Supplement 2. Study characteristics of articles related to communication and prognostic disclosure in an oncologic setting

Authors	Year	Title	Article Type (case study, guideline, expert opinion, observational study, non-randomized study on intervention effects, protocol, randomized study, review)	Objective	Population (target)	Methodology	Intervention	Outcomes Measured	Important Results	Quality
Haun MW, Estel S, Rucker G, Friederich HC, Villalobos M, Thomas M, Hartmann M	2017	Early palliative care for adults with advanced cancer	Systematic Review	To compare effects of early palliative care interventions versus standard cancer care	Cancer clinicians	Systematic review: 6 databases, clinical trial registers, references and grey literature reviewed to select for RCTs and cluster-RCTs on palliative care services in early stages of advanced cancer; quantitative synthesis performed of meta-analyses using an inverse variance model	N/A	Primary outcome: health-related quality of life, survival, depression and symptom intensity	Compared with standard cancer care alone, early palliative care significantly improved health-related quality of life, no differences in survival, treatment efficacy, depression levels; early palliative care was associated with improved prognostic understanding.	Good
Daugherty CK, Hlubocky FJ	2008	What are terminally ill cancer patients told about their expected deaths? A study of cancer physicians' self-reports of prognosis disclosure	Observational study	To determine how clinicians discuss prognosis with terminally ill cancer patients	Cancer clinicians	Questionnaire to elicit prognosis communication practices	N/A	Usual practices, frequencies and format of communication with patients and/or family members regarding terminal prognosis	The minority (43%) of clinicians always or usually communicate an estimate as to when death is likely to occur, the majority (57%) sometimes, rarely or never give a time frame; 73% of clinicians had inadequate or absent communication education during their training; 96% believed it should be a part of cancer care training.	Good

Baile WF, Glober GA, Lenzi R, Beale A, Kudelka AP	1999	Discussing disease progression and end-of-life decisions	Expert opinion	To provide example dialogue between a physician and hypothetical patient to illustrate how communication techniques can accomplish patient-centered goals	N/A	N/A	N/A	N/A	Conversation algorithms such as the SPIKES six-step protocol can assist with breaking bad news; employing sample dialogue can be used as a way to incorporate learnable communication into daily habit.	N/A
Hagerty RG, Butow PN, Ellis PM, Lobb EA, Pendlebury SC, Leighl N, MacLeod C, Tattersall MHN	2005	Communicating with realism and hope: Incurable cancer patients' views on the disclosure of prognosis	Observational study	To identify preferences for the process of prognostic discussion among patients with incurable metastatic cancer and variables associated with those preferences	Cancer patients	Patients completed survey measuring patient preferences for the manner of delivery of prognostic information, including how doctors can instill hope	N/A	Patient preferences for content and format of prognostic discussion including mode of presentation of statistics and timing	The most strongly endorsed style included clinicians discussing realistic, individualized care and employing an expert/positive/collaborative approach when discussing prognosis; using euphemisms were not thought to facilitate hope	Good
Gilligan T, Coyle N, Frankel RM, Berry DL, Bohlke K, Epstein RM, Finlay E, Jackson VA, Lathan CS, Loprinzi CL, Nguyen LH, Seigel C, Baile W	2017	Patient-clinician communication: American society of clinical oncology consensus guideline	Systematic review	Provide guidance to oncology clinicians on how to effectively communicate to optimize patient-clinician relationship, patient and clinician well-being, and family well-being	Cancer clinicians	Systematic review: focused on guidelines, systematic reviews and meta-analyses and RCTs, 2006 - 2016.	N/A	N/A	Final recommendations address specific topics, such as discussion of goals of care and prognosis, treatment selection, end-of-life care, facilitating family involvement in care, and clinician training in communication skills.	N/A
Clayton JM, Hancock KM, Butow PN, Tattersall MHN, Currow DC, Australian and New Zealand Expert Advisory Group, Adler J, Aranda S,	2007	Clinical practice guidelines for communicating prognosis and end-of-life issues with adults in the advanced stages of a life-limiting illness, and their caregivers	Guideline	To develop guidelines to aid in prognostic and EOL communication skills	Cancer clinicians	Systematic literature review of evidence on discussion of prognosis and end-of-life issues, review of relevant guidelines and expert opinions, refining of guideline by expert advisory panel	N/A	N/A	PREPARED guideline: P-prepare for the discussion, R-relate to the person, E-elicit patient and caregiver preferences, P-provide information, A-acknowledge emotions and concerns, R- (foster) realistic hope, E-encourage questions, D-document	N/A

Auret K, Boyle F, Britton A, Chye R, Clark K, Davidson P, Davis JM, Girgis A, Graham S, Hardy J, Introna K, Kearsley J, Kerridge I, Kristjanson L, Martin P, McBride A, Meller A, Mitchell G, Moore A, Noble B, Olver I, Parker S, Peters M, Saul P, Stewart C, Swinburne L, Tobin B, Tuckwell K, Yates P										
Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP	2000	SPIKES- a six-step protocol for delivering bad news: Application to the patient with cancer	Protocol	To provide clinicians with a tool for disclosing unfavorable information to cancer patients about their illness	Cancer clinicians	N/A	N/A	N/A	Communication skills can be taught and retained; SPIKES can be used as a conditioning of communication skills; SPIKES: S-setting up the interview, P-assessing the patient's Perception, I-obtaining the patient's Invitation, K-giving Knowledge and information to the patient, E-addressing the patient's Emotions with empathic responses, S-Strategy and Summary	N/A
Stein T, Frankel RM, Krupat E	2005	Enhancing clinical communication skills in a large healthcare organization: A	Case study	To describe the approach taken by 1 large healthcare organization to enhance the	Cancer clinicians	N/A	N/A	N/A	The Four Habits Model is an evidence-based model used to establish rapport, build trust rapidly, facilitate effective exchange of information,	Fair

		longitudinal case study		clinical communication and relationship skills of their clinicians					demonstrate caring and concern and to increase the likelihood of adherence; the 4 habits are: invest in the beginning, elicit the patient's perspective, demonstrate empathy, invest in the end.	
Bernacki R, Hutchings M, Vick J, Smith G, Paladino J, Lipsitz S, Gawande AA, Block SD	2015	Development of the serious illness care program: A randomised controlled trial of a palliative care communication intervention	Protocol	To describe the protocol for a cluster randomized controlled trial of a multicomponent, structured communication intervention	Cancer clinicians and cancer patients	Oncology clinicians randomized in clusters (within a disease site: typically, 1 nurse practitioner or physician's assistants and 2-3 physicians) to the intervention or standard of care, 1:1; patients blinded to study arm	SICP- a multicomponent, structured communication intervention designed to train clinicians (2.5 hour training program) to use a structured guide for discussing patients' values, goals and prognosis; materials provided to patients to prepare and support their communication with family members; systems-changes including email reminder and EMR documentation template	Clinician satisfaction with the intervention, confidence and attitudes assessed before and after the intervention, self-reported data collected from patients and surrogates every 2 months up to 2 years, patient medical records examined for documentation	Description of protocol	N/A
Bernacki R, Paladino J, Neville BA, Hutchings M, Kavanagh J, Geerse OP, Lakin J, Sanders JJ, Miller K, Lipsitz S, Gawande AA, Block SD	2019	Effect of the serious illness care program in outpatient oncology: A cluster randomized clinical trial	Randomized control trial	To examine feasibility, acceptability, and end effect of a communication quality-improvement intervention (SICP) on patient outcomes	Cancer clinicians (n=91) and cancer patients (n=278)	Oncology clinicians randomized in clusters (within a disease site: typically, 1 nurse practitioner or physician's assistants and 2-3 physicians) to the intervention or standard of care, 1:1; patients blinded to study arm	SICP- a multicomponent, structured communication intervention designed to train clinicians (2.5 hour training program) to use a structured guide for ACP discussion; materials provided to patients to prepare and support their communication with family	Coprimary outcome: goal-concordant care (life priorities) and peacefulness at EOL; secondary outcomes: therapeutic alliance, anxiety, depression, survival; uptake and effectiveness of clinician training, clinician use of the conversation tool and conversation duration	No significant differences were found between the intervention and control groups for goal-concordant care, peacefulness at end of life, therapeutic alliance or survival; significant reduction in patients with moderate and severe anxiety and depression symptoms at 14 weeks with reduction of anxiety symptoms sustained at 24 weeks	Good

