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Communication, Documentation, and Training Standards in Pediatric Psychosocial Oncology

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As part of a larger effort to create standards for psychosocial care of children with cancer, we document consensus and evidence-based data on interprofessional communication, documentation, and training for professionals providing psycho-oncology services. Six databases were searched. Sixty-five articles and six guidelines and consensus-based documents were identified; 35 met inclusion criteria. Data support strong recommendations for standards of care in communication/collaboration, documentation of patient information, and training in pediatric psycho-oncology. These are areas where extensive research is unlikely to be conducted; however, professional expectations and qualifications may be further clarified and strengthened with time. Pediatr Blood Cancer 2015;62:S870–S895. © 2015 Wiley Periodicals, Inc.

Key words: documentation; interdisciplinary communication; pediatric oncology; pediatric psycho-oncology; training

INTRODUCTION

This paper addresses the training and professional responsibilities of mental health professionals who provide psychosocial support for children and youth with cancer and for their family members in pediatric cancer clinics, hospitals, and in survivorship clinics. In the absence of comprehensive evidence- and consensus-based standards,[1] these standards were developed as part of the collaborative *Standards for Psychosocial Care of Children with Cancer and Their Families* project to develop a full set of standards to guide essential psychosocial care delivery to all children with cancer and their families. The history of this effort and the methodology used to develop these standards are detailed in Wiener, Kazak, Noll, Patenaude, Kupst.[2]

Although there is limited research on the diverse communications of psychosocial providers within a medical team, especially in pediatric oncology, and lack of full consensus about the teaching of communication skills,[3] it is clear that effective communication is a cornerstone of family-centered care.[4–7] Collaboration requires an intentional partnership between professional disciplines wherein mutual valuing, respect for skills and scope of practice, accountability, and shared goals for the child and family are practiced.[8–10] Psychosocial providers, whose training focuses on development of communication skills in the medical setting, often determine and share with the team the particular stresses, vulnerabilities, and strengths of the child with cancer and their family. This facilitates appropriate communication around consent and treatment, enhancing the experience for families and medical teams. Team conferences, team-patient and family dialogue, as well as patient care rounds are all effective communication strategies.[11–13]

To facilitate coordinated care plans and treatment goals among the interdisciplinary team members providing care to pediatric patients and families, pediatric psychosocial providers should have access to the patient's medical records and document assessments and interventions.[14–16]

Pediatric psychosocial providers require specialized education and training above and beyond their discipline-specific competencies and credentials in mental health care (i.e., psychology, psychiatry, social work, etc.) in order to effectively and sensitively care for pediatric cancer patients and their families.[5,6,15,17–19]

Psychosocial Standard of Care

- Open, respectful communication and collaboration among medical and psychosocial providers, patients and families is essential to effective patient- and family-centered care. Psychosocial professionals should be integrated into pediatric oncology care settings as integral team members and be participants in patient care rounds/meetings.
- Pediatric psychosocial providers should have access to medical records and relevant reports should be shared among care team professionals, with psychological report interpretation provided by psychosocial providers to staff and patients/families for patient care planning. Psychosocial providers should follow documentation policies of the health system where they practice in accordance with ethical requirements of their profession and state/federal laws.
- Pediatric psychosocial providers must have specialized training and education and be credentialed in their discipline to provide developmentally appropriate assessment and treatment for children with cancer and their families. Experience working with children with serious, chronic illness is crucial as well as ongoing relevant supervision/peer support.

Abbreviations: AGREE, appraisal guidelines for research and evaluation; GRADE, grading recommendations assessment, development, and evaluation

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TABLE I. Summary of Evidence Table-Communication, Training and Documentation Standards in Psychosocial Oncology

Standard	Evidence Summary	Methodology	Quality of Evidence	Strength of Recommendation
Open, respectful communication and collaboration among medical and psychosocial providers, patients and families is essential to effective patient- and family-centered care. Psychosocial professionals should be integrated into pediatric oncology programs as integral team members and be participants in patient care rounds/ meetings.	Given the complexities of the provision of care for children with cancer and their families, research and consensus recommendations support the importance of a well-structured, integrated environment for mutually respectful inter-professional communication and collaboration around assessment and treatment.	Systematic review articles; cross-sectional, descriptive, qualitative studies; consensus and opinions of respected authorities and expert committees.	Moderate Important limitation, methodologic flaws, indirect evidence	Strong recommendation. Consensus of expert advice outweighs relatively low level of research evidence.
Pediatric psychosocial providers should have access to medical records and relevant reports should be shared among care team professionals, with psychological report interpretation provided by psychosocial providers to staff and patients/families for patient care planning.	Psychosocial providers must abide by ethical documentation requirements of their professional organizations, recognizing the need to tailor documentation to policies of the health care system in which they practice. Documentation should describe the emotional impact of the patient's diagnosis and treatment as well as providing a summary of psychosocial services and their impact on the patient/family to monitor progress and communicate with other providers.	Opinions of respected authorities and expert committees	Low	Strong recommendation, Recommendations based on respected professional opinion.
Pediatric psychosocial providers must have specialized training and education and be credentialed in their discipline to provide developmentally appropriate assessment and treatment for children with cancer and their families. Experience working with children with serious, chronic illnesses is crucial as well as ongoing, relevant supervision/peer support.	Professional organizations develop core competencies for pediatric psycho- social providers which transcend disciplines.). Some skills are specific to a particular discipline (i.e., prescription of psychotherapeutic medication) and require additional training and certification.	Consensus and opinions of respected authorities and expert committees, one cross-sectional descriptive study.	Low Professional training standards are typically determined by consensus among experienced professionals, not by research.	Strong recommendation. Consensus around domains to be mastered, essential credentials and skills needed outweighs the relatively low level of evidence.

METHODS

Literature Search Strategy

Pubmed, Medline, CINAHL, PsychINFO, Google Scholar, OVID were utilized for the communication, documentation, and training literature searches. For communication, the search used the terms: "inter-professional communication" OR "collaboration" OR "communication" OR "multi-disciplinary teams" OR "mental health professional roles" OR "family-centered care rounds". For documentation, the search used the terms: "documentation" OR "medical record documentation" OR "staff documentation." The training search terms were: "training" OR "standards" OR "competency" OR "guidelines." All of the communication, documentation, and training search terms were combined with the terms: "pediatric oncology" OR "pediatric cancer" OR "psychosocial oncology professionals" OR "psycho-oncology" OR "pediatric psychology" OR "adolescent cancer."

Results were limited to English-language-only publications from March 1, 1995–2015. Studies utilizing any type of methodology and literature reviews and summaries were included. A hand-search of reference lists from relevant review articles was also undertaken. The title and abstract of all citations obtained through the search strategy were reviewed and full texts obtained for more in-depth review of potentially eligible studies. Included were relevant materials from the Canadian Association of Psychosocial Oncology, American Psychological Association, Association of Pediatric Oncology Social Workers, Association of Oncology Social Workers, and National Association of Social Workers.

