life discussion ^b						
Button to the Hospital documentation system: manual about bad-news						
conversation Description of the conversation about	Open text box					
disease trajectory Description of patient's concerns	Open text box					

Treatment restrictions	Any troatment rost	rictions are shown b	oro Doublo-click the n	nost recent one		
ireatment restrictions	Any treatment restrictions are shown here. Double-click the most recent one to edit. Click the plus sign to add a new one					
Treatment restriction/will statement:	Open text box to document the discussion with patient and relatives					
Description of patient values and preferences for the time ahead	Open text box					
Description of relatives values and preferences for the time ahead	Open text box					
Preference of patient and relatives regarding out-of- hospital stay	Home	Nursing home	Palliative care unit or hospice			
Actions following start						
of PCP Adjusting medication	Yes	No	After selecting 'yes'	the medication	overview	
najasting incateation	163	110	After selecting 'yes', the medication overview appears in which medication can be adjusted			
Adjusting outpatient visits to the hospital and/or appointments for diagnostics or medical interventions	Yes	No Only what needs to be adjusted can be indicated here, which will then have to be adjusted by outpatient clinic employees				
Informing other care givers who are involved in the care of the patient?	Yes	No	If yes, note here wh which manner	If yes, note here which doctor is informed and in which manner		
Contact with the general practitioner?	Yes	Still to be scheduled	Not being able to g	et in touch	No need	
Button consultation Palliative Care Team						
Follow-up discussion following this end-of-life discussion	Tick box when follow-up discussion is needed. Then schedule a follow-up discussion					
Information leaflet about palliative care handed out	Tick box when handed out					
Button consultation paramedical professionals and aftercare office ^c	List of categories, is	displayed only for	admitted patients.			
^a ESAS: Edmonton Symptom ^b RDMA: Royal Dutch Medic						

Supplementary file 2: Questionnaire Quality of Care - PCP

	General		Ref.nr.
1	Date of birth of your loved one?		
	day month year		
2	When did your loved one die?		
_	day month year		
3	What was his/her nationality?		
	Dutch other, namely		
	other, namely		
4	What was his/ her marital status?		
•	maried or living together		
	widow		
	divorced		
	single		
	other, namely		
5	Did your loved one had children?		
	yes		
	no		
6	What age is this child or these children?		
	(you can tick multiple boxes)		
	0-12 year number of children in th		
	13-18 year number of children in th		
	19 years and older number of children in the	nis age:	
7	How was your loved one's living situation?		
*	single-housing	without partner w	vith shild / shildren
	with partner	with parent(s)	vith child / children
	with partner and child / children	other	
	with partiter and erma / ermaren		
8	What was his/her highest completed level of educ	ation?	
	primary education	short-cycle tertiary	y education
	lower secondary education	bachelor or equiva	
	upper secondary education	other	
	post-secondary non-tertiary education		

9	Was your loved one religious or did he/she have a certain philosophy/religion of life?
	yes
	no
	don't know
10	Which philosophy/religion?
	Catholic
	Protestant
	☐ Islamic
	Buddhist
	Hindu
	don't know
	other
11	What kind of relation did you have with your loved one?
	partner
	mother
	father
	child
	other
12	What is your age?
	year
13	Are you a woman or a man?
	man
	woman
14	How is your health in general?
	very good
	good
	average
	good days / bad days
	bad
	The following questions are concerned with information that the health professionals may have
	given you and about his/ her illness, and about any anxiety or depression he/she may
	have had
15	During his/her last three months, did suffer from anxiety and/or nerves or get
	depressed? Please tick one box
	yes, most of the time
	yes, often

	yes, sometimes						
	rarely						
	never						
	b) If Yes: Did he/she get any help to cope with these problems?						
	yes no help was not necessary						
	c) If yes, did they help relieve the anxiety, nerves or depression?						
	yes, most of the time yes, often yes, sometimes						
	rarely						
	never						
	Please comment if you would like to:						
16	a) During's illness or incapacity were you able to find out all you wanted to know about his or her illness and how it was likely to affect him / her? yes no						
	b) Was there anything else you would like to have been explained to you in more detail? yes no						
	If yes, please say which things you would liked to have known more about:						
17	How involved were you with the decisions made about 's care?						
	very involved						
	fairly involved						
	not involved						
	don't know						
18	Were you satisfied with your involvement? no, I wished to be more involved						
	no, I wished to be less involved						
	yes						
	don't know						
19	Were you told he/she was likely to die?						
	yes no						
	If yes, were you satisfied with the way you were told?						
	yes no						
•							