							members; systems-changes including email reminder and EMR documentation template			
Paladino J, Bernacki R, Neville BA, Kavanagh J, Miranda SP, Palmor M, Lakin J, Desai M, Lamas D, Sanders JJ, Gass J, Henrich N, Lipsitz S, Fromme E, Gawande AA, Block SD	2019	Evaluating an intervention to improve communication between oncology clinicians and patients with life-limiting cancer: A cluster randomized clinical trial of the serious illness care program	Randomized control trial	To evaluate the efficacy of a communication quality-improvement intervention in improving the occurrence, timing, quality, and accessibility of documented serious illness conversations between oncology clinicians and patients	Cancer clinicians (n=91) and cancer patients (n=278)	Oncology clinicians randomized in clusters (within a disease site: typically, 1 nurse practitioner or physician's assistants and 2-3 physicians) to the intervention or standard of care, 1:1; patients blinded to study arm	SICP- a multicomponent, structured communication intervention designed to train clinicians (2.5 hour training program) to use a structured guide for discussing patients' values, goals and prognosis; materials provided to patients to prepare and support their communication with family members; systems-changes including email reminder and EMR documentation template	Primary outcome: goal-concordant care and peacefulness at the end of life; secondary outcomes: documentation of at least 1 serious illness conversation before death, timing of initial conversation, quality of conversations and accessibility in EMR	Significantly higher portion of intervention patients had documented discussion (96% vs 79%) and more comprehensive discussions with greater focus on values and goals, prognosis or illness understanding, and life-sustaining treatment preferences that occurred 2.4 months earlier; documentation in intervention patients was more accessible in EMR	Good
Lakin JR, Koritsanszky LA, Cunningham R, Maloney FL, Neal BJ, Paldino J, Palmor MC, Vogeli C, Ferris TG, Block SD, Gawande AA, Bernacki R	2017	A systematic intervention to improve serious illness communication in primary care	Non-randomized study on intervention effects	To evaluate if the serious illness care program implemented in the primary care setting may impact clinician communication and patient-reported outcomes	Clinicians (n=160)	Primary care clinics were allocated to receive the SICP (intervention), remaining clinics in the group served as comparison sites	SICP- a multicomponent, structured communication intervention designed to train clinicians (2.5 hour training program) to use a structured guide for discussing patients' values, goals and prognosis; materials provided to patients to prepare and support their communication with family members; systems-changes including	Primary outcomes: prevalence, timing, accessibility and comprehensiveness of serious illness conversations for patients who died during implementation period	Patients in the intervention clinics were more likely to have serious illness conversations including discussion of prognosis, values and goals of care (62% vs 43%); conversations for patients in the intervention clinics were more comprehensive, covered more elements related to values and goals, although no statistically significant difference in discussion of prognosis, code status/life-sustained treatments or end-of-life planning were seen	Fair

							email reminder and EMR documentation template			
Paladino J, Koritsanszky L, Nisotel L, Neville BA, Miller K, Sanders J, Benjamin E, Fromme E, Block S, Bernacki R	2020	Patient and clinician experience of a serious illness conversation guide in oncology: A descriptive analysis	Observational study	To evaluate the patient and clinician experience of a conversation using SICG, secondary analysis from a cluster-randomized clinical trial	Cancer clinicians (n=53) and cancer patients (n=163)	Oncology clinicians randomized in clusters (within a disease site: typically, 1 nurse practitioner or physician's assistants and 2-3 physicians) to the intervention or standard of care, 1:1; patients blinded to study arm	SICP- a multicomponent, structured communication intervention designed to train clinicians (2.5 hour training program) to use a structured guide for discussing patients' values, goals and prognosis; materials provided to patients to prepare and support their communication with family members; systems-changes including email reminder and EMR documentation template	Patient questionnaire assessed perception of conversation and impact on anxiety, hopefulness, closeness with clinician, and behaviors among others; clinician questionnaire assessed feasibility, acceptability, and impact on satisfaction in their role	Majority of patients felt the conversation was worth having, qualitative data analysis noted positive behavior changes including enhanced planning for future care and increased focus on personal priorities, enabled ability to evaluate patient understanding of prognosis (82%) and titrate prognosis to patient preferences (76%), 90% of clinicians felt SICG facilitated timely, effective conversation, 70% reported increased satisfaction in their role	Good
McGlinchey T, Mason S, Coackley A, Roberts A, Maguire M, Sanders J, Maloney F, Block S, Ellershaw J, Kirkbride P	2019	Serious illness care programme UK: Assessing the 'face validity,' applicability and relevance of the serious illness conversation guide for use within the UK health care setting	Observational study	To explore the use of the SICG in the UK including relevance in answering questions in the guide, appropriateness of language, and format	Cancer clinicians and cancer patients	Nominal group technique with clinician 'expert groups' reviewed the SICG, cognitive interviews with patient and public representatives using the 'think aloud technique' to explore appropriateness of language, question wording and format, final stakeholder review and consensus	Use of SICG	Qualitative suggested amendments for each SICG prompt, SICG UK final stakeholder discussion recommendation	Nominal group technique unanimous agreement the SICG could provide useful support to clinicians, final stakeholders review agreed amendments to 5/13 prompts and supported implementation as a part of SICP UK.	Fair
Curtis JR, Downey L, Back AL, Nielsen EL, Paul S, Lahdya AZ, Treece PD,	2018	Effect of a patient and clinician communication-priming intervention on patient-	Randomized control trial	To evaluate the efficacy of a patient-specific preconversation communication-priming intervention	Clinicians (n=132) and patients	Clinicians randomized to bilateral, preconversation, communication-priming intervention or standard of care	Base on patient's unique survey, abstracted version of patient's preferences created, most important	Primary outcome: patient-reported occurrence of GOC conversation; secondary outcomes: documentation of	Intervention was associated with significant increase in the occurrence, documentation and quality of GOC communication and	Good

