Published in final edited form as:

Psychooncology. 2011 September ; 20(9): 935–942. doi:10.1002/pon.1829.

Effect of patient and patient–oncologist relationship characteristics on communication about health-related quality of life

Keri L. Rodriguez^{1,2,3,*}, Nichole K. Bayliss^{1,4}, Stewart C. Alexander^{5,6,7}, Amy S. Jeffreys⁵, Maren K. Olsen^{5,8}, Kathryn I. Pollak^{9,10}, Sarah K. Garrigues⁷, James A. Tulsky^{5,6,7,11}, and Robert M. Arnold^{2,12,13}

¹Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, Pittsburgh, PA, USA

²Division of General Internal Medicine, Department of Medicine, School of Medicine, University of Pittsburgh, Pittsburgh, PA, USA

³Geriatric Research Education and Clinical Center, VA Pittsburgh Healthcare System, Pittsburgh, PA, USA

⁴Department of Sociology, University of Pittsburgh, Pittsburgh, PA, USA

⁵Health Services Research and Development, Durham VA Medical Center, Durham, NC, USA

⁶Department of Medicine, Duke University Medical Center, Durham, NC, USA

⁷Center for Palliative Care, Duke University Medical Center, Durham, NC, USA

⁸Department of Biostatistics and Bioinformatics, Duke University Medical Center, Durham, NC, USA

⁹Department of Community and Family Medicine, Duke University Medical Center, Durham, NC, USA

¹⁰Duke Comprehensive Cancer Center, Duke Cancer Prevention, Detection and Control Research Program, Duke University Medical Center, Durham, NC, USA

¹¹Center for Aging and Human Development, Duke University Medical Center, Durham, NC, USA

¹²Section of Palliative Care and Medical Ethics, University of Pittsburgh, Pittsburgh, PA, USA

¹³Institute to Enhance Palliative Care, University of Pittsburgh, Pittsburgh, PA, USA

Abstract

Objective—To test the effects of patient and patient–oncologist relationship factors on the time spent communicating about health-related quality of life (HRQOL) during outpatient clinic encounters between oncologists and their patients with advanced cancer.

Copyright © 2010 John Wiley & Sons, Ltd.

*Correspondence to: Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, 7180 Highland Drive, Bldg. 2, Rm. 4083E (151C-H) Pittsburgh, PA 15206, USA. Keri.rodriguez@va.gov.

Disclaimer: The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States Government.

Conflict of interest: All manuscript authors declare that there are no conflicts of interest (i.e. financial and personal relationships between themselves and others that might bias their work).

Methods—Using mixed methods, we coded for duration of HRQOL talk in a subset of audio-recorded conversations from the Study of Communication in Oncologist–Patient Encounters (SCOPE) Trial. Multivariable linear regression modeling was used to investigate the relationship between duration of HRQOL talk and gender concordance, race concordance, patient education status, patient marital status, and length of the patient–oncologist relationship (i.e. number of previous visits).

Results—Sixty-six encounters were analyzed that involved 63 patients and 34 oncologists. Patients were more likely to be female (51%), white (86%), married (78%), and possess a college or more advanced degree (33%). Most oncologists were male (82%) and white (82%). Mean ages were 58.8 years for patients and 44.9 years for oncologists. Regression results showed that the number of a patient’s previous visits with their oncologist was significantly associated with a longer duration of HRQOL talk during their audio-recorded clinic visit. The remaining independent variables, gender concordance, race concordance, patient education status, and patient marital status were not significant predictors of duration of HRQOL talk.

Conclusions—Our findings suggest that length of the patient–oncologist relationship is related to duration of HRQOL talk. Improvements in HRQOL communication may best be achieved through efforts directed at those in earlier stages of the doctor–patient relationship.

Keywords

cancer; oncology; patient–provider relationship; communication; quality of life

Introduction

In recent years, there has been a growing recognition that maintaining or improving quality of life for cancer patients, particularly in advanced cancer, is an important goal of care [1]. When a person is living with a cancer that can, at best, be controlled but not cured, treatments must be compatible with an acceptable health-related quality of life (HRQOL) for the patient. Indeed, HRQOL has been shown to affect decision making regarding therapeutic options [2]. HRQOL can be particularly useful in clinical decision making when determining if a new therapy is preferable to the standard therapy, comparing two standard therapies with similar survival outcomes, determining the balance between positive and negative effects of therapy, identifying the need for supportive care, and facilitating communication in clinical practice [2]. HRQOL has been shown to predict treatment response [2], survival duration [3], and other clinical outcomes in cancer patients [4–7], even more so than clinical indicators (e.g. histologic findings, weight loss) [2].