	Please comment if you would like to:
	If no, would you have liked to have been told? yes no
	Please comment if you would like to:
	The following questions are about the circumstances surrounding's death, and your
	feelings about the way in which the health and social services treated you and at that
	time.
20	Where did die?
	his/her own home
	your homes
	hospital
	hospice
	old people's home / nursing home
	on the way to hospital
	on the way to hospice
	other (please explain)
21	a) Did ever say that there was a place where he/she would like to die?
	yes
	don't know
	b) If yes, where was the place?
	at home
	In an old people's home / nursing home
	In a hospice
	In a hospital other (please explain)

22	Did he/she died in the place he/she wanted to die in?
	yes
	no
	don't know
	If no, what was the reason for that? Please tick one box only
	he/she changed his mind
	there was insufficient help for him/her to stay at home
	the family/carers were too tired to continue looking after him/her at home
	the staff at the old peoples/nursing home were no longer able to look after him/her
	he/she could no longer afford to stay there
	he / she deteriorated and dies so quickly that there wasn't time for him/her to be moved
	there were no beds available
	other (please explain)
23	On balance. Do you feel that where he dies was the right place for him or not?
	Yes, it was the right place
	No, it wasn't the right place
	Not sure
	The same
	If no, was it because
	It wasn't where he/ she wanted to die
	The care he / she received there was poor
	It was too far away from family and friends
	Other (please explain)
24	Is there any other help or support you would have liked from the health and/or social services since
	his/her death?
	yes no
	If yes, please comment on what you feel would have helped
	Shared decision-making End-of-life
25	Was your loved one told he/she had an incurable illness?
	Yes, by a medical specialist
	Yes by a ward physician
	no
26	Were you present during this message/discussion?
	yes
	no
	other
	Yes, by a family doctor or physician in a nursing home Yes, all above mentioned
26	
	<u></u> no
1	l athor

27	How long before death of your loved one's death was t	old about this incurable illness?
	More than 12 months before death	
	3-12 months before death	
	1 week – 3 months before death	
	Less than a week before death	
28	When this message was told to your loved one and/or	you, were you given the opportunity to talk about
28	it?	you, there you given the opportunity to talk about
	yes	
	no	
	don't know	
	Please comment if you would like to:	
29	Before his/her death, did your loved one discuss with s	omeone his/her preferences for end-of-life
	medical treatment? (You can tick multiple boxes)	
	yes, with:	
	partner	
	children	
	other family members	
	friends	
	family doctor	
	medical specialist	
	physician in a nursing home	
	nurse	
	somebody else	
	no	
30	If yes, do you know which preferences were discussed?	
	yes	
	no	
	If yes, such as:	
31	Did they fulfill these preferences?	
	yes	
	□ no □	
	If no, please explain: Do you think if your loved one had needed more discuss	sions regarding his or her preferences for and of
32	life medical treatment?	sions regarding his or her preferences for end-or-
	no	
	don't know	
33	If yes, do you know about which preferences your love	d one wanted to discuss?
	yes	
	no	

	If yes, such as:					
34	Do you think your loved one was sufficiently involved in his or her medical treatment?					
	yes					
	sometimes					
	no					
	don't know					
	Please explain					
35	Was your loved one able to handle and complete issues with related to his or her imminent death?					
	It includes other issues than medical discussions, e.g. doing things from their bucket list, recovering lost					
	contacts, arranging funeral and/or legacy, saying goodbye, etc.					
	yes					
	no					
	Please explain					

Satisfaction with care in the Maasstad Hospital (out- and / or inpatient) How would you rate doctors, in terms of: Poor Fair Good Very **Excellent** good Their knowledge and experience of your illness? The treatment and medical follow-up they provided? The attention they paid to your physical problems? Their willingness to listen to all of your concerns? The interest they showed in you personally? The comfort and support they gave you? The information they gave you about your illness? The information they gave you about your medical tests? The information they gave you about your treatment? The frequency of their visits/consultations? The time they devoted to you during visits/consultations? How would you rate nursus (if applicable), in terms Poor Fair Good Excellent Very N.a. good

	Post-bereavement needs	
68	After the death of your loved one, have you spoken with a hospital healthcare professional regarding his/her illness or death? (You can tick multiple boxes)	
	yes, directly after his / her death	
	yes, after a few weeks	
	no	
69	If yes, have these discussion(s) helped you?	
	yes	
	don't know	
	Please explain	
70	If no, would you have appreciated talking to someone?	
	yes	
	no	
	don't know	
71	How much effort did it take to detach yourself from thoughts of, or grief over your loved ones and	
	focus on other possible new obligations, activities or contacts?	
	great difficulty	
	some difficulty	
	no difficulty	_
72	Have you received sufficient support from family and friends to cope with the grief and loss of your loved one?	
	yes, amply sufficient	
	yes, sufficient	
	no, insufficient	
73	If you might have a final remark concerning coping with the loss of your loved one, please explain it	
	below:	
		_