Armstrong P, Peck R, Engelberg RA		reported goals-of-care discussions between patients with serious illness and clinicians: A randomized clinical trial		(Jumpstart-Tips) targeting both patients and clinicians, designed to increase goals-of-care conversations	(n=537)		communication barrier or facilitator identified, and provided communication tips based on VitalTalk curriculum tailored to each patient; patients received form which summarized their survey responses and provided suggestions week prior to visit	GOC conversations in EMR, patient-reported quality of communication at 2 weeks, patient assessment of goal-concordant care at 3 months, symptoms of depression at 3 and 6 months	increased goal-concordant care at 3 months for those with stable goals; symptoms of depression or anxiety no different between arms	
Back AL, Arnold RM, Baile WF, Fryer-Edwards KA, Alexander SC, Barley GE, Gooley TA, Tulsky JA	2007	Efficacy of communication skills training for giving bad news and discussing transitions to palliative care	Observational study	To evaluate the efficacy of Oncotalk, a residential communication skills workshop for medical oncology fellows, in changing observable communication behaviors	Cancer clinicians	Standardized patient encounters were audio-recorded and assessed; each participant, before intervention, was used as his/her control; audio recordings were assessed for expression of the SPIKES cognitive map and NURSE statements	Oncotalk is a 4-day residential workshop emphasizing skills practice in small groups	Primary outcome: observable participant communication skills measured during standardized patient encounters before and after the intervention in giving bad news and discussing transitions to palliative care	The intervention was associated with a statistically significant increase in skill acquisition for assessing patient perception, invitation to discussion, sharing knowledge, responding to emotion and use of empathic verbal behaviors	Good
Epner DE, Baile WF	2014	Difficult conversations: Teaching medical oncology trainees communication skills one hour at a time	Non-randomized study on intervention effects	To evaluate the efficacy of a monthly, 1 hour, communication skills training seminar	Cancer clinicians (n=26)	Two authors developed curriculum, one a principal investigator of Oncotalk; course included communication skills map for "difficult conversations"	Monthly, 1 hour communication skills training seminar during first year medical oncology subspecialty training; curriculum involves interactive educational methods	Open-ended participant surveys, reflective writing exercises and questionnaire at 6 months and 1 year	Preliminary results: all participant responses were uniformly favorable, optional written comment from midyear were favorable and constructive; desire to focus on practice, reflective writing exercises and open discussion were valued	Poor
Marcus JD, Mott FE	2014	Difficult conversations: From diagnosis to death	Review	To review the literature on the importance of communication in delivering bad news, the status of communication training, communication strategies and	Cancer clinicians	N/A	N/A	N/A	Although there are published guidelines (provides examples of Oncotalk and SPIKES) to address difficult communication, formal training in communication is lacking leaving clinicians having difficulty with delivering bad news or avoiding it altogether.	N/A

				psychosocial interventions						
Johnston FM, Beckman M	2019	Navigating difficult conversations	Expert opinion	To review strategies for breaking bad news and navigating difficult conversations	Cancer clinicians	N/A	N/A	N/A	Patient-centered communication experts have identified 4 critical goals: gather information from the patient, provide information that the patient can understand, support the patient emotionally, develop a strategy to move forward; acknowledges tools for navigating difficult conversations: SPIKES protocol and SICG; other communication guidelines to improve communication skills include Oncotalk and the Comskil Model.	N/A
Back AL, Arnold RM, Baile WF, Tulsky JA, Fryer-Edwards K	2005	Approaching difficult communication tasks in oncology	Expert opinion	To provide a cognitive map on important communication skills when caring for a cancer patient	Cancer clinicians	Draw on empirical studies and expert practice to describe important considerations for clinicians about communicating with patients and their families	N/A	N/A	Fundamental communication skills include 'ask-tell-ask,' 'tell me more,' responding empathically to emotion, employing NURSE statements, using the SPIKES tool; these are vital during the first visit, when giving bad news, making anticancer treatment decisions, offering a clinical trial, completing anticancer therapy and discontinuing palliative chemotherapy	N/A
Campbell TC, Carey EC, Jackson VA, Saraiya B, Yang HB, Back AL, Arnold RM	2010	Discussing prognosis: Balancing hope and realism	Review	To present clinicians with a practical approach to handling prognosis discussions by dealing with 4 critical issues	Cancer clinicians	N/A	N/A	N/A	Oncologists face 4 common questions when discussing prognosis: 1) what information should be conveyed about prognosis? 2) How do I deal with an emotional reaction after I break bad news? 3) How does breaking bad news affect the oncologist? 4) How can I preserve hope despite a poor prognosis?	N/A

Kaplan M	2010	SPIKES: A framework for breaking bad news to patients with cancer	Guideline	SPIKES protocol intervention: asses step-wise framework for difficult discussions	Cancer clinicians	N/A	N/A	N/A	Key components of the SPIKES strategy include demonstrating empathy, acknowledging and validating the patient's feelings, exploring the patient's understanding and acceptance of bad news, and providing information about possible interventions.	N/A
Wittenberg E, Ferrell BR, Goldsmith J, Smith T, Glajchen M, Handzo GF	2015	Communication education for physicians, in: Textbook of palliative care communication	Review	To present a 'toolbox' of strategies for teaching communication skills particularly within the field of hospice and palliative medicine	Cancer clinicians	N/A	N/A	N/A	Communication in HPM often includes discussions related to breaking bad news, transitions in care plans, and ACP; patient-centered communication can be performed by eliciting patient perspective and understanding, reaching a shared understanding and offering meaningful choices; strategies for effective communication include: active listening, NURSE statements, managing hope and worry, SPIKES statements when breaking bad news, ask-tell-ask, tell me more, and I wish statements	N/A
Morgans AK, Schapira L	2015	Confronting therapeutic failure: A conversation guide	Review	To confront treatment failure discussion, using the SPIKES protocol, address the oncologist's emotions and practical tips for breaking bad news	Cancer clinicians	N/A	N/A	N/A	Protocol reviewed; addressing therapeutic failure with patients can be difficult, SPIKES algorithm can aid the clinician in divulging bad news and can comfort both the patient and clinician.	N/A
Korsvold, Lie HC, Mellblom AV, Ruud E, Loge JH, Finst A	2016	Tailoring the delivery of cancer diagnosis to adolescent and young adult patients displaying	Observational study	To analyze the pragmatic behavioral and relational aspects of communication between an oncologist and	Cancer patients and cancer clinicians	Cases were audio-recorded, transcribed and reviewed independently with qualitative analysis	N/A	Descriptive dialogue, language, pauses > 2 seconds were annotated	Analysis of clinician behaviors is described in reference to the SPIKES protocol, acknowledging patients' emotion and providing hope are emphasized	Fair

		strong emotions: An observational study of two cases		adolescent/young adult cancer patient while delivering bad news						
Frankel RM, Stein T	2001	Getting the most out of the clinical encounter: The four habits model	Guideline	To describe 4 patterns of behaviors and review the evidence that links each habit with biomedical and functional outcomes of care	Cancer clinicians	Derived from previous empirical and conceptual work on interviewing, synthesis of available literature search on effective communication with addition of authors' clinical and teaching experience	N/A	N/A	The Four Habits are: invest in the beginning, elicit the patient's perspective, demonstrate empathy, invest in the end.	N/A
Jensen BF, Gulbrandsen P, Dahl FA, Krupat E, Frankel RM, Finset A	2011	Effectiveness of a short course in clinical communication skills for hospital doctors: Results of a crossover randomized controlled trial (ISRCTN22153332)	Randomized control trial	To assess if a 20 hour communication skills course based on the four habits model improves doctor-patient communication	Clinicians (n=72)	Crossover randomized control trial, assessments were video-based, blinded	20 hour communication training, containing alternating plenary with theory/debriefs, practical group sessions and role-playing	Primary outcome: improvement of communication skills in real encounters; secondary outcomes: global patient satisfaction, use of time in encounter	Clinicians in the intervention arm were associated with an increase in the coding scheme, signifying increase in communication abilities/measures after 2 day training course; encounter duration and patient satisfaction did not change	Good
Hoerger M, Epstein RM, Winters PC, Fiscella K, Duberstein PR, Gramling R, Butow PN, Mohile SG, Kaesberk PR, Tang W, Plumb S, Walczak A, Back AL, Tancredi D, Venuti A, Cipri C, Escalera G, Ferro C, Gaudion D, Hoh B, Leatherwood B, Lewis L, Robinson M,	2013	Values and options in cancer care (VOICE): Study design and rationale for a patient-centered communication and decision-making intervention for physicians, patients with advanced cancer, and their caregivers	Protocol	To describe an investigation designed to facilitate communication and decision making among oncologists, patients with advanced cancer and their caregivers	Cancer clinicians and cancer patients/caregivers	Randomized control trial, clinicians randomized to intervention arm or control arm 1:1, patients of the intervention arm clinician received patient-centered intervention; follow-up data collected quarterly for up to 3 years	Oncologists received individualized communication training using standardized patient instructors during a 50 minute training session and 45 minute booster session 1 month later, focus placed on engaging patients, responding to emotion, informing patients of prognosis and treatment choices, and balanced framing of information; patients received	Primary outcome: composite measure of patient-centered communication, coded from audio recordings; secondary outcomes: patient-physician relationship, shared understanding of prognosis, QLL, and aggressive treatments and hospice use in the last 30 days of life	N/A	N/A