Attention to a patient’s HRQOL can only occur if physicians and patients talk about it [8]. Research suggests that HRQOL information is largely obtained through patient self-report [2]. Typically, physicians conduct informal, subjective assessments of HRQOL by asking patients ‘How have you been lately?’ [2]. More recently, the introduction of standardized, objective HRQOL instruments has been advocated as a means of identifying HRQOL issues for patients and cueing discussions of those issues during the clinic visit [9]. Routine discussions of HRQOL have particular clinical uses, including (1) fostering patient–provider communication; (2) identifying frequently overlooked problems; (3) prioritizing problems; and (4) evaluating the impact of palliative and rehabilitative efforts [1]. Further, length of time spent discussing HRQOL during a clinic visit is particularly important because the longer physicians allow patients to talk about their HRQOL, the more likely patients will be to express all of their concerns and integrate HRQOL needs into treatment decisions [10]. Without longer discussions, patients may feel their oncologist did not fully address their concerns [9], which may result in a loss of trust in the physician, decreased compliance,

patient isolation and loss of control, and a loss of opportunity to adapt to new circumstances [10].

Because HRQOL is important in clinical decision making and to patient outcomes, it is important to know how it is discussed in doctor–patient encounters. Research suggests that patient–provider communication about HRQOL needs improvement [9,11]. Although empirical data suggest that patient background characteristics are likely to influence their interaction with healthcare providers [12–14], there is a paucity of US data including actual conversations or direct observation of interpersonal aspects of care. Specifically, our mixed methods study was designed to explore the impact of patient and patient–oncologist relationship factors on the time spent communicating about HRQOL during outpatient encounters between oncologists and their patients with advanced cancer. We hypothesized that the length of time spent discussing HRQOL would be impacted by gender concordance, race concordance, patient education status, patient marital status, and length of the patient–oncologist relationship.

Patients and methods

Setting and participants

The data analyzed came from the Study of Communication in Oncologist–Patient Encounters (SCOPE) Trial. This randomized controlled trial was conducted from 2003 to 2008 at the Durham Veterans Affairs (VA) Medical Center and Duke University Medical Center (Durham, North Carolina) and the University of Pittsburgh Medical Center (Pittsburgh, Pennsylvania).

As described in detail elsewhere [15], the SCOPE trial recruited medical, hematologic, gynecologic, and radiation oncologists and their advanced cancer patients who were thought to be likely to die within a year. Advanced cancer was defined as the patient having a Stage IV malignancy that may limit their life to 1 year or less. We shared lists of upcoming scheduled clinic visits and asked oncologists or their mid-level provider staff to identify all of the patients on these lists with a Stage IV malignancy whom they ‘would not be surprised if they were admitted to an intensive care unit or died within 1 year’.

Patient and oncologist participants provided written informed consent to participate in the study and to have their clinic visits audio recorded and analyzed. A site principal investigator obtained consent from oncologists before any patients were enrolled, and a research assistant discussed the study with patients and obtained their consent immediately before their clinic visit began. The institutional review boards (IRBs) at each study site approved the overall project, which included a total of 415 baseline audio-recorded encounters involving 59 oncologists and 281 patients, as well as this subset analysis.

Data coding and analysis

Visit identification—Initially, we identified the 105 out of 415 baseline clinic encounters (involving 44 oncologists and 98 patients) that were found to contain prognostic talk by the oncologist [15]. Prognostic talk was defined as discussions about the likely course of the cancer or what the outcome might be (e.g. chances of survival) [16]. We analyzed visits containing prognostic talk by the oncologist because prognosis is central to decisions about therapeutic goals and the types of interventions used to achieve them [17]. Given the key role of HRQOL in such decisions, we thought that HRQOL talk was most likely to occur during these visits.

Qualitative analysis—From these 105 encounters, we randomly selected transcripts to code qualitatively for HRQOL talk. We defined HRQOL talk as any talk about quality of life as it related to cancer. We defined a segment of talk as any conversation in which the oncologist, patient, or both spoke about HRQOL for any period of time. We coded transcripts for HRQOL talk until we reached theoretical saturation [18], the point at which we were no longer finding new themes discussed in the encounters. This process, which is standard in qualitative research narrowed our subset to 73 encounters. The qualitative HRQOL themes and results are described in detail in an earlier report [19]. Because 7 patients were missing data for all sociodemographic characteristics, their 7 encounters were excluded from our analyses. Our final sample was comprised of 66 encounters (between 63 patients and 34 oncologists).