Sixty-five articles and six guidelines and consensus-based documents about communication, documentation, and training in psychosocial oncology were identified. Thirty-five met inclusion criteria and were incorporated into this review [See Supplemental Evidence Tables]. Articles were excluded which concerned psychosocial adjustment to cancer rather than issues of communication, documentation, or training. Of these, one was a meta-analysis of controlled studies, one was an evidence-based clinical practice guideline, three were systematic reviews of descriptive/qualitative studies, 14 were individual descriptive or qualitative studies, and 16 were opinions of respected authorities and expert committees. Evidence tables were rated for the quality and strength of evidence utilizing the GRADE system [See Summary Evidence Table I].[20]

RESULTS

Communication

Collaborative person-centered practice is an approach to care that involves "the continuous interaction of two or more professionals or disciplines, organized into a common effort, to solve or explore common issues with the best possible participation" of the ill person.[21] Interprofessional communication occurs within the pediatric oncology unit or clinic and between pediatric oncology medical and psychosocial professionals and members of community organizations.[5] In rural areas, telehealth is an increasingly utilized method of communication.[22,23] Four elements that need to exist within a team include a willingness to collaborate, good communication, mutual trust, and respect.[6,9] Members of effective interdisciplinary care teams respect each other's expertise and knowledge base[7,14] and can negotiate differences of professional opinion.[15] Poor communication exacts potentially enormous economic, social, psychological, emotional, and collateral costs to the patient, the patient's support network, the clinicians, the cancer care system, and to the larger society.[24]

Young patients have the right to be fully informed about their illness and treatment and desire empathetic, direct communication with physicians.[25,26] Adolescents with cancer report the importance of being well-informed and included in decision-making about their treatment and end of life care.[27–29] Tailoring of the message and choice of the voice are important because not all want full details of their condition, care, and prognosis[26,30] and preferences vary for preferred source.

Family-centered rounds, an evidence-based intervention with families, are associated with higher parent[31] and staff[12] satisfaction, consistent medical information and care plan discussions, with little or no additional burden of time for involved providers.[11,13,32]

Documentation

Documentation must include reports of patient and/or family impact of illness, of assessments conducted, nature and impact of psychosocial services provided, monitoring of illness status, and treatment plans.[16,25] Psychosocial providers must be familiar with professional codes of ethics[15] and federal and state regulations about protection of the privacy of health information and limits of privacy protection.[4,14] Documentation and communication with other professionals must reflect appropriate understanding of what information is essential for team members and/or family members to know, when specific permission is needed, and what different rules apply under extraordinary conditions of risk of harm.[16] Treatment facilities may impose their own requirements for documentation as long as they comply with state and federal regulations, which represent the final authority.[14] The creation and handling of electronic medical record information should be governed by the same professional rules as other health care communication.[14,16]

Training

Specialized training is needed to work with pediatric populations[33,34] as well as additional professional training in psycho-oncology.[15,18] Mental health professionals working in pediatric psycho-oncology should be licensed in their professional discipline (e.g., psychology, social work) by the state or province in which they practice and credentialed in their health care setting.[5,16] Required skills include developmental, behavioral and psychological assessment, ability to assess and treat psychopathological symptoms, and also to differentiate normal reactions to severe illness from psychopathology. Providers must be experienced in the treatment of and consultation with children with cancer and their family members and knowledgeable about available psychotherapeutic and psycho-educational interventions. Training is also essential in pain management, promotion of positive health behaviors and adherence, support for decision-making, grief and bereavement, and in consultation with a broad range of other professionals.[15,17,33–36] Awareness of the challenges of the hospital environment and familiarity with the organization and workings of the pediatric cancer unit are essential to successful support of families of children with cancer.[17] Knowledge of the ethical issues which can arise in the context of pediatric cancer care is also necessary. Recognition of the interplay between cultural and spiritual beliefs and practices in the context of the family's and patient's reactions to illness and treatment are, similarly, basic aspects of the care psychosocial providers provide.[17–19,35] Some psycho-oncology providers are also experts in psychopharmacologic[37] and neuropsychological[38] assessment.

Research training aids in the understanding of progress in patient care in pediatric oncology, pediatric psychology and psychosocial oncology and of the requirements for ethical care of subjects including, notably, informed consent.[18,19,35] Personal qualities which the work requires include compassion, self-awareness, commitment to teamwork, personal growth, and a belief in the potential for resilience.[35] Learning and skill acquisition are lifelong aspects of work in this field. Because of the intensity of the work environment and of patient needs, supervision, peer support, professional growth activities, and opportunity for discussion of difficult cases are needed to prevent burnout.[18,25]

BARRIERS TO IMPLEMENTATION OF STANDARD

Barriers to interdisciplinary communication and collaboration may include role ambiguity, lack of skill sets, evolving team structures, time restraints, interpersonal interaction issues, conflict, and value differences.[10] Hierarchical organizational structures can produce a sense of inequality between members of different disciplines as well as a lack of understanding of the roles and skills of different disciplines.[7] Barriers to implementation of documentation and training standards include limited financial resources and lack of trained professionals with pediatric psycho-oncology experience as a consequence of the scarcity of training programs.[19]

DISCUSSION

Consensus reports from esteemed experts in the field and reviews by panels of senior members of professional organizations do not establish the same level of evidence as research, which is largely lacking in this area. Although research might be helpful to definitively assess salient components of psychosocial communication, documentation and training and their impact on patient care, these are unlikely areas for major research investigations. Reliance upon professional organizations, credentialing bodies, and sporadic research studies for further evidence in these important areas will be required.

CONCLUSION

Upholding professional standards in the psychosocial care of children with cancer requires hiring of professionals with the training, credentials, and skills to do this complex work. Best accomplished in the context of multi-disciplinary teams, there are both discipline-specific and common skill areas needed to provide and document psychosocial services to children with cancer and their families and to develop and implement interventions and programs of care. Shared communication requires mutual respect, clear documentation of services delivered and needed, medical status and prognosis information, and assessments of patient and family functioning. Because the work is inherently complex and challenging, opportunities for peer or mentored supervision, and/or professional development are recommended at all levels of professional experience.

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SUPPLEMENTARY INFORMATION

SUPPLEMENTAL TABLE I. Evidence Table for Communication Standard

Study	Design	Sample	Findings	Study Rigor	Level of evidence
American Psychological Association (2013)[1]	Professional guidelines developed by consensus of experts within large, national health care organization.	Not applicable	Psychologists must foster an understanding by other professionals of the “skills and potential contributions” of psychologists, while also gaining an understanding of the roles, skills, and potential contributions of other professions with whom they work on transdisciplinary teams. Recognition of both the distinct and overlapping roles of professionals in different disciplines allows for open discussion among professionals about the most effective provision of needed services. Psychologists are well-trained in enhancing communication with patients, ensuring quality of life considerations, and negotiating differences of opinion among patients, families or health care providers.	Review, relevant papers from US contexts included.	7
Association of Oncology Social Work (2012)[2]	Professional standards of practice in oncology social work guidelines developed by consensus of experts within large, national health care organization.	Not applicable	Oncology social workers embrace family-centered care at all levels of practice.	Review, relevant papers from US contexts included	7
			Patient and family-centered care includes communication, education, shared decision-making and collaboration with patients and families as well as collaboration with other professional disciplines. Oncology social work is an integral part of the health care team and contributes to the development and coordination of the overall plan of care for patients and families.		
Association of Pediatric Oncology Social Workers (2009)[3]	Professional Standard of Practice guidelines developed by an international organization of pediatric oncology social workers	Not applicable	Pediatric oncology social workers utilize interaction with other professionals, colleagues, and resources on behalf of patients and families.	Review, relevant papers from international contexts included	7
			Collaboration and communication with community organizations and businesses including schools, parent groups, financial institutions and others regarding the impact of childhood cancer on patients and families is important. Pediatric oncology social workers consult and support interdisciplinary colleagues involved with indirect and direct care and treatment of pediatric oncology patient and their families.		