Sullivan P, Kravitz RL							question prompt lists and individualized communication coaching to identify issues to address during upcoming oncologists' visits			
Epstein RM, Duberstein PR, Fenton JJ, Fiscella K, Hoerger M, Tancredi DJ, Xing G, Gramling R, Mohile S, Franks P, Kaesberg P, Plumb S, Cipri CS, Street RL, Shields CG, Back AL, Butow P, Walczak A, Tattersall M, Venuti A, Sullivan P, Robinson M, Hoh B, Lewis L, Kravitz RL	2017	Effect of a patient-centered communication intervention on oncologist-patient communication, quality of life, and health care utilization in advanced cancer; The VOICE randomized clinical trial	Randomized control trial	To determine if a combined intervention involving oncologists, cancer patients and caregivers could promote patient-centered communication	Cancer clinicians (n=38) and cancer patients (n=265)	Multicenter randomized control trial, clinicians randomized to intervention arm or control arm 1:1, patients of the intervention arm clinician received patient-centered intervention; follow-up data collected quarterly for up to 3 years	Oncologists received individualized communication training using standardized patient instructors during a 50 minute training session and 45 minute booster session 1 month later, focus placed on engaging patients, responding to emotion, informing patients of prognosis and treatment choices, and balanced framing of information; patients received question prompt lists and individualized communication coaching to identify issues to address during upcoming oncologists' visits	Primary outcome: composite measure of patient-centered communication, coded from audio recordings; secondary outcomes: patient-physician relationship, shared understanding of prognosis, QOL, and aggressive treatments and hospice use in the last 30 days of life	Intervention resulted in clinically and statistically significant improvements in primary physician-patient communication, secondary outcomes not statistically significant	Good
Geerse OP, Lamas DJ, Sanders JJ, Paladino J, Kavanagh J, Henrich NJ, Berendsen AJ, Hiltermann TJN, Fromme	2019	A qualitative study of serious illness conversations in patients with advanced cancer	Observational study	To characterize the content of serious illness conversations and identify opportunities for improvement	Cancer clinicians and cancer patients	Qualitative analysis of audio-recorded, serious illness conversations using an evidence-based guide obtained through a cluster randomized controlled trial	Clinicians received training using SICG in intervention arm	N/A	Thematic analyses produced 5 key themes: (1) supportive dialogue between patient and clinician, (2) patients' openness to discuss emotionally challenging topics, (3) patients' willingness to verbalize preferences, (4) clinicians' difficulty in responding to	Good

EK, Bernacki RE, Block SD									emotional statements, (5) challenges in discussing prognosis; median conversation duration 14 minutes.	
Rodriguez KL, Gambino FJ, Butow PN, Hagerty RG, Arnold RM	2008	It's going to shorten your life': Framing of oncologist-patient communication about prognosis	Observational study	To use qualitative methods to determine how oncologists, patients and their family use framing when discussing treatment-related and disease-related prognosis	Cancer clinicians and cancer patients/caregivers	Transcripts of first-time encounters between oncologists and patients were analyzed for presence or absence of prognostic discussion (any discussion concerning outcomes related to cancer with and without treatment)	N/A	Discussion categorized into varying groups: discussion that included or excluded mention of all patients, other patients, the current patient alone, or the current patient and others; framed in negative terms (death, side effects, costs or losses), positive terms (survival, increased life span, benefits) or both	The majority (79%) of encounters included examples of prognostic discussion, language use ranged from general to personal, more statements pertained to treatment-related prognosis than disease-related prognosis (67% vs 33%), most clinicians used positive framing terms or a mixture of positive and negative framing terms.	Fair
Henselmans I, Smets EMA, de Haes JCJM, Dijkgraaf MGW, de Vos FY, van Laarhoven HWM	2018	A randomized controlled trial of a skills training for oncologists and a communication aid for patients to stimulate shared decision making about palliative systemic treatment (CHOICE): A study protocol	Protocol	To evaluate the effectiveness of a patient communication aid and oncologist training on shared decision making regarding palliative systemic treatment for cancer patients	Caner clinicians and cancer patients	Patients fill out questionnaires at baseline, before and after the consultation, at 3 months, and at 6 months	Clinicians undergo oncologist training which includes: a reader, 2 group sessions (3.5 hour including modelling videos and role play), a booster feedback session (1 hour), and a consultation room tool. Patients receive the patient communication aid which consists of a home-sent question prompt list and a value clarification exercise.	Primary outcome: observed shared decision making in audio-recorded consultations; secondary outcomes: patient and oncologist evaluation of communication and decision-making, the decision made, QOL, potential adverse outcomes such as anxiety and hopelessness, consultation duration	Development of a transferable, training protocol	N/A
Licquirish SM, Cook OY, Pattuwage LP, Saunders C, Jefford M,	2019	Tools to facilitate communication during physician-	Systematic Review	Evaluate systematic reviews on the topic of patient-	Cancer clinicians	Systematic review: searched 5 databases for primary intervention studies	N/A	Characteristics of reviews including patient reported outcome measures, question prompt	Eleven systematic reviews reviewed; question prompt lists and patient reported outcome measures are the most	Good

Koczwara B, Johson CE, Emery JD		patient consultations in cancer care: An overview of systematic reviews		physician communication				lists, audio recordings, patient-held records	effective tools to facilitate physician-patient communication and benefit oncologic patients.	
Walczak A, Butow PN, Tattersall MHN, Davidson PM, Young J, Epstein RM, Costa DS, Clayton JM	2017	Encouraging early discussion of life expectancy and end-of-life care: A randomised controlled trial of a nurse-led communication support program for patients and caregivers	Randomized control trial	To evaluate the efficacy of a nurse-facilitated communication support program to assist them in discussing prognosis and end-of-life care	Cancer clinicians and cancer patients (n=110)	Patients randomized to communication support program or standard of care, 1:1, audio-recording of consultation and follow-up questionnaire completed 1 month later	Nurse-led communication support program included 45 minute face-to-face meeting 1 week prior to oncology consultation and 15 minute telephone-booster session 1-2 weeks after consultation; sessions included guided exploration of QPL, communication challenges, patient values and concerns, and emphasizing the value of discussing prognosis and EOL care early with oncologists; before consultation, nurses cued oncologists to endorse QPL use and question-asking	Primary outcome: number of questions asked and expression of cues for further discussion during consultation; secondary outcomes: self-efficacy in communicating with oncologist, likelihood to meet preference for information receival and involvement in decision making, QOL	Communication support program participants gave significantly more cues for discussion of prognosis, EOL care, and future care options; their self-efficacy in knowing what questions to ask at follow-up significantly improved while the control arm participants' self-efficacy declined; oncologists' QPL and question asking endorsement was inconsistent; the intervention did not affect health-related QOL or likelihood that their health information or shared decision-making preferences would be met	Fair
Clayton JM, Butow PN, Tattersall MHN, Devine RJ, Simpson JM, Aggarwal G, Clark KJ, Currow DC, Elliott LM, Lacey J, Lee PG, Noel MA	2007	Randomized controlled trial of a prompt list to help advanced cancer patients and their caregivers to ask questions about prognosis and end-of-life care	Randomized control trial	To determine whether a QPL influences cancer patients' and caregivers' questions and discussion of topics relevant to end-of-life care	Cancer patients and family caregivers (n=174)	Patients randomized to standard consultation or provision of QPL before consultation; consultations were audiotaped, transcribed and analyzed by blinded coders; patients completed questionnaires before, within 24 hours and 3 weeks after consultation	Patients were provided the QPL 20-30 minutes before their consultation with a palliative care physician; QPL was comprised of a 16-page booklet containing 112 questions grouped into 9 topics	Primary outcome: total number of patient questions during consultation; other items measured: total number of items discussed, patient concerns, achievement of information preferences, patient satisfaction, patient anxiety, physician satisfaction with communication,	Compared with controls, QPL patients and caregivers asked more prognostic questions and discussed more prognostic and EOL issues, fewer QPL patients had unmet information needs about the future, the greatest area of unmet information need. No difference in anxiety or patient/physician satisfaction were observed.	Good