Power analysis—To determine whether our current analysis was adequately powered, we conducted a post-hoc power analysis. On the basis of an R^2 of .279, an α of 0.05, and 10 predictor variables in the regression equation, the model was estimated to be adequately powered at 92%. Based on an α of 0.05, 10 predictor variables, an anticipated effect size of 0.35, and power of 80%, we needed a minimum of 57 cases in our sample. Therefore, our sample size of 66 encounters was adequately powered.

Quantitative analysis—From the qualitative coding discussed above we calculated our dependent variable, duration of communication about HRQOL, by dividing the duration of HRQOL talk in a visit by the total duration of a clinic visit. Because it is important for variables to be measured on the same scale, we standardized our dependent variable as the percentage of communication devoted to all HRQOL talk during a visit. Without standardizing the duration of HRQOL talk, each case would be measured on a different time frame (e.g. 15 versus 30 min), impacting the results and ability to interpret our findings.

Independent variables of interest were taken from patient and oncologist surveys from the original SCOPE trial. These included patient characteristics (i.e. age, gender, race, marital status, education level, financial status), oncologist characteristics (i.e. age, gender, race, number of years since oncology fellowship, average number of direct patient care hours per week, previous communication training), disease characteristics (i.e. diagnosis, treatment, extent of disease, chance of cure) and patient–oncologist relationship characteristics (i.e. number of previous visits with the oncologist, how long patient has known oncologist).

Analyses were performed using SPSS (SPSS Inc., Chicago, IL). Descriptive statistics were generated to summarize the distributions of all study variables. Multivariable linear regression models were created to identify a significant model of factors impacting duration of HRQOL talk. The unit of analysis is the individual encounter between the patient and the oncologist. We defined a P -value of less than 0.05 as statistically significant. The final model includes indicator variables for gender concordance (reference group: no patient–oncologist concordance), race concordance (reference group: no patient–oncologist concordance), patient education (reference group: college diploma or more), patient marital status (reference group: married), and number of previous visits with the oncologist (reference group: 0–2 visits). The addition of other patient (i.e. financial status, age), disease-related (i.e. diagnosis, treatment, extent of disease, chance of cure), and oncologist variables (i.e. age, number of years since oncology fellowship, average number of direct patient care hours per week, previous communication training) reduced the overall significance of the model (data not shown). We also ran various models that included the aforementioned patient, disease-related, or oncologist characteristics, but these models were not found to be significant (data not shown). Because there were multiple conversations within an oncologist, we investigated the possibility of clustering by incorporating an

oncologist-level random effect in the regression model. However, this was not supported by the data and a general linear regression model was deemed appropriate (data not shown).

Results

Characteristics of patients and oncologists

The 66 encounters in our final sample involved 63 patients and their 34 oncologists. The majority of the patients were female (51%), white (86%), married (78%), and had a college or more advanced degree (33%) (Table 1). The mean patient age was 58.8 years (range, 28–84 years, SD = 13.3). The patients had been diagnosed with hematologic (38%), breast (14%), lung (11%), colon or gastrointestinal (2%), brain (2%), or other types of cancer (25%). Treatments for patients at time of this visit included chemotherapy (including monoclonal antibody therapies) (54%), endocrine therapy (5%), radiotherapy (5%), surgery (0%), and other types of treatment (10%). Seventeen patients (27%) were not receiving any treatment at the time of this visit. When asked about their patient's chances of being cured, 37% of oncologists said they had 0% chance of 'living a normal life span without this cancer' 29% said they had 1–10% chance, and 24% said they had 11–50% chance. Although most patients (52%) had only known their oncologist for less than 6 months, 46% of patients noted having 6 or more visits with their oncologist.

Of the 34 oncologists, most were male (82%) and white (82%) (Table 1). Their mean age was 44.9 years (range, 31–58 years, SD = 6.8), and, on average, they were 14.7 years post-oncology fellowship (SD = 7.1). The oncologists spent a mean of 24.2 h per week on patient care (SD = 13.2).

Characteristics of patient–oncologist encounters

The number of audio-recorded encounters per oncologist ranged from 1 to 8, with a mean of 1.9 encounters per oncologist (SD = 1.8). Of the 63 patients, 60 had only 1 audio-recorded encounter, and the remainder had 2 audio-recorded encounters.