(*Continued*)

SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Bhansali P, Birch S, Campbell JK, Agrawal D, Hoffner W, Manicone P, Shah K, Krieger E, Ottolini M (2013)[4]	Descriptive analysis of the participation of parents and members of the healthcare team during rounds	159 rounding encounters (99 hospitalist, 60 neurology)	Parents of admitted children were present for 72% of observed encounters, participated in 81% of encounters and clarified or corrected information to the team in 39% of encounters. 15% of participants were of limited English proficiency, an interpreter was present for 65% of these encounters. Parental involvement was not associated with slower rounding time.	Research objectives clearly stated. Prospective, observational study approach justified. Study context, role of investigators, method of data collection and analyses are clearly described. Sampling strategy appropriate and adequate for study objectives, though results may not be generalizable beyond the single institution practices. Descriptive analyses appropriate for study objectives.	6
Butler L, Degner L, Baile W, SCRN Communication Team, Landry M (2005)[5]	Critical interpretive analysis of studies from a Cochrane Review	4,238 studies were retrieved through the Cochrane Review and 47 studies were included.	A review of the communications training literature captured empirical indicators used to judge provider communication competency and described how indicators were characterized in the context of communication competency. Within the review, there appeared to be a lack of agreement on a conceptual definition for communication, a definition of what constitutes communication competency, a description of associated skills training, and the appropriate methods for evaluating training effectiveness. *There are other findings of importance unrelated to Communication.	Right types of papers included. Important, relevant studies included. Appropriately assessed for quality of studies. Reasonable to combine results in this way. Important outcomes considered.	1
Canadian Association of Psychosocial Oncology (2010)[6]	Professional organization of psychosocial health service providers for persons with cancer and their families. Standards of Practice provide national global guidelines for promoting the capacity for excellence in psychosocial oncology services.	Not applicable	Care is provided by healthcare professionals who collaborate effectively with one another on an interdisciplinary team. Interprofessional collaboration involves a willingness to collaborate with good communication and mutual trust and respect.	Review, important relevant papers from Canadian context included.	7

(*Continued*)

SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Eilertsen, ME B, Kristiansen K, Reinfjell T, Rannestad T, Indredavik MS, Vik T (2009)[7]	Qualitative study using focus group interviews	18 Health and non-health professionals from a wide variety of disciplines caring for 56 children with cancer, who were working at the University Hospital or in the child's home community.	Professionals perceived the professional collaborative model (PCM) developed in Norway as being a valuable system for giving the necessary support and long-term follow-up care for children with cancer and their families.	Research objectives clearly stated.	6
			Well-structured collaboration between professionals is important.	Qualitative approach justified.	
			Well-structured collaboration also gives professionals insight into each other's professional working fields and then broadens their own knowledge and perspectives.	Limited details of the study context.	
			Collaboration can be time-consuming impacting the professional's ability to function at an optimal level.	Role of some of the investigators was described.	
			Well-functioning collaboration is often dependent upon an individual's personal qualities rather than their professional background.	Sampling strategy of health and non-health care professionals may not be representative of professionals caring for children with cancer.	
			Collaborative model seen as a preventive and relatively uncomplicated follow-up care system, integrating parents with the care team, contributing to family resilience.	Method of data collection (3 transcribed focus group interviews) was described but there was limited information about the interview guide. Limited details of the qualitative analysis approach.	
Enskar K, Carlsson M, Golsater M, Hamrin E (1997)[8]	Qualitative Interview using open-ended questions to assess inconveniences in adolescent cancer treatment	Adolescents treated for cancer between the ages of 13–20 (N = 10)	In the healthcare setting, it was important for the adolescents to feel welcome, respected and listened to.	Research objectives clearly stated.	6
			*There are other findings of importance unrelated to Communication.	Qualitative study approach justified. Study context and role of investigator clearly described. Results may not be generalizable due to small, homogeneous Swedish sample. Use of qualitative interview with open-ended ended questions appropriate but interview questions not clearly stated. Qualitative analysis description lacked details.	

(*Continued*)

SUPPLEMENTAL TABLE I. *(Continued)*

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Gibson F (2009)[9]	Editorial	Not applicable	No single profession can treat the complex physical and psychosocial needs of children with cancer. The multi-professional team is a vital component of quality care. Multi-professional teams are not just a group of professionals who work independently but liaise with one another. But, rather, are professionals who learn from and about one another so that they can effectively work across professional boundaries for the benefit of the patient. Collaboration is not always straightforward as differences in training, knowledge skills, and values all have an impact on how professionals relate to and work with each other. Collaboration requires creating environments of trust and respect enhanced by good listening skills, cultural growth, professional confidence and the belief in the skills and knowledge that professionals possess. In order for real improvements in the quality of care, there must be a focus on measuring integration and multi-professional working, and learning to better articulate what works.	Rigor rating not applicable-editorial written by expert in children's cancer nursing research.	7
Goodenough B, Cohn RJ (2004)[10]	Cross-sectional descriptive study using developed survey to explore parents' previous experience with or knowledge of telehealth applications and perception of future uses in childhood cancer.	Parents of childhood cancer patients in New South Wales, Australia ($N = 100$)	The return rate for the completed surveys was 42% ($n = 90$) with one survey rejected due to incomplete items.	Final sample size unclear. Parent sample consisted primarily of mothers.	6
			Rural parents gave significantly higher ratings for the impact of time and distance than metropolitan families.	Data collection (parent survey ratings) appropriate to study method. Survey (unvalidated) developed for the study using 5-point Likert response scale.	
			The ratings of usefulness of telecommunication applications for psychosocial and educational needs were significantly higher than diagnostic or clinical needs ($F(3,84) = 4.68$, $p = 0.034$).	Appropriate analyses.	
			Rural parents gave significantly higher positive agreement with categories related to telehealth applications than metropolitan families. 33% of parents indicated that if available to them, they would "sometimes" communicate with a health professional via telecommunication. 80% of these parents were from rural regions.	Some reporting of the methods not clearly described; lack of inclusion of study limitations.	
Grassi L, Watson M, IPOS Federation of Psycho-Oncology Societies' Co-Authors (2012)[11]	Survey conducted by representatives that comprise the Federation of National Psycho-oncology Societies coordinated under the aegis of IPOS.	Representatives of 29 countries participated	Representation included North America, Europe, Australia and New Zealand, Middle East, Asia, South America, and Africa.	Data collection appropriate to study method.	6
			Although psychosocial oncology is a growing field, this type of care is not established completely or sometimes not at all as an integral part of care—especially in developing countries where even medical care is sometimes not well provided. Despite the knowledge of how effective psychosocial oncology care is in improving patient's quality of life and, in reducing health system costs, it is still not specifically offered or integrated.	Reporting comprehensive, clearly described.	