								consultation duration		
Fallowfield L	1993	Giving sad and bad news	Expert opinion	To provide recommendations on how to successfully disclose bad news	Cancer clinicians	N/A	N/A	N/A	Clinicians must adequately prepare for the meeting, ensure the patient has understood the message, cope with the patient's reactions and address the patient's immediate needs.	N/A
Tulsky JA, Beach MC, Butow PN, Hickman SE, Mack JW, Morrison RS, Street RL, Sudore RL, White DB, Pollak KL	2017	A research agenda for communication between health care professionals and patients living with serious illness	Guideline	To assess the current state of recommendations for communications among healthcare professionals, identify gaps in understanding the impact of communication on patient outcomes and create an agenda for future research	Clinicians	Divided the field of communication between clinicians and patients living with serious illness into 10 groups, then further organized into 7 categories	N/A	N/A	Seven identified core categories: shared decision making, advance care planning, communication training, measuring communication, communication about prognosis, emotion and serious illness communication and cultural needs.	N/A
Butow PN, Kazemi JN, Beeney LJ, Griffin AM, Dunn SM, Tattersall MH	1996	When the diagnosis is cancer: Patient communication experiences and preferences	Observational study	To investigate the experiences and preferences for communication about diagnosis, prognosis and treatment of patients diagnosed with cancer	Cancer patients	Self-reported questionnaire, qualitative data generated from focus groups	N/A	Differences between patient experiences, preferences and published guidelines	Patient preference for communication during diagnostic consultation is not always consistent with published guidelines	Good
Adamson M, Choi K, Notaro S, Cotoc C	2018	The doctor-patient relationship and information-seeking behavior: Four orientations to	Observational study	To explore how cancer patients' interpretations of the physician's role as information provider affects communication	Cancer patients	Patients completed a semi structured qualitative interview addressing their treatment experience and communication with the clinician; interviews were coded and analyzed using	N/A	Outcomes based on coded thematic analysis	Participants exhibited different information-seeking behavior based on how they interpreted the role of the clinician, which in turn affected the kind of information they questioned, their understanding level of	Poor

		cancer communication		between patient and clinician.		inductive thematic analysis			information received and their overall understanding of their cancer.	
Ghoshal A, Salins N, Damani A, Chowdhury J, Chitre A, Muckaden MA, Deodharr J, Badwe R	2019	To tell or not to tell: Exploring the preferences and attitudes of patients and family caregivers on disclosure of a cancer-related diagnosis and prognosis	Observational study	To understand patient and family preferences on prognostic and diagnostic disclosure	Cancer patients and family caregivers	Patient reported, prevalidated, close-ended preference questions and interviewed for open-ended attitude questions	N/A	Primary outcome: to evaluate patient and caregiver preference on diagnostic and prognostic disclosure; secondary outcomes: assess preference and attitude of communication disclosure	Patient felt that knowing a diagnosis and prognosis may help them be prepared, plan for additional treatment, anticipate complications, and plan for the future; patients' caregivers felt that knowing a diagnosis and prognosis may negatively affect future course of illness and cause patients to experience stress, depression, loss of hope and confidence.	Fair
Porensky EK, Carpenter BD	2016	Breaking bad news: Effects of forecasting diagnosis and framing prognosis	Non-randomized study on intervention effects	To assess an experimental paradigm using 2 communications strategies forecasting bad news and framing prognosis, in the context of cancer	Cancer patients (n=128)	In a 2x2 design, patients received bad news in a hypothetical consultation	The physician presented diagnostic and prognostic information, varying warning (warning shot vs no warning) and framing (positive vs negative)	Effects on psychological distress, recall accuracy and subjective interpretations of the news	Warning was not associated with lower psychological distress or improved recall; individuals who heard a positively-framed prognosis had significantly less psychological distress, rated their prognosis better and were more hopeful; however, they showed a trend toward reduced accuracy in recalling prognostic statistics.	Good
Glare PA, Sinclair CT	2008	Palliative medicine review: Prognostication	Expert opinion	Discuss a framework for understanding prognosis and how its different domains may be applied to patients with life-limiting illness; predict survival in patients with cancer	Cancer clinicians	N/A	N/A	N/A	Families dissatisfaction with communication around end of life may be due to: internal tension between wanting realistic prognostic information and hope, difficulty understanding, different individuals wanting different amounts of information, difficulty understanding aims of treatment, feeling overwhelmed and poorly	N/A

									prepared to make decisions.	
Hagerty RG, Butow PN, Ellis PA, Lobb EA, Pendlebury S, Leighl N, Goldstein D, Lo SK, Tattersall	2004	Cancer patient preferences for communication of prognosis in the metastatic setting	Observational study	To identify preferences for and predictors of prognostic information among patients with incurable metastatic cancer	Cancer patients	Patients completed a survey eliciting their preferences for prognostic information including type, quantity, mode and timing of presentation	N/A	Patient anxiety, depression, preferences information and involvement	Majority of patients wanted information on side effects, symptoms and treatment options; 85% wanted to know longest survival time with treatment, 80% wanted to know 5-year survival rate and 81% wanted to know average survival length; patients with higher depression scores were more likely to want to know shortest time to live without treatment	Good
Kaplowitz SA, Campo S, Chiu WT	2002	Cancer patients' desires for communication of prognosis information	Observational study	To determine how often patients want, request and receive qualitative prognosis and quantitative estimate	Cancer patients	Patients completed questionnaire	N/A	Number of patients who wanted, asked for and received 2 kinds of prognostic information	Majority of patients want to know their prognosis with 80% wanting a qualitative prognosis and 53% wanting a quantitative prognosis; 15% and 36% of patients who want a qualitative and quantitative prognosis, respectively, fail to ask for it	Poor
Fallowfield L, Ford S, Lewis S	1995	No news is not good news: Information preferences of patients with cancer	Observational study	To assess patients' preferences for general and specific information about their disease	Cancer patients	Patients were given potentially distressing news confirming their diagnosis and/or recurrence; visits were audio-taped; patients completed pre-visit questionnaires	N/A	Psychological morbidity before seeing the oncologist, anxiety, depression, preference for quantity and quality of information regarding disease, prognosis, treatment and side-effects	Most cancer patients (94%) wish to be well-informed about diagnosis, prognosis, therapeutic options and side effects, be it good or bad; patients who want less specific or no extra information were older and had poorer prognoses	Good
Tulsky JA, Arnold RM, Alexander SC, Olsen MK, Jeffreys AS, Rodriguez KL, Skinner CS, Farrell D,	2011	Enhancing communication between oncologists and patients with a computer-based training program: A	Randomized control trial	To evaluate if a brief, computerized intervention improves oncologist responses to patient	Cancer clinicians (n=48) and cancer patien	clinicians randomized 1:1 to communication lecture or lecture plus a tailored CD_ROM, stratified by site, sex and oncology specialty	1 hour lecture on communication skills, CD-ROM training program on communication skills tailored with exemplars from their own audio-recorded clinic	Postintervention audio recordings were identified for number of empathic statements (defined by use of NURSE statements) and responses to patients'	Oncologists in the intervention group used more empathic statements and were more likely to respond to negative emotions empathically; patients reported greater trust in the intervention	Fair