A patient and their oncologist were gender matched in 36 of 66 visits (55%) (Table 2). Of these 36 concordant pairs, 7 were female patient–female oncologist pairs and the remaining 29 were male patient–male oncologist pairs. No differences were found when comparing duration of HRQOL talk for female patient–female oncologist and male patient–male oncologist concordant pairs, so a general gender concordance variable was included in the final model. A patient and their oncologist were race matched in 43 of 66 visits (65%) (Table 2). Of these concordant pairs, all 43 were white patient–white oncologist pairs. Therefore, we only included a general race concordance variable in the final model.

The complete conversations ranged from 6 min, 45 s–85 min, 20 s, with a mean of 26 min, 20 s (SD = 17 min, 38 s). The duration of HRQOL talk during the encounters ranged from 3 to 75%, with a mean of 24.1% (SD = 15.1%). The mean number of minutes per encounter spent discussing HRQOL was 5 min, 33 s (SD = 3 min, 59 s).

Regression modeling

Results of the regression of duration of HRQOL talk on gender concordance, race concordance, patient education, patient marital status, and number of visits with the oncologist are listed in Table 3. Approximately 28% of the variation in duration of HRQOL talk can be explained by differences in patient–oncologist gender, patient–oncologist race, patient education, patient marital status, and number of visits with the oncologist. All of these variables taken together significantly affected duration of HRQOL talk ($F = 2.124$, $P = 0.038$).

When controlling for all other factors, including gender and race concordance, patient education, and patient marital status, number of previous visits with the oncologist was the strongest predictor of duration of HRQOL talk (Table 3). Patients that visited the oncologist three–five times had a 12% increase in HRQOL talk compared with patients that had zero–two visits, and patients that visited the oncologist six or more times had a 13% increase in HRQOL talk compared with patients that had zero–two visits. Our overall model shows that encounters without gender and race concordance (e.g. female patient–male oncologist, African American patient–white oncologist), with patients who did not graduate from high school, are divorced, and had six or more previous visits with their oncologist had the highest duration of HRQOL talk (49%). Encounters with gender and race concordance, with patients who have a college or more advanced degree, have never been married, and had two or less visits with their oncologist had the lowest duration of HRQOL talk (0%).

Discussion

In our analysis of encounters between 63 patients and 34 oncologists, we found that the amount of talk about HRQOL ranged from 3 to 75% of the conversation. The mean duration of HRQOL talk was 5 min, 33 s.

Clinicians increasingly identify HRQOL as a critical component of the care of cancer patients [20]. For example, in a study focusing on views of HRQOL in clinical practice, 80% of the senior oncologist participants believed that HRQOL information should be collected from patients [21]. However, this study also showed that, in practice, only around 50% managed to do so, claiming problems of limited time and resources [21]. Yet when clinicians perform HRQOL assessments during consultations with cancer patients, data suggest that they find these interactions satisfying, without greatly increasing visit length [9].

Rather than using the typical HRQOL assessment question of ‘How have you been lately?’, it may be especially important for physicians to focus on specific domains important to cancer patients (e.g. psychological, social, spiritual) [19]. It has been theorized that the doctor–patient relationship is best served by a patient-centered framework aimed at understanding the patient’s illnesses by combining a biological, psychological, and social perspective, therefore taking into account the patient’s individual experience and personal meaning of illness [22]. This will result in a patient-centered mode of communication that emphasizes a more holistic understanding of the illness experience from the patient’s perspective [22]. Although it might seem that an approach emphasizing physicians listening and asking open-ended HRQOL questions requires more time than is available, Stewart *et al.* [23] found that this is not the case if physicians follow five specific strategies: (1) set agenda for a visit early in the visit; (2) pay attention to the patient’s emotional agenda; (3) listen actively, rather than the physician controlling the interview; (4) solicit patient attribution; and (5) communicate empathically. Indeed, in the context of the individual patient encounter, improving a physician’s communication skills has been shown to be a productive technique for time management during a visit [24].