(Continued)

SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Herbert CP (2005)[12]	Editorial review of patient-centered healthcare	Canadian Health Care systems	Collaborative patient-centered practice is the continuous interaction of two or more professionals or disciplines working toward a common, patient-minded goal. Collaborative patient-centered practice is designed to promote the active participation of each discipline in patient care. It also enhances and fosters respect for disciplinary contributions of all professions. Patient-centered healthcare fosters family goals and enables constant communication between health care providers. Schools must alter their curriculums to include interprofessional trainings, but there must first be evidence of its efficacy to convince them to make the change.	Rigor rating not applicable-editorial written by co-chair of the Health Canada National Expert Committee on Inter-professional Education for Collaborative Patient-Centered Practice	7
Hokkanen H, Eriksson E, Ahonen O, Slaantera S (2004)[13]	Qualitative study consisting of 3 focus groups with adolescents grouped by age	N = 20 adolescent cancer patients, aged 13 to 18 years, who were at least 1 year post-diagnosis and attending a cancer adjustment camp	Participants desired more information about how their disease would affect their future, such as how to cope in a socially embarrassing situation, or what effects their medication would have in the future. Teens hoped that staff could engage in more reciprocal communication and that doctors would spend more time explaining their disease to them in less academic ways.	Research questions clearly stated. Qualitative approach justified. Study context clearly described. Purposive sampling was used, focusing on cancer adjustment camp attendees because of likelihood of willingness to share their experiences with others. Results may not be generalizable or representative of all adolescents with cancer. Lack of details provided about the interview questions and qualitative analysis approach.	6
Hughes PM, Lieberman S (1990)[14]	Descriptive pilot study using mixed methods (qualitative semi-structured interview and self-report psychological functioning questionnaires)	Convenience sample of 18 parents (8 married couples and 2 mothers) of 10 children with cancer (between the ages of 2 and 13 years, 6 boys & 4 girls, on and off treatment)	A third of parents showed marked communication difficulty with staff, friends and their own spouses. *There are other findings of importance unrelated to Communication.	Research question not clearly described. Qualitative approach justification not reported. Study context and method of data collection not clearly described. Convenience sample without purposive sampling was used. Small sample size for quantitative analysis. Analysis approach not reported. Reporting not clearly described.	6

(*Continued*)

SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Kleiber C, Davenport T, Freyenberger B (2006)[15]	Quality-improvement (QI) project to include parents in bedside medical rounds in the pediatric intensive care unit (PICU); utilized survey	One 12 bed PICU at Children's Hospital in Iowa City, Iowa	6 months after initial implementation of open rounds, all 5 staff PICU physicians agreed that rounds were beneficial to patient's parents. Additionally, physicians reported that it saved time later in the day, when they would normally seek parents out.	QI survey appropriately developed for the project evaluation because none existed based upon literature review.	6
			After implementation of open rounds, nurses felt less like they were caught in the middle of communication between parents and physicians.	Sampling strategy not reported.	
			The results of the parent surveys revealed that they appreciated being present during rounds and 92% indicated that they were not worried about confidentiality issues during child presentations at rounds.	QI evaluation context and method of survey data collection clearly described. Data analysis not reported.	
Knoderer H (2009)[16]	Pilot study assessing family and medical trainee satisfaction with sit-down multidisciplinary team rounds on a pediatric oncology unit using multiple-choice satisfaction survey administered on day of discharge.	18 families completed and returned the survey concerning their experience with family centered rounds.	One junior level practitioner, supported by a senior practitioner, initiated family-centered rounds for a total of four weeks. After six months, all 9 attendings and fellows had participated in family-centered rounds.	Project/study question was not clearly stated.	6
			Bedside rounds give the residents the opportunity to get hands on learning.	Project context described. Sampling strategy not reported. Limited details provided about satisfaction survey developed and timing of survey completion for the project. Data analysis not reported.	
			Communication is more complete with the resident or medical student present during bedside rounds, as often parents will reserve questions for the attending that otherwise the residents may not be faced with. Family-centered rounds have become the new standard of care at Riley Hospital for Children in Indianapolis, Indiana. Non-English speaking families incurred a large time barrier because of interpreter translation. Family-centered rounds increased rounds time by less than 15 min. During 6 months, an average of 4–7 families participated in rounds. Teenage patients attended rounds most regularly. Teens were more vocal during group rounds then at bedside, particularly concerning pain management. Parents reported increased confidence in their child's care with family centered rounds. When the attending was out of the hospital, they would now often recognize residents, whom they may not have previously met, who they knew had a working knowledge of their child's case. Parents reported feeling there was more consistency among medical personnel as less information was lost in translation. 100% of parents indicated that inclusion of parents in rounds should be continued.		

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SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Latta LC, Dick R, Parry C., Tamura GS (2008)[17]	Qualitative descriptive study, as part of a quality improvement project, using semi-structured interviews developed for the study.	Convenience sample of parents of children on inpatient units who participated in rounds in a large academic children's hospital (N = 18)	Primary themes presented by parents during the interview process concerning their experience during rounds were communication, participation and teamwork.	Research question clearly stated.	6
			Of 290 responses, communication was the most important them. 66 of such were classified as exchange of information related to the child's plan of care making it the most important communication aspect for parents during rounds.	Qualitative approach justified.	
			Participation during rounds was the second most important theme, with many parents listing the ability to ask questions or share their perspective to be integral to feeling respected in a parental role.	Study context and role of researchers clearly described.	
			Seeing the entire care team interact on behalf of the their child was the third most prevalent topic, with it being mentioned 33 times during interviews.	Convenience sample obtained without purposive sampling.	
			Using lay terminology is essential to overall parent understanding during rounds. Including nurses in rounds and writing down the child's treatment plan helped assist parents with questions after rounds and made information seem more accessible.	Method of data collection described but limited detail about interview development.	
				Limited details provided about content analysis.	
Lewis C, Knopf D, Chastain-Lorber K, Ablin A, Zoger S, Matthay K, Glasser M, Pantell R (1988)[18]	Study to compare standard versus bedside rounds. Questionnaires administered to parents and children interviewed on the third day or later of child's hospital stay	35 families of hospitalized pediatric cancer patients (40 parents or primary caretakers completed questionnaires).	Of the 36 parents who had experienced bedside rounds, 82% preferred to have teaching conducted during beside rounds, 18% preferred that teaching be done elsewhere.	Multiple research questions stated but it is unclear which one was the primary research question(s).	6
		22 hospitalized children of the 35 families interviewed (ages 3 to 18 years) using unknown standardized interview.	Of the 13 parents who experienced both types of rounds, 11 preferred bedside rounds, one parent preferred standard rounds and one was undecided.	Small sample size. No power analysis computed.	
		9 pediatric housestaff who had oncology/ hematology rotations completed questionnaires	Parents tended to rate bedside rounds as less confusing than standard rounds.	Lack of detail provided about the measures which varied depending upon whether child, parent, or provider (interview vs questionnaire) and data collection procedure.	
			Parents viewed bedside rounds as not upsetting to themselves but somewhat upsetting to their children. Parents rated bedside rounds significantly more upsetting than standard rounds to their children ($t = 2.40$, 8 df, $P < 0.796$). However, children did not suggest that bedside rounds were upsetting.	Data analysis approach was not reported.	
			The question "How do children feel during bedside rounds?", 43% of children who experienced bedside rounds reported no associated negative feelings, 48% mentioned some negative feeling (most commonly physical pain and confusion).	Reporting not clearly described.	
			Compared to children who had experienced bedside rounds, children who had not experienced bedside rounds reported significantly less that good news had been conveyed during standard rounds.		
			When asked what changes they would like to make to rounds procedure, 20% of children who had experienced bedside rounds and 50% of children who had experienced standard rounds wanted to make changes. All children listed the desire to hear rounds as the suggested change.		