Abernethy AP, Pollak KI		randomized trial		expressions of negative emotion	ts (n=264)		visits; intervention included 5 modules: principles of effective communication, recognizing empathic opportunities, responding to empathic opportunities, conveying prognosis and answering difficult questions	expressions of negative emotion; questionnaires evaluated patients' trust in their oncologists and perceptions of their communication skills	oncologists; no significant difference in perceptions of communication skills	
Pollak KI, Arnold RM, Jeffreys AS, Alexander SC, Olsen MK, Abernethy AP, Skinner CS, Rodriguez KL, Tulsky JA	2007	Oncologist communication about emotion during visits with patients with advanced cancer	Observational study	To study whether oncologist traits are associated with empathic opportunities and empathic responses	Cancer clinicians	Audio-recorded clinic conversations; conversations were coded for the presence of empathic opportunities and oncologist responses; oncologist surveys	N/A	Empathic opportunities, oncologist's comfort to address social versus technical aspects of care	When presented with an empathic opportunity, oncologists responded with continuers 22% of the time; younger oncologists were more likely to respond with empathic statements.	Good
Paladino J, Kilpatrick L, O'Connor N, Prabhakar R, Kennedy A, Neal BJ, Kavanagh J, Sanders J, Block S, Fromme E	2020	Training clinicians in serious illness communication using a structured guide: Evaluation of a training program in three health systems	Observational study	To evaluate whether a novel train-the-trainer model results in high-quality training that improves clinicians' communication competencies	Cancer clinicians	Clinicians completed self-reported questionnaires before and after training	Serious illness communication training delivered through a train-the-trainer model; clinician training involved interactive methods, including reflection, demonstration and debriefing, cognitive maps and skills practice with feedback to teach trainee clinicians to have conversations about patients' values, goals and prognosis using a scalable tool	Primary: clinicians' self-reported change in communication skills after completing training; secondary outcomes: course evaluation and qualitative learning	Over 2 years, 3 faculty trained 22 trainers who trained 297 clinicians; serious illness communication training was highly acceptable and resulted in significant self-reported improvement in competencies of clinicians	Good

Rodin G, Mackay JA, Zimmermann C, Mayer C, Howell D, Katz M, Sussman J, Brouwers M	2009	Clinician-patient communication: A systematic review	Systematic Review	To identify methods of clinician-patient cancer-related communication that may impact patient outcomes associated with distress at critical points in the course of cancer care	Cancer clinicians and cancer patients	Systematic review: practice guidelines, systematic reviews and randomized trials were included	N/A	Practice guidelines were noted to address: patient support services, adequate consult environment, diversity awareness, solicit patient preferences, honest timely disclosure, and provider communication skills training; systematic reviews were categorized into groups: overall communication, facilitation of consult communication, patient participation in treatment decision making, and consolidation of consult communication	Four guidelines, 8 systematic reviews and 9 randomized trials were identified; guidelines identified open, honest and timely communication as important; evidence for a reduction in anxiety when discussing prognosis and life expectancy in consultation; techniques to increase patient participation were associated with greater satisfaction but did not decrease distress; few studies took cultural and religious diversity into account	Good
Peppercorn JM, Smith TJ, Helft PR, DeBono DJ, Berry SR, Wollins DS, Hayes DM, Von Roenn JH, Schnipper LE, American Society of Clinical Oncology	2011	American Society of Clinical Oncology statement: Toward individualized care for patients with advanced cancer	Guideline	ASCO's vision for improved communication with and decision making for patients with an advanced cancer	Cancer clinicians	N/A	N/A	N/A	Advanced cancer patient care is improved when patients' individual goals and preferences for care are discussed; goals for individualized care, barriers that limit realization and possible strategies to overcome these barriers are provided.	N/A
Bernacki RE, Block SD, American College of Physicians High Value Care Task Force	2014	Communication about serious illness care goals: A review and synthesis of best practices	Review	To review the evidence and describe best practices in conversations about serious illness care goals, and offer practical advice to clinicians on	Clinicians	Narrative review on evidence on ACP and EOL communication with patients with serious illness, observational and intervention studies included	N/A	N/A	Best practices in discussing GOC include: sharing prognostic information, eliciting decision-making preferences, understanding fears and goals, exploring views on trade-offs and impaired function, and wishes for	N/A

				developing a systematic approach for quality and timing of communication					family involvement; areas for development: better education of clinicians, identifying and triggering early discussions for appropriate patients, patient and family education, structured formats to guide discussions, structured sections in EMR, continuous measurement	
Sanders JJ, Paladino J, Reaves E, Luetke-Stahlman H, Price RA, Lorenz K, Hanson LC, Curtis JR, Meier DE, Fromme EK, Block SD	2020	Quality measurement of serious illness communication: Recommendations for health systems based on findings from a symposium of national experts	Observational study	To convene an expert stakeholder symposium and survey participants to consider challenges, opportunities, priorities and strategies to improve quality measurement specific to serious illness communication	Cancer clinicians	Literature review conducted to identify existing quality measurement domains and instruments; 2-day symposium of national leaders with key discussion themes identified; analyzed gaps between discussion points and existing research measurements; symposium participants surveyed after gap analysis	N/A	Measurement scan categorized into process, patient experience and outcome measures (patient-reported outcomes, patient-specific outcomes, caregiver outcomes, and population-level outcomes)	Several barriers and opportunities to improve quality measurement of serious illness conversation include explicit definition, methodological challenges relating to measuring conversations and related outcomes, underutilization of technologies to facilitate measurement, measurement development and dissemination	Good
Links M, Kramer J	1994	Breaking bad news: Realistic versus unrealistic hopes	Expert opinion	To provide a practical approach to fostering realistic hope	Cancer clinicians	N/A	N/A	N/A	Fostering realistic hope is a teachable skill; through communication and listening, one can offer realistic hope from the time of pre-diagnostic workup through definitive treatment and transition into supportive care; assisting in development of intermediate goals may facilitate gradual adjustment in disease progression.	N/A
Butow PN, Tattersall MHN, Goldstein D	1997	Communication with cancer patients in culturally diverse societies	Expert opinion	To address particular complex issues of communication with cancer patients within a	Cancer clinicians	N/A	N/A	N/A	Teachable communication skills may allow clinicians to determine how much the patient wants to know, deliver information in a supportive way and	N/A

				multicultural society					confirm patients understood the information presented.	
Walsh RA, Girgis A, Sanson-Fisher RW	1998	Breaking bad news. 2: What evidence is available to guide clinicians?	Systematic Review	To review literature on breaking bad news to cancer patients	Cancer clinicians and cancer patients/caregivers	Systematic review: focused on RCTs, reviews, surveys, perspective pieces and case reports on breaking bad news	N/A	Studies assessed for measurement quality, sampling issues, clinical implications, psychological adjustment, patient satisfaction, patient selection issues, and cultural factors	In the randomized trials, although patients enjoyed the experimental interventions, there was little effect on psychological adjustment following disclosure of diagnosis and prognosis; effect on patients' knowledge and satisfaction levels were inconsistent	Fair
Fallowfield L, Jenkins V	1999	Effective communication skills are the key to good cancer care	Expert opinion	To discuss the issues that influence communication within an oncology setting	N/A	N/A	N/A	N/A	Healthcare professionals deal with certain barriers to thorough conversation including system constraints and communicating as part of a multidisciplinary team, yet communication skills can be taught and formal training of healthcare professionals should be carried out on a large scale.	N/A
Ptacek JT, Fries EA, Eberhardt TL	1999	Breaking bad news to patients: Physicians' perceptions of the process	Observational study	To obtain descriptive information about bad news transactions from the physician's perspective	Cancer clinicians	Questionnaires completed by clinicians in regards to a specific difficult encounter discussion	N/A	With respect to the delivery of bad news: clinicians' life experience, nature of the relationship between physician and patient, preparation by the physician for delivery and delivery of news	Majority of clinicians followed published recommendations for delivering bad news; the number of recommendations followed was not accounted for by the closeness of relationship between clinician and patient; encounters were moderately stressful for clinicians	Fair
Brown RF, Butow PN, Dunn SM, Tattersall MH	2001	Promoting patient participation and shortening cancer consultations: A randomised trial	Randomized control trial	To investigate 2 means of promoting cancer patient question asking	Cancer clinicians (n=9) and cancer patien	Patients were randomized to receive or not receive a question prompt sheet, doctors were randomized to proactively address or passively respond to the question prompt	Question prompt sheet provided to patients prior to the initial consultation	Patients' information needs, anxiety, satisfaction, and information recall after consultation	Patients provided a question prompt sheet asked more questions about prognosis and oncologists gave significantly more prognostic information to these patients. When oncologists proactively	Good