Our regression model showed that the strongest predictor of duration of HRQOL talk was previous number of patient visits with their oncologist. This finding is consistent with earlier work showing that patients who had longer and more established relationships with their doctor were more likely to discuss health concerns openly, especially about sensitive issues [25]. Existing research of the factors influencing a patient’s willingness to discuss three aspects of HRQOL—overall well-being, physical health, and psychosocial health—showed that patients were more willing to discuss all aspects of HRQOL when they had a longer relational history with the doctor [25]. One explanation is that after a number of visits the

doctor and patient have exhausted talking about biomedical concerns (e.g. treatment decisions), so they are more likely to talk about HRQOL. Another explanation is that, over time, as trust builds, physicians are more likely to talk about these more personal, quality of life issues. This is consistent with data showing that increased trust and communication effectiveness are associated with longer doctor–patient relationships [26]. Indeed, as in any relationship, trust is built at the interpersonal level between an individual patient and physician through repeated interactions [24]. However, two studies suggest the potential for building trust more quickly in the doctor–patient relationship. Although not statistically significant, a randomized physician-based communication training intervention study of 20 physicians to improve patient trust showed overall improvement in 16 of 19 specific patient-reported physician behaviors in physicians receiving the communication intervention when compared with those receiving a control intervention [27]. Similar results were shown in a nonrandomized study [28]. Patient trust in the physician is important because it has been shown to correlate with important outcomes, including satisfaction with the physician and adherence to treatment [24]. Yet it is important to note that both physicians and patients highly value continuity of care [29,30], which has been shown to lead to increased knowledge [25,31] and rapport [23,25].

Counter to previous work, gender concordance was not a predictor of the duration of HRQOL talk. A recent systematic review of the impact of gender dyads on clinician–patient communication reported that gender dyads influence both consultation length and topics [32]. However, our findings may differ from earlier findings on gender dyads because confounding variables, such as length of the therapeutic relationship as well as patient sociodemographic characteristics, were not controlled for in most of these studies [33].

We were also surprised to find that neither race nor education predicted the duration of HRQOL talk. There is research indicating that racial and ethnic differences between physicians and patients are potential barriers to effective communication [34–36]. However, a recent review of US studies concluded that there is no clear pattern of patient–provider communication findings and having a provider of same race does not improve ‘receipt of services’ for minorities [37].

In the general literature on doctor–patient communication, educational differences have been noted [34,38]. For example, a study of communication between oncologists and breast cancer patients found that oncologists tended to ask more questions of and spend more time engaging in relationship building with more educated patients [39].

Our study has several limitations. We included a relatively small sample of oncologists and patients, limiting our ability to find small differences. For example, certain findings that did not achieve significance (e.g. patient marital status does not significantly impact duration of HRQOL talk) may be significant in a larger sample. In addition, our findings should be treated with caution because some of our variable groupings contained small numbers (e.g. patients that did not graduate high school, patients who were never married, patients with three–five visits with their oncologist). Also, oncologists practiced in two academic medical centers and one VA Medical Center. Therefore, our results may not be generalizable to all outpatient encounters between oncologists and their patients with advanced cancer. Our model only explains 28% of the variability in duration of HRQOL talk, meaning that additional variables exist that may explain a greater percentage of the variability. This study was cross-sectional.

In summary, our study emphasizes that the number of previous visits that a patient has with an oncologist affects the amount of time that is spent discussing issues related to HRQOL. Improved doctor–patient communication about HRQOL may result in higher-quality care

that helps patients better adapt to illness and treatment [40]. Increasing the amount of time spent discussing HRQOL can lead to talking about concerns that are not directly observable to oncologists during the clinic visit (e.g. social functioning, spirituality) or are more diffuse and long-term in nature (e.g. fatigue) and, thus, are often left unaddressed by healthcare professionals [9,20]. Improvements in communication about HRQOL may best be achieved through efforts directed at improving communication skills to promote discussion of such issues at an earlier stage. Further research is needed to determine whether improving physicians' communication skills can help them build the doctor–patient relationship more quickly and ensure that HRQOL is adequately discussed.

Acknowledgments

Dr Rodriguez is supported by a VA HSR&D Merit Review Entry Program Award (MRP 04-410) and a Minority Supplement Award from the National Cancer Institute (3R01 CA-100387-03S1). Dr Alexander is supported by Health Services Research Career Development Award RCD 07-006 from the Department of Veterans Affairs. This work was supported in part by a grant awarded to Dr Tulskey by the National Cancer Institute (R01CA100387).