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SUPPLEMENTAL TABLE I. *(Continued)*

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Martín-Rodríguez LS, Beaulieu MD, D'Amour D, Ferrada-Videla M (2005)[19]	Literature review of theoretical and empirical studies concerning interprofessional collaboration in healthcare settings	N = 10 papers	Nurses consider the disparity of power between themselves and physicians as one of the principal factors preventing collaboration. It is necessary for nurses to feel equal to physicians for a collaborative relationship to be established.	Appropriate type of papers and relevant studies included based upon reported literature search strategy.	5
			It is possible that cultural values, such as individualistic attitudes and preference for specialization, may make it more difficult to establish a collaborative environment.	Quality of studies not assessed. Only description of studies provided.	
			If there is professionalization in the workplace, it is more likely that team members will become territorial of their area. It also becomes difficult to create positive team collaboration as all team members have been philosophically trained in their own fields and do not necessarily understand the other team member's jobs. This leads to the "fragmentation of care".	Summary of results appropriate and salient outcomes considered.	
			Several authors discuss the necessity of interprofessional training programs to develop an understanding a regard for other professionals positions.		
			According to some authors, an organizational shift is required in healthcare teams toward a more horizontal structure instead of the traditional hierarchal structure which do not facilitate open communication and shared decision-making.		
			It is also important to have administrative support of moving to a collaborative practice. One study highlighted the need for managers who project realistic goals.		
			It was shown that sharing space and working in the same physical proximity was integral to developing important interpersonal relationships among staff and team members. It was also shown to reduce territorial behaviors.		
			Healthcare workers also need to be afforded enough time to adequately communicate about shared patients to support collaborative work, which indicates that there needs to be financial support for this approach to be successful.		
			Another important factor is trust among coworkers. It was found that trust depends on the competence of the healthcare provider (skills, experience and knowledge).		
			Communication is considered to the most important determining factor of an effective collaborative healthcare team. It is a determinant for other aspects of collaboration, like mutual respect and trust.		

(Continued)

SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Rappaport DI, Ketterer TA, Nilforoshan V, Sharif I (2012)[20]	Correlational descriptive/ observational study to compare the impact of family-centered vs non-family centered rounds on parent perspectives of rounds. Study utilized observation of rounds using a tool developed for the study and family satisfaction survey developed for the study.	N = 295 patients observed during rounds, N = 137 patients and families completed satisfaction surveys, N = 257 staff completed satisfaction surveys	Data was collected over 35 nonconsecutive days.	Sample size sufficient for some outcomes but not others.	6
			Rounds lasted 1–28 min per patient, with a meantime of 9.2 min (SD = 5.6).	Lack of details provided about observation tool and satisfaction surveys developed for the study.	
			Time per patient and transition time were significantly shorter when families were present during rounds.	Data analyses appropriate.	
			Families who returned surveys were more likely than non-responders to have been present during rounds (57% vs 27%, P<.0001). Of the 137 respondents, 74 were present during rounds that day.	Reporting of results clearly described.	
			Families who participated in formal attending rounds were more likely to report knowing team members roles (54% vs 35%, P = .02). Staff completed 257 surveys (78 medical students, 60 interns, 59 nurses, 31 residents and 29 physicians). Overall staff felt it was easy to manage the length of rounds with families present and, staff disagreed that patient and family concerns took up too much time. Staff also agreed that family contributions were helpful and families participated in decision making.		
Thorne S, Bultz B, Baile W, SRCN Communication Team (2005)[21]	Critical analysis of existing empirical literature addressing the impact of ineffective communication between cancer patients and clinicians.	Literature related to communication breakdown during cancer treatment was reviewed and summarized.	Poor communication can affect the quality of information transmission, the decisional process of the patient and the psychosocial experience of the patient.	Authors summarized literature but the literature search procedure and inclusion criteria not reported.	5
			There can be significant misunderstandings among patients about the seriousness or outcome of their disease.	Quality of studies not analyzed or reported.	
			Poor communication is known to increase the use of alternative medicine that may be unnecessary.	Extrapolated from existing scant literature to derive potential costs of poor communication.	
			Poor communication also results in heightened anxiety and depression, and therefore, further strains on the system economically. It can also result in poor psychological adjustment, ineffective coping, hopelessness and reduced quality of life. Patient communication style may also affect the clinician. In a large meta-analysis of 91 medical cost offset studies related to psychological intervention, authors concluded that 90% found a significant reduction in the use of medical services. Overall, unnecessary office visits, medical procedures, diagnostic tests and hospital admissions can be the result of poor communication between provider and patient. Studies of senior clinicians reveal that burn out is related to feeling poorly trained in communication skills.		

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SUPPLEMENTAL TABLE I. *(Continued)*

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Tsimicalis A, DeCourcy MJ, DiMonte B, Armstrong C, Bambury P, Constantin J, Dagelman B, Eves M, Jansen P, Honeyford L, Stregger D (2011)[22]	Clinical Practice Guidelines of pediatric oncology telepractice in symptom management. Conducted by a nursing task force of the Pediatric Oncology Group of Ontario	1,897 titles and abstracts were reviewed for relevance and inclusion for review; 15 publications were identified for review.	Results of review indicated there are no published evidence-based telepractice guidelines for symptom management for children undergoing cancer treatment.	Review and analysis of the literature; rated level and grade of evidence; used consensus development based on existing evidence to develop telehealth guidelines for symptom management.	1
			Telepractice in pediatric oncology may provide opportunities to improve communication of symptoms with children, parents of children with cancer anticipate the use of technology-based communication methods during treatment, and parents are willing to improve communication with the health care team by using of email, video conferencing, and web-based resources.	Right type of papers and relevant studies included.	
				Appropriately assessed for quality of studies and reasonable integration of results.	
Yeager S (2005)[23]	Opinion paper of the issues associated with interdisciplinary collaboration	Not applicable	To achieve interdisciplinary leaning, providers must recognize that each discipline has an important contribution.	Not applicable; individual expert's practice recommendations/opinions	7
			Commitment to work together across traditional boundaries. Premise of equality and respect. Barriers are changing team structure, communication breakdown, lack of time, divergent value systems, role ambiguity, lack of skill sets, and variance in educational focus. Skills for collaboration can be acquired through experience, role modeling, and performance evaluations. Learning is balanced between independent and collaborative responsibilities and promotes the successful development of professional integrity and team negotiation. Needs of the clients are beyond the expertise of any single profession.		