					ts (n=318)	sheet during consultation; consultations audiotaped and content analyzed, patients completed questionnaires within 10 days of consultation			addressed the prompt sheet, consultation duration was decreased, anxiety levels decreased and recall was significantly improved.	
Gordon EJ, Daugherty CK	2003	Hitting you over the head': Oncologists' disclosure of prognosis to advanced cancer patients	Observational study	To understand oncologists' attitudes about disclosing prognostic information to cancer patients with advanced disease	Cancer clinicians	Clinician interview and focus group at a single institution	N/A	Oncologists' definitions of prognosis, likelihood to discuss prognosis with any given patient, factors that would increase or decrease likelihood to discuss prognosis	Although oncologists disclose prognosis in terms of 'curable' or 'not curable,' there is reluctance to disclose specific percentages; clinicians assume patients previously have discussed prognosis with the referring provider or do not wish to know their prognosis; factors that increase a clinician's likelihood to discuss prognosis include: patient request, failing therapy or complications, need for treatment decision or if patient has an unrealistic perception of disease or treatment goal	Poor
Gysels M, Richardson A, Higginson IJ	2004	Communication training for health professionals who care for patients with cancer: A systematic review of effectiveness	Systematic Review	To assess the effectiveness of different communication skills training courses for clinicians in cancer care	Cancer clinicians	Systematic review: 6 databases, references and grey literature reviewed; all studies evaluating communication training were included	N/A	Types of intervention, effectiveness, communication skills employed, assessment of skills, use of skills in clinical practice, perspective of participants, and patient-reported outcomes	Sixteen papers were included describing 13 interventions; all but one intervention demonstrated modest improvement (effect size ranging 0.15 -2), 1 found deterioration in outcomes	Good
Gysels M, Richardson A, Higginson IJ	2005	Communication training for health professionals who care for patients with cancer: A systematic	Systematic Review	To assess the effectiveness of different training methods used in communication training courses for health professionals	Cancer patients and cancer	Six databases searched with assessment of references and grey literature	N/A	Interventions for training in communication skills were characterized by a variety of communication approaches and	Sixteen papers were included, including 13 interventions. Communication training was provided by: cognitive and experiential elements, and included aspects that were learner-	Good

		review of training methods		who work with cancer patients	clinicians			using a diversity of methods; categorized by assessment as behavioral assessment, patient outcomes and professionals' self-report	centered using instruction, modelling, roleplay, feedback and discussion. Small groups encouraged more intensive participation, training multi-disciplinary groups reinforced multiplicity of views.	
Schapira L	2005	Palliative information: Doctor-patient communication	Expert opinion	To outline successful communication and highlight its importance	Cancer clinicians	N/A	N/A	N/A	Clinicians can facilitate coping by providing the appropriate amount of diagnostic and prognostic information so patients may make therapeutic choices consistent with their goals. Clinicians must encourage disclosure of concerns, assist in formulating a treatment plan and address psychosocial needs.	N/A
Fallowfield L, Jenkins V	2006	Current concepts of communication skills training in oncology	Review	To highlight evidence-based interventions that improve communication	Cancer clinicians	Not described	N/A	N/A	Communication skills training often incorporates passive observation via didactic lectures or large group discussion that limit the trainees' ability to develop the flexible skills needed for successful communication; more programs using professional facilitators to run intensive courses are needed	N/A
Rodriguez KL, Gambino FJ, Butow P, Hagerty R, Arnold RM	2007	Pushing up daisies: Implicit and explicit language in oncologist-patient communication about death	Observational study	To qualitatively analyze the language oncologists and cancer patients use when talking about prognosis in life-limiting illness	Cancer clinicians and cancer patients	Patient encounters were audiotaped and transcribed; using content analytic techniques, language usage was coded into various categories	None	Conversations were analyzed for the presence or absence of "prognostic talk," when it was discussed, how it was discussed (explicit or implicit terms) and what the focus of discussion was (estimated time frame, anticipated	Seventy-nine percent of encounters included prognostic utterances about treatment-related and disease-related outcomes; visits used implicit language (euphemistic or indirect talk) to discuss death and focused on anticipated life span (87%), estimated time frame (70%) or projected survival (48%).	Fair

								life span, projected survival)		
Ngo-Metzger Q, August KJ, Srinivasan M, Liao S, Meyskens FL	2008	End-of-life care: Guidelines for patient-centered communication	Guideline	To provide clinicians with a tool for delivering bad news and discussing prognosis	Cancer clinicians	Not described	N/A	N/A	When preparing to give bad news, assess patient's level of understanding about disease, how much information (s)he would like to know, expectations; discuss coordinated symptom-directed services; clinicians should avoid phrases that can be misconstrued; EOL communication should be sensitive to patient's cultural and individual preferences	N/A
Walling A, Lorenz KA, Dy SM, Naeim A, Sanati H, Asch SM, Wenger NS	2008	Evidence-based recommendations for information and care planning in cancer care	Systematic Review	To identify evidence supporting high-quality clinical practices for information and cancer care planning	Cancer clinicians and cancer patients	Systematic review to identify evidence supporting high-quality clinical practices for supportive cancer care	N/A	Results categorized by palliative care and hospice integration, EOL discussion and ACP (including communication of terminal diagnosis, prognosis and care plans), sentinel events, improving ACP and continuity	High-quality cancer domains to address include integration of advance care planning into cancer care, sentinel events as markers to readdress patient's goals of care and continuity of care planning	Good
Jacobsen J, Jackson VA	2009	A communication approach for oncologists: Understanding patient coping and communicating about bad news, palliative care, and hospice	Expert opinion	To present a framework for understanding normal patient coping and provide examples of phrases one may use during difficult conversations	Cancer clinicians	N/A	N/A	N/A	To communicate effectively in difficult situations, it is helpful to assess what the patient knows and wants to know in regards to their disease and prognosis.	N/A
Rogg L, Aasland OG, Graugaard PK, Loge JH	2010	Direct communication, the unquestionable ideal? Oncologists' accounts of	Observational study	To explore factors that influence oncologists disclosing prognostic information	Cancer clinicians	Focus group interviews with oncologists; transcribed interviews were qualitatively analyzed through	Patient cases with challenging aspects of prognostic information disclosure were presented for discussion initiation	Categorization based on analysis	All clinicians recommended an openness when dealing with prognostic information, however, opinions regarding survival information was	N/A