References

1. Jacobsen PB, Davis K, Cella D. Assessing quality of life in research and clinical practice. *Oncology* (Williston Park). 2002; 16:133–139. [PubMed: 12380963]
2. Halyard MY, Ferrans CE. Quality-of-life assessment for routine oncology clinical practice. *J Support Oncol*. 2008; 6:221–233. [PubMed: 18551858]
3. Lis CG, Rodeghier M, Grutsch JF, Gupta D. Distribution and determinants of patient satisfaction in oncology with a focus on health related quality of life. *BMC Health Serv Res*. 2009; 9:190. [PubMed: 19845942]
4. Coates A, Gebisi V, Signorini D, et al. Prognostic value of quality-of-life scores during chemotherapy for advanced breast cancer: Australian New Zealand Breast Cancer Trials Group. *J Clin Oncol*. 1992; 10:1833–1838. [PubMed: 1453197]
5. Dancy J, Zee B, Osoba D, et al. Quality of life scores: an independent prognostic variable in a general population of cancer patients receiving chemotherapy. The National Cancer Institute of Canada Clinical Trials Group. *Qual Life Res*. 1997; 6:151–158. [PubMed: 9161115]
6. Ganz PA, Lee JJ, Siau J. Quality of life assessment: an independent prognostic variable for survival in lung cancer. *Cancer*. 1991; 67:3131–3135. [PubMed: 1710541]
7. Wilsoff F, Hjorth M. Health-related quality of life assessed before and during chemotherapy predicts for survival in multiple myeloma. *Nordic Myeloma Study Group. Br J Haematol*. 1997; 97:29–37. [PubMed: 9136939]
8. Ferrell B. From research to practice: quality of life assessment in medical oncology. *J Support Oncol*. 2008; 6:230–231. [PubMed: 18551859]
9. Detmar S, Aaronson N. Quality of life assessment in daily clinical oncology practice: a feasibility study. *Eur J Cancer*. 1998; 34:1181–1186. [PubMed: 9849476]
10. Meropol NJ, Egleston BL, Buzaglo JS, et al. Cancer patient preferences for quality and length of life. *Cancer*. 2008; 113:3459–3466. [PubMed: 18988231]
11. Detmar SB, Muller MJ, Schornagel JH, Wever LD, Aaronson NK. Health-related quality-of-life assessments and patient–physician communication: a randomized controlled trial. *J Am Med Assoc*. 2002; 288:3027–3034.
12. Benbassat J, Pilpel D, Tidhar M. Patients' preferences for participation in clinical decision making: a review of published surveys. *Behav Med*. 1998; 24:81–88. [PubMed: 9695899]
13. Kaplan SH, Gandek B, Greenfield S, Rogers W, Ware JE. Patient and visit characteristics related to physicians' participatory decision-making style. Results from the Medical Outcomes Study. *Med Care*. 1995; 33:1176–1187. [PubMed: 7500658]
14. Thompson SC, Pitts JS, Schwankovsky L. Preferences for involvement in medical decision-making: situational and demographic influences. *Patient Educ Couns*. 1993; 22:133–140. [PubMed: 8153035]