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SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Young B, Dixon-Woods M, Windridge KC, Heney D (2003)[24]	Qualitative study using semi-structured interviews	Convenience sample (N = 13) of pediatric cancer patients aged 8–17 years (8 males, 5 females) and 19 parents of the 13 children (13 mothers, 6 fathers)	Parents often acted as an executive upon the child's diagnosis, deciding when and how much about the child's disease was shared with the child.	Study objective was stated.	6
			All parents but two expressed a desire to be informed first about their child's diagnosis to compose themselves before informing their child. Parents ultimately wanted to remain strong and optimistic and felt unable to do so if informed at the same time as the child.	Justification for use of qualitative study not provided but appropriate for the research objective.	
			Some children felt positively about their parents setting information boundaries with them, while other children were not happy with the executive management of their illness by their parent.	Limited details provided about the study context.	
			Consultations with doctors often made children feel as if they did not have a voice.	Role of researchers described.	
			Dependency on parents for information arose because most children did not see themselves as having direct access to information through their own interactions with doctors, nurses etc.	Convenience sample obtained without purposive sampling.	
			Some older children only wanted the basic information about their illness, whereas some younger children wanted the clinical details. It is difficult to come up with a timetable for when and how much children should be informed on their own disease because it depends on the child's needs.	Data collection and measures not clearly described.	
				Minimal detail provided about qualitative analysis.	

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SUPPLEMENTAL TABLE I. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Zwaanswijk M, Tates K, van Dulmen S, Hoogerbrugge PM, Kamps WA, Beishuizen A, Bensing JM (2011)[25]	Descriptive study using questionnaires in response to vignettes	N = 34 pediatric cancer patients (aged 8-16 years), N = 59 parents of the 34 pediatric cancer patients (33 mothers and 26 fathers), N = 51 pediatric cancer survivors who were diagnosed between ages 8-16 years.	Each participant received a unique sample of 10 vignettes.	Small sample size.	6
			Patients, parents and survivors all emphasized the importance of the healthcare provider's empathy. Parents preferred healthcare provider empathy when a poor prognosis was given, in situations in which parents had limited experience with serious illnesses or had a lot of experience with serious illnesses due to their own work in the healthcare field. A decreased need for empathy was shown during consultations, which are primarily to deliver information. Survivors preferred healthcare provider empathy when a poor prognosis was given or when treatment was not working. There were no significant associations in the child group.	External validity is questionable based upon vignette approach.	
			Information given simultaneously to parents and children was preferred depending on age and emotionality. Respondents preferred 8 year old patients and children who were easily frightened not to receive treatment information at the same time as their parents, but to be provided with information only when they specifically asked for it. Parents preferred 16 year olds to receive information simultaneously with their parents even when they did not specifically ask for it.	Analyses appropriate.	
			In 49–69% of situations, respondents preferred patients to receive information without their explicit request for information; 31%-51% of situations respondents preferred patients to be shielded from information.	Reporting clearly described.	
			In most situations, respondents preferred children to participate in medical decision making, depending on child age. Respondents preferred 8 year olds to not be involved in medical decision making, however, the opposite preference was found for 16 year olds. Parents preferred children who were easily frightened or given a moderate or unclear diagnosis not to partake in medical decision-making.		

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SUPPLEMENTAL TABLE II. Evidence Table for Documentation Standard

Study	Design	Sample	Findings	Study Rigor	Level of evidence
American Psychological Association (2007)[2]	Professional guidelines for record-keeping, which were developed by consensus of experts within large, national health care organization.	Not applicable	While state and federal laws take precedence, psychologists are responsible for determining optimal level and nature of detail in their patient record-keeping which incorporates ethical responsibility to document care in ways which would be helpful to anyone assuming the patient’s care in the future. They may also incorporate the patient’s wishes to the extent that it does not compromise their ethical responsibilities. Psychologists working in organizational settings (such as hospitals and clinics) may need to modify their record-keeping to fit the expectations of other professional groups and of the organization and, potentially, of third-party payers to include information essential to reimbursement for the services rendered. “Treatment team involvement in service delivery may occasion wider access to records than usually exists in independent practice settings” and affords psychologists less control of their records, since “multiple service providers access and contribute to the record”. Psychologists are encouraged to participate in development and refinement of organizational policy regarding record security. Electronic records should also be created and maintained in ways which protect, “their security, integrity, confidentiality, and appropriate access.”	Review, appropriately based largely on the Ethics Code of the APA and survey of state and federal laws. Not research, but consensus from the Committee on Professional Practice and Standards (COPPS) of the APA, with wide review by US psychologists. Currently, a revision is underway, to be implemented prior to 2017.	7
American Psychological Association (2013)[1]	Professional guidelines for psychological practice in health care delivery systems developed by consensus of experts within large, national health care organization.	Not applicable	Psychologists must know and abide by the tiers of health care record release, based on the sensitivity of the health care information, ethical requirements of their profession and the documentation requirements of the health care delivery system in which they practice.	Review, relevant papers from US contexts included	7
Association of Oncology Social Work (2012)[3]	Professional guidelines developed by consensus of experts within large, national health care organization	Not applicable	Oncology social workers utilize clinical documentation, statistical reporting and evaluation of services. AOSW follows the Code of Ethics from NASW.	Review, relevant papers from US contexts included	7

(*Continued*)

SUPPLEMENTAL TABLE II. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Kowalczyk [JR, [Samardakiewicz M, Fitzgerald E, Essiaf S, Ladenstein R, Vassal G, Kienesberger A, Pritchard-Jones K (2014)[4]	Position paper explaining the current state of European pediatric cancer care	European pediatric cancer centers	A document was published with bare minimum requirements of centers treating children with cancer detailing 15 different aspects of care.	Rigor rating not applicable-Position paper which included a panel of experts' practice recommendations.	7
			One standard of care was the maintaining of a childhood cancer register based upon the international classification. Another standard of care related to documentation is the monitoring of the psychosocial impact of treatment and diagnosis and demand that all information and progress-stages are well documented.		
National Association of Social Workers (2005)[5]	Professional guidelines (Standards of Practice) developed by the largest membership organization of social workers in the world.	Not applicable	Documentation must reflect an accurate account of services and must include progress notes, reports, and summaries of services.	Review, relevant papers from US contexts included.	7
			Documentation records must meet current federal provisions regarding privacy, security and electronic transactions standards and code sets. Clinical social workers shall be familiar and comply with local, state, and federal mandates governing privacy and confidentiality, such as HIPAA requirements and state medical records laws.		