		communication of bleak prognoses				categorization and condensation			varied; skills to communicate prognostic disclosure were primarily attained through observing colleagues and personal experience.	
Long CO	2011	Ten best practices to enhance culturally competent communication in palliative care	Expert opinion	To describe the significance of communication within a cultural context for adults with cancer; to describe best practices for establishing, improving and maintaining positive verbal and nonverbal communication	Cancer clinicians	N/A	N/A	N/A	Prognostic disclosure should be considered through a cultural lens; certain cultures do not prioritize or desire full disclosure; reframing what autonomy means to the patient can assist the patient in determining how much (s)he desires to know.	N/A
Jacobsen J, Thomas JD, Jackson VA	2013	Misunderstandings about prognosis: An approach for palliative care consultants when the patient does not seem to understand what was said	Expert opinion	To propose a two-part approach to exploring prognostic misunderstanding	Cancer clinicians and cancer patients	N/A	N/A	N/A	Recommendation to clinicians: generate a differential diagnosis for why the patient and clinician have different reports of what was said; cultivate a partnership with the referring clinician to form a unified care plan; differential diagnosis includes: patients may be too overwhelmed, may avoid discussion, may not understand prognostic information among others.	N/A
McLennon SM, Lasiter S, Miller WR, Amlin K, Chamness AR, Helft PR	2013	Oncology nurses' experiences with prognosis-related communication with patients who have advanced cancer	Observational study	To describe nurses' experiences with prognosis-related communication with patients with advanced cancer	Cancer clinicians	Audio recording and analysis of audio-recorded interviews with oncology nurses; thematic map developed based on recorded themes	N/A	Data coding performed to identify themes	Six themes identified: being in the middle, assessing the situation, barriers to prognostic communication, nurse actions, benefits of prognosis understanding and negative outcomes; nurses managed barriers through facilitation, collaboration or independent action to	Poor

									help patients with prognosis understanding	
Koh SJ, Kim S, Kim J	2016	Communication for end-of-life care planning among Korean patients with terminal cancer: A context-oriented model	Observational study	To develop a communication model for EOL care decision making compatible with the clinical environment in Korea	Cancer clinicians	Focus group interviews; transcribed interviews were qualitatively analyzed through categorization and condensation; investigators developed instructional guidelines based on review and expert consultation	N/A	Open-ended responses to interviews	Five themes emerged from analysis: timing for initiating EOL care discussion, responsible professionals, disclosure of bad news, contents of EOL care discussions and implementation of EOL care decisions; content of EOL discussion involves disclosure of terminal diagnosis and prognosis, signs and symptoms, pain and symptom management, probable complications near death, and available support and resources	Good
Craig K, Washington KT	2018	Family perspectives on prognostic communication in the palliative oncology clinic: "Someone was kind enough to just tell me"	Randomized control trial	To incorporate a family caregiver intervention to enhance prognostic communication	Cancer caregivers (n=63)	Family caregivers of cancer patients are engaged in a problem-solving intervention	A problem-solving approach is taught by a trained interventionist in 3 structured sessions using videoconferencing tools	Standardized questionnaires completed at 2, 4, and 8 weeks; primary outcome: change in anxiety; secondary outcomes: change in depression, change in problem-solving approach, change in quality of life	Preliminary results: themes noted on how family caregivers experience discussions about prognosis include: how they attempt to make sense of contradictory information, incorporate information from non-provider sources, elicit prognostic information when it is not forthcoming, meet their information needs when they conflict with the patient's and use information to plan their future lives	N/A
Hui D, Zhukvovsky DS, Bruera E	2018	Serious illness conversations: Paving the road with metaphors	Expert opinion	To provide guidance for preparing for difficult conversations, including examples of metaphors to personalize and	Cancer clinicians	N/A	N/A	N/A	In addition to active listening and empathic statements, metaphors can be used to augment EOL care planning; however, if used inappropriately can cause confusion.	N/A

				improve communication						
Masterson MP, Applebaum AJ, Buda K, Reisch S, Rosenfeld B	2018	Don't shoot the messenger: Experiences of delivering prognostic information in the context of advanced cancer	Observational study	To identify factors underlying prognostic understanding, and methods to identify and quantify this understanding	Cancer clinicians	Semi-structured, individual interviews including 15 open-ended questions; 3 independent coders reviewed and interpreted interview data by thematic content	N/A	Responses to open-ended interview questions, categorized underneath umbrella terms: prognostic understanding, health information preferences, and clinician-patient health information communication	Clinicians identified 5 distinct elements of prognostic understanding: understanding of current state of disease, life expectancy, curability, decline trajectory and available treatment options. Clinicians offered best practice techniques including how to assess for patient preference, understanding of prognostic information, fears, and how to communicate medical uncertainty.	N/A
Sanders JJ, Curtis JR, Tulsky JA	2018	Achieving goal-concordant care: A conceptual model and approach to measuring serious illness communication and its impact	Expert opinion	To propose measurement priorities for serious illness communication and its anticipated outcomes, including goal-concordant care	Cancer clinicians and cancer patients	N/A	N/A	N/A	Measures to assess the quality of serious illness communication and care include: timing and setting of communication, patient experience of communication and care, and caregiver bereavement surveys.	N/A
Shen MJ, Prigerson HG, Ratshikana-Moloko M, Mmoledi K, Ruff P, Jacobson JS, Neugut AI, Amanfu J, Cubasch H, Wong M, Joffe M, Blanchard C	2018	Illness understanding and end-of-life care communication and preferences for patients with advanced care in South Africa	Observational study	To analyze patients' understanding of their cancer condition and wishes regarding end-of-life care	Cancer patients	Patient reported data collected, patients were asked about their understanding of illness, estimated life expectancy, EOL care communication and EOL care preferences	N/A	Percent of patients who: acknowledge they are terminally ill, accurately estimate their prognosis, had EOL care discussions with their physicians, know their prognosis, prefer comfort care to life-extending care, do not wish to be kept alive using extreme measures and prefer to extend their lives with medical intervention	South African patients demonstrated less awareness to that they were terminally ill, were less likely to have discussed prognosis with their clinician, and more strongly preferred comfort care to life-extending care compared to the United States-based Coping with Cancer studies; these differences highlight the need for culturally appropriate, patient-centered end of life communication.	Good

Kirkebøen G	2019	"The median isn't the message": How to communicate the uncertainties of survival prognoses to cancer patients in a realistic and hopeful way	Observational study	To investigate how doctors communicate the uncertainties of survival prognoses to patients recently diagnosed with life-threatening cancer and suggests ways to improve this communication	Cancer clinicians and general practitioners	Two part study: (1): scenario was provided to clinicians and asked them to respond to a hypothetical patient who wanted to know how long (s)he could expect to live; (2): healthy students rated their preference for receiving information regarding uncertainty and survival prognosis	(1): Clinicians provided vignette and survival curve; (2): students provided 2 hypothetical conditions in which a doctor conveyed to them (A) the median survival and indicated survival time varies and is difficult to predict or (B) 'A' plus additional information about the survival curve's right skew and a small possibility of being a lucky outlier	(1): questionnaire based: reluctance to provide a diagnosis, communication about variation in survival time, different ways doctors communicate uncertainty (median/percentiles, probabilities, relative frequencies, lucky outliers, survival curves, verbal expressions); (2): questionnaire based: participants' hope, realism and accuracy of predicted survival	(1): There was a strong reluctance among clinicians to provide patients with a prognosis, even when presented with a statistically well-founded right-skewed survival curve, a small minority provide hope by communicating variation in survival time; (2): 'B' participants believed they would feel more hopeful; these participants obtained a more realistic understanding of variation in survival than those who did not receive this curve	Poor

*Abbreviations: advance care planning (ACP), American Society of Clinical Oncology (ASCO), electronic medical record (EMR), end-of-life (EOL), goals of care (GOC), hospice and palliative medicine (HPM), serious illness care program (SICP), serious illness conversation guide (SICG), quality of life (QOL), question prompt list (QPL)