15. Koropchak CM, Pollak KI, Arnold RM, et al. Studying communication in oncologist–patient encounters: the SCOPE Trial. *Palliat Med.* 2006; 20:813–819. [PubMed: 17148536]
16. Robinson TM, Alexander SC, Hays M, et al. Patient–oncologist communication in advanced cancer: predictors of patient perception of prognosis. *Support Care Cancer.* 2008; 16:1049–1057. [PubMed: 18196288]
17. Mackillop, WJ. Differences in prognostication between early and advanced cancer. In: Glare, P.; Christakis, NA., editors. *Prognosis in Advanced Cancer*. New York: Oxford University Press; 2008. p. 13–21.
18. Strauss, A. *Qualitative Analysis for Social Scientists*. Cambridge University Press; Cambridge: 1987.
19. Rodriguez KL, Bayliss N, Alexander SC. How oncologists and their patients with advanced cancer communicate about health-related quality of life. *Psycho-Oncology.* 2009; 19:490–499. [PubMed: 19449348]
20. Bottomly A. The cancer patient and quality of life. *Oncologist.* 2002; 7:120–125. [PubMed: 11961195]
21. Morris J, Perez D, McNoe B. The use of quality of life data in clinical practice. *Qual Life Res.* 1998; 7:85–91. [PubMed: 9481154]
22. Chin JJ. Doctor-patient relationship: a covenant of trust. *Singapore Med J.* 2001; 42:579–581. [PubMed: 11989581]
23. Stewart M, Brown JB, Weston WW. Patientcentred interviewing, III: five provocative questions. *Can Fam Phys.* 1989; 35:159–161.
24. Dugdale DC, Epstein R, Pantilat SZ. Time and the patient–physician relationship. *J Gen Intern Med.* 1999; 14(Suppl 1):S34–S40. [PubMed: 9933493]
25. Street RL Jr, Cauthen D, Buchwald E, Wiprud R. Patients’ predispositions to discuss health issues affecting quality of life. *Fam Med.* 1995; 27:663–670. [PubMed: 8582560]
26. Parchman ML, Burge SK. The patient–physician relationship, primary care attributes and preventive services. *Fam Med.* 2004; 36:22–27. [PubMed: 14710325]
27. Thom DH. Training physicians to increase patient trust. *J Eval Clin Pract.* 2000; 6:245–253. [PubMed: 11083035]
28. Thom DH, Bloch DA, Segal ES. An intervention to increase patients’ trust in their physicians. Stanford Trust Study Physician Group. *Acad Med.* 1999; 74:195–198. [PubMed: 10065061]
29. Donahue KE, Ashkin E, Pathman DE. Length of patient–physician relationship and patients’ satisfaction and preventive service use in the rural south: a cross-sectional telephone study. *BMC Fam Pract.* 2005; 6:40. [PubMed: 16202146]
30. Rodriguez HP, Rogers WH, Marshall RE, Safran DG. The effects of primary care physician visit continuity on patients’ experiences with care. *J Gen Intern Med.* 2007; 22:787–793. [PubMed: 17431698]
31. Starfield, B. *Primary Care: Concept, Evaluation, and Policy*. New York, NY: Oxford University Press; 1992.
32. Sandhu H, Adams A, Singleton L, Clark-Carter D, Kidd J. The impact of gender dyads on doctor–patient communication: a systematic review. *Patient Educ Couns.* 2009; 76:348–355. [PubMed: 19647969]
33. Bertakis KD. The influence of gender on the doctor–patient interaction. *Patient Educ Couns.* 2009; 76:356–360. [PubMed: 19647968]
34. Bao Y, Fox SA, Escarce JJ. Socioeconomic and racial/ethnic differences in the discussion of cancer screening: ‘between-’ versus ‘within-’ physician differences. *Health Serv Res.* 2007; 42:950–970. [PubMed: 17489898]
35. Cooper-Patrick L, Gallo JJ, Gonzales JJ. Race, gender, and partnership in the patient–physician relationship. *J Am Med Assoc.* 1999; 282:583–589.
36. Schouten BC, Meeuwesen L. Cultural differences in medical communication: a review of the literature. *Patient Educ Couns.* 2006; 64:21–34. [PubMed: 16427760]

37. Meghani SH, Brooks JM, Gipson-Jones T, Waite R, Whitfield-Harris L, Deatrick JA. Patient–provider race-concordance: does it matter in improving minority patients’ health outcomes? *Ethn Health*. 2009; 14:107–130. [PubMed: 19012091]
38. Stewart M. Patient characteristics which are related to the doctor-patient interaction. *Fam Pract*. 1984; 1:30–36. [PubMed: 6530060]
39. Siminoff LA, Graham GC, Gordon NH. Cancer communication patterns and the influence of patient characteristics: disparities in information-giving and affective behaviors. *Patient Educ Couns*. 2006; 62:355–360. [PubMed: 16860520]
40. Lee SJ, Back AL, Block SD, Stewart SK. Enhancing physician-patient communication. *Hematology Am Soc Hematol Educ Program*. 2002; 1:464–483. [PubMed: 12446437]

Table 1 Sociodemographic and clinical characteristics of the patients and oncologists whose data were analyzed^a