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SUPPLEMENTAL TABLE III. Evidence Table for Training Standard

Study	Design	Sample	Findings	Study Rigor	Level of evidence
American Psychological Association (2013)[1]	Guidelines developed by expert consensus of very large professional organization	Not Applicable	Psychologists working in health care settings are defined by having a Ph.D. in Psychology, having completed a clinical internship and supervised experience in health care settings, and being an independently licensed professional. Psychologists in these settings must have training for and be competent in providing psychological assessment, treatment and consultation, developing prevention programs, participating in decision making about treatment planning, discharge, etc., be capable of engaging in scientific research, and keep abreast of relevant advances in the field through continuing education and training, including cultural competence for health care delivery to diverse groups. Special training is needed for working with pediatric populations. Self-care is encouraged to ensure high quality care delivery. Psychologists working in specialized health care settings must develop, "sufficient familiarity with the environment, culture and context" in which care is given to be able to help patients adjust to illness and treatment and make complex decisions about their care. Psychologists should also aid in pain management, promote positive health behaviors, and collaborate with medical providers about the patients well-being, medication, etc.	Review, relevant papers from US contexts included	7
Association of Pediatric Oncology Social Workers (2009)[2]	Guidelines developed by expert consensus of international professional organization	Not applicable	Social workers in pediatric oncology social work practice should possess an advanced degree in social work from an accredited school of social work. Licensure or certification by the state or country of practice is mandatory. Knowledge obtained through formal education, post-graduate training and ongoing professional development is essential.	Review, relevant papers from international contexts included	7
Bronheim H, Fulop G, Kunkel EJ, Muskin PR, Schindler BA, Shaw R, Steiner H, Stern TA, Stoudemire A (1998)[3]	Guidelines for Psychiatric Consultation in the general medical setting	Not applicable	The guidelines set forth were meant to serve as an outline for training and knowledge that are generally necessary to guide the clinician's approach to the patient. There is one section of the guidelines that pertains to pediatrics, includes specialized clinical experiences recommended for psycho-oncologists in the evaluation and treatment of developmental, behavioral, and psychological treatment of children, adolescents, and their families in a medical setting. The psychiatrist must have awareness of the specific psychiatric needs of children facing traumatic medical procedures and hospitalizations. The psychiatrist must be able to identify social, environmental, and cultural factors relevant to psychiatric consultation, and appreciate developmental and family issues as they apply to diagnosis and intervention. Psychiatrists working in this area must have a broad understanding of the many medical issues and outcomes for children and adolescents in this setting. Consultation psychiatrists must have board eligibility of board certification in child and adolescent psychiatry and the ability to perform in a leadership role within a multidisciplinary team.	Review, relevant papers included	7

(*Continued*)

SUPPLEMENTAL TABLE III. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Canadian Association of Psychosocial Oncology (2010)[4]	Guidelines developed by expert consensus of national professional organization	Not applicable	Psychosocial oncology specialists include Master of Social Work, PhD, MN or PhD advanced practice nurses with a specialty in psychiatry or mental health, psychiatrists, spiritual care providers with certification.	Review. Relevant papers from Canadian contexts included	7
Clay DL, Elkin TD (2006)[5]	Expert opinions based on review of training programs and published	Not Applicable	Trainees need background in assessment and testing, health and abnormal psychology, child development, theories of psychotherapy and practical experience in conducting counseling and psychotherapy. The 4 levels of training in psycho-oncology are entry level, skill development, mastery/autonomy and supervision/teaching. Domains of needed pediatric psycho-oncology training include lifespan developmental psychology and psychopathology, child, adolescent and family assessment, intervention strategies, research methods and systems evaluation, professional, legal and ethical issues, diversity, understanding the roles of multiple disciplines in service delivery systems, prevention and health promotion, consultation and liaison roles and disease process and medical management. Core content areas where special training is required are death, grief and bereavement, pain management, behavioral techniques and neuropsychology (see section of Standards related to neuropsychological assessment professional standards.) Knowledge of complementary or alternative medicine and maintenance of self-care and avoidance of burnout are also important skills for psycho-oncologists. Learning and skill acquisition are a lifelong process.	Review of ethical standards, training programs. Important areas considered.	7
Hoge MA, Roth AJ (2015)[6]	Review of training standards and expectations in psycho-oncology for psychiatrists and psychologists	Not Applicable	Certification as a psychiatrist from the Accreditation Council of Graduate Medical Education (ACGME) requires a one-year post-residency fellowship in psychosomatic medicine (previously called consultation-liaison psychiatry). Only 2 psychiatry fellowship programs in the country have programs dedicated to psycho-oncology. Required core competencies include patient care, medical and/or psychiatric knowledge, professionalism, system-based practice, practice-based learning and interpersonal and communication skills. Psycho-oncology demands that psychiatrists recognize psychiatric problems exacerbated or initiated by cancer or cancer treatments (e.g. steroid psychoses) and that they, conversely, recognize common psychiatric/psychological problems raised for patients which arise for cancer patients related to the impact of their cancer treatment (body image, sexual functioning, fear of dying etc.). Treatment of cancer-related pain is another essential area. Psychiatrists must know the essentials of cancer treatment for the area in which they practice. They should be aware of psychological or behavioral interventions which may be of use to cancer patients. Understanding the potential psychiatric impact of various complementary approaches is also increasingly needed. Extensive experience working with multidisciplinary teams is required. Health psychology requires competency in assessment, intervention, consultation, research, supervision and training, management and administration, as identified by the Health Psychology Division of the American Psychological Association. Also expected is reflective self-assessment, scientific knowledge and methods, awareness of cultural diversity, ethical and legal standards and interdisciplinary systems.	Review of ethical standards, training programs. Important areas considered.	7

(*Continued*)

SUPPLEMENTAL TABLE III. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Kennedy V, Smolinski KM, Colon Y, Zabora J (2015)[7]	Expert opinions based on review of training programs and published	Not Applicable	The Council on Social Work Education (CSWE) accredits social work training programs in the United States. Some offer specialized oncology social work training. Social workers are regulated through professional licensure by states in the United States. Areas of competence include life stage development, family functioning, cultural and spiritual influences, evidence-based interventions, symptom management, financial issues, community resources and areas of innovation. The family is viewed as the focus of care in psycho-oncology. There is recognition of the socio-economic impact of cancer and of the common strain on family resources; social workers help assess and direct families in need to sources of aid in their communities. Competencies required in oncology social workers include screening, assessment and measurement of outcome, individual and family counseling, symptom management, discharge and transitional planning, information and referral to community resources, advocacy and patient navigation, administration and clinical supervision, staff intervention and support and training and supervision. Personal qualities the work requires include compassion, self-awareness, commitment to teamwork, personal growth and a belief in resilience.	Review of ethical standards, training programs. Important areas considered	7
Kowalczyk JR, Samardakiewicz M, Fitzgerald E, Essiaf S, Ladenstein R, Vassal G, Kienesberger A, Pritchard-Jones K (2014)[8]	Position paper outlining the European standards of care for children with cancer aimed at improving their quality of care.	European pediatric cancer centers	Recommended staffing levels for a Pediatric Hematology or Oncology Unit: must consist of minimum number of qualified staff who specializes in treating children with cancer and be capable of responding to the needs of patients and families including having a multidisciplinary care team. Continuous professional development for the patient's care team should be mandatory. Psychological and Psychosocial Care Standard: Parents of children with cancer should be provided psychosocial education/guidance and patients and families should be offered psychological support.	Rigor rating not applicable-Position paper which included a panel of experts' practice recommendations.	7
National Association of Social Workers (2005)[9]	Guidelines developed by expert consensus of international professional organization	Not applicable	A Master of Social Work degree from a social work program accredited by the council on social work education is required for practice. A minimum of two years of 3,000 hrs of post-master's degree experience in a supervised clinical setting is a requirement practice. A license in the state of practice is required.	Review, relevant papers from US contexts included	7

(*Continued*)

SUPPLEMENTAL TABLE III. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Palermo TM, Janicke DM, McQuaid EL, Mullins LL, Robins PM, Wu YP (2014)[10]	Recommendations for training competencies for pediatric psychologists developed by the Task Force on Competencies and Best Training Practices in Pediatric Psychology of the Society of Pediatric Psychology (SPP), Division 54 of the American Psychological Association	Task Force consisted of a small expert panel of pediatric psychologists in SPP	The Task Force adapted general competencies for professional psychology developed by APA's Competency Benchmarks Work Group and competencies for health service professionals derived from the Health Service Psychology Education Collaborative and developed further competencies for training specific to pediatric psychology. Behavioral anchors are described for readiness for practicum, internship and entry to practice for each competency cluster. Recommendations were identified under 7 Competency Cluster Areas: 1.. Crosscutting Knowledge Competencies in Pediatric Psychology (i.e., Values and understands the scientific foundation underlying the practice of pediatric psychology; has a strong foundation in clinical child psychology; has knowledge of biological, cognitive, social, affective, sociocultural, and life span developmental influences on children's health and illness; understands pediatric acute and chronic illness, injury conditions, and medical management from the medical literature including the effect of disease process and medical regimen on child emotional, cognitive, social, and behavioral development; has knowledge of the role and effect of families on children's health and of health, illness, and medical management on family functioning, has knowledge of the effect of socioeconomic factors on health and illness; understands how other systems affect pediatric health and illness and a child's adaptation to illness; understands the roles of other disciplines in health service delivery systems; appreciates the function of health information technology in children's healthcare; and has knowledge of the transition of pediatric patients to adulthood and adult-oriented healthcare). 2.. Science (i.e., Research and evaluation methodology; ethical conduct of research in children; interdisciplinary research; and dissemination and knowledge transfer). 3.. Professionalism (i.e., Professional values and attitudes; individual and cultural diversity; ethical, legal standards, and policy; and reflective practice/self-assessment and care). 4.. Interpersonal skills (i.e., Communication and relational). 5.. Clinical Application (i.e., Evidenced-based practice; assessment; intervention; and consultation). 6.. Education (i.e., Teaching and supervision). 7.. Systems (i.e., Interdisciplinary systems; professional leadership development; and advocacy).	Training competency recommendations based upon small panel of experts in pediatric psychology; did not use consensus-building methodology	7

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SUPPLEMENTAL TABLE III. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Raiji P (2007)[11]	A 3-phase qualitative pilot study utilizing Trochim's concept mapping methodology to develop a multidimensional model of core competencies for psycho-oncologists that can be used to inform training programs and evaluate learning and performance of trainees in the field. What are the most important skills, attitudes, and core knowledge areas needed to function effectively as a psycho-oncologist?	Phase 1 Identification of Competencies n = 4 psychologists, 2 post-doctoral psychology fellows, 6 doctoral psychology trainees in one Psychology Dept. at one US cancer center	101 competency items were generated by brainstorming approach by Phase 1 sample, which were then sorted by similarity by Phase 2 sample and rated for importance (1 = relatively unimportant to 5 = extremely important) by Phase 3 sample.	Research question clearly stated.	6
		Phase 2 Sorting Competencies n = 10 invited psychologists with > 2 years of psycho-oncology practice at US cancer centers	Multidimensional scaling & hierarchical cluster analyses resulted in a model of 7 clusters of competency items: 1) Medical Knowledge [average bridging value (ABV]) = 0.11]; 2) Management Skills (ABV = 0.27); 3) Assessment Skills (ABV = 0.28); 4) Core Skills for Psycho-Oncologist (ABV = 0.29); 5) Consultation/Liaison (ABV = 0.15); 6) Psychosocial Knowledge (ABV = 0.26); and 7) Specific Therapeutic Interventions (ABV = 0.14).	Qualitative approach justified.	
		Phase 3 Rating Competencies n = 90 invited psychologists with >2 years of psycho-oncology practice at US cancer centers	No competency cluster rated as unimportant based upon mean item ratings but range of ratings was limited due to 1-5 Likert scale. Psychosocial Knowledge cluster was rated as most important.	Study context not clearly described.	
				Role of researcher clearly described. Sampling strategy may not be appropriate because the sample demographics were not examined and therefore participants may not be representative of expert psycho-oncologists or trainees in the field. Method of data collection not clearly described. Method of qualitative analysis clearly described but analysis related to importance ratings was not optimal.	

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SUPPLEMENTAL TABLE III. (*Continued*)

Study	Design	Sample	Findings	Study Rigor	Level of evidence
Spirito A, Brown RT, D'Angelo E, Delamater A, Rodrigue J, Siegel L (2003)[12]	Results of Society of Pediatric Psychology Task Force on Training	Not Applicable	Clinical child psychology training is the foundation for developing skills as a pediatric psychologist.	Review, relevant articles considered	7
			Skill areas include direct service provision, intervention, research skills, program development, consultation, advocacy, supervision and prevention. Training should include developmental issues, screening of psychopathology in medical settings, chronic and acute disease, health promotion and development of policy. Systematic training in pediatric diseases and medical management is critical to understanding the impact of treatment on children of varying ages. Work in pediatric psychology is multi-disciplinary. Training necessarily includes ways of forging interdisciplinary relationships and delineating the roles psychologists can play in treating ill children. Domains of pediatric psychology training include life span developmental psychology and psychopathology, child, adolescent and family assessment, intervention strategies, research methods and systems evaluation, professional and ethical issues, diversity and health disparities, interprofessional roles in service delivery, prevention and health promotion, social issues, consultation and liaison, disease process and medical management.		
Wiener L, Viola A, Koretski J, Perper E, Patenaude A (2015)[13]	Literature review for the identification of existing guidelines, standards, or consensus-based reports regarding the psychosocial care of children with cancer and their families	Data bases searched for peer-reviewed articles in English between 1980 and 2013. 27 articles met criteria	None of the articles accessed were comprehensive or specific enough to be utilized as a current standard for psychosocial care of these children and families.	Appropriate types of papers and relevant studies included based upon reported literature search strategy.	