Characteristic	Patients (<i>n</i> = 63) ^b	Oncologists (<i>n</i> = 34)
Age, years, mean (SD)	58.8 (12.7)	44.9 (7.2)
Gender, number (%)	31 (49.2)	28 (82.4)
Male	32 (50.8)	6 (17.6)
Female		
Race, number (%)		
White	54 (85.7)	28 (82.4)
Black/African American	8 (12.7)	0 (0.0)
Asian/Pacific Islander	0 (0.0)	5 (14.7)
Other	1 (1.6)	1 (2.9)
Patient's marital status, number (%)		
Married	49 (77.8)	
Divorced/separated	6 (9.5)	
Widowed	5 (7.9)	
Never married	3 (4.8)	
Patient's educational status, number (%)		
Did not graduate high school	5 (7.9)	
High school diploma or general equivalency diploma	19 (30.2)	
Some college	18 (28.6)	
College diploma or more	21 (33.3)	
Patient's financial situation, number (%)		
After paying bills, have enough money for special things	33 (52.4)	
Enough to pay bills but little spare money for special things	11 (17.5)	
Money to pay bills but only by cutting back on things	13 (20.6)	
Difficulty in paying bills, no matter what	4 (6.3)	
Don't know	2 (3.2)	
Patient's cancer diagnosis, number (%)		
Hematologic cancer	24 (38.1)	
Breast cancer	9 (14.3)	
Lung cancer	7 (11.1)	
Colon or gastrointestinal cancer	1 (1.6)	
Brain cancer	1 (1.6)	
Other cancer	16 (25.4)	
Missing	5 (7.9)	
Treatment at time of this visit number (%)		
Chemotherapy (includes monoclonal antibody therapies)	34 (54.0)	

Characteristic	Patients (<i>n</i> = 63) ^b	Oncologists (<i>n</i> = 34)
Endocrine therapy	3 (4.8)	
Radiotherapy	3 (4.8)	
Surgery	0 (0.0)	
No treatment	17 (27.0)	
Other	6 (9.5)	
Physician-reported chances of patient being cured (Living a normal life span without this cancer), number (%)		
0%	23 (36.5)	
1–10%	18 (28.6)	
11–20%	6 (9.5)	
21–30%	5 (7.9)	
31–40%	3 (4.8)	
41–50%	1 (1.6)	
Uncertain	5 (7.9)	
Missing	2 (3.2)	
Patient's visits with the oncologist, number (%)		
0–2	26 (41.3)	
3–5	8 (12.7)	
6 or more	29 (46.0)	
How long patient has known current oncologist, number (%)		
Less than 6 months	33 (52.4)	
6–12 months	10 (15.9)	
1–3 years	11 (17.5)	
More than 3 years	9 (14.3)	
Years since oncology fellowship started, mean (SD)		14.7 (7.8)
Number of patient care hours per week, mean (SD)		24.2 (14.0)

^aBecause of missing data and rounding, not all percentages add to 100. Means were based on the full study sample, with one exception: for oncologists, the mean age was based on only 33 responses. SD indicates standard deviation.

^bSixty-six cases were utilized from 63 patients and 34 oncologists. Three patients had two interviews that were analyzed; however, this table reports data only from their first interview.

Table 2 Patient–oncologist gender and race concordance data ($n = 66$ visits)

Variable	<i>n</i> (%)
Gender concordance	
Yes	36 (54.5)
Female patient, female oncologist	7
Male patient, male oncologist	29
No	30 (45.5)
Female patient, male oncologist	26
Male patient, female oncologist	4
Race concordance	
Yes	43 (65.2)
White patient, white oncologist	43
No	23 (34.8)
African American patient, white oncologist	7
African American patient, Asian oncologist	1
White patient, Asian oncologist	13
White patient, other oncologist	1
Other patient, white oncologist	1

Table 3

Regression analysis of effect of variables on duration of health-related quality of life talk ($n = 66$ visits)^{a,b}

Parameter/Variable	Unstandardized β	Standard error	Standardized β coefficient	t Statistic	P-value
Intercept	13.882	5.017	—	2.767	0.008
Gender concordance	-2.582	3.694	-0.086	-0.699	0.487
Race concordance	-4.170	3.998	-0.132	-1.043	0.301
Patient's educational status					
Did not graduate high school	10.777	7.139	0.190	1.510	0.137
High school graduate or general equivalency diploma	3.219	4.366	0.100	0.737	0.464
Some college	3.045	4.568	0.092	0.667	0.508
Patient's marital status					
Divorced	10.746	5.812	0.221	1.849	0.070
Widowed	4.103	6.471	0.079	0.634	0.529
Never married	-7.113	8.949	-0.099	-0.795	0.430
How long patient has known current oncologist					
3–5 visits with oncologist	12.233	5.767	0.280	2.121	0.038
6 or more visits with oncologist	13.145	3.868	0.437	3.399	0.001
R^2	0.279	—	—	—	—

^aVisits included 63 patients and 33 oncologists.

^bThe final model includes indicator variables for gender concordance (reference group: no patient–oncologist concordance), race concordance (reference group: no patient–oncologist concordance), patient education (reference group: college diploma or more), patient marital status (reference group: married), and number of previous visits with the oncologist (reference group: 0–2 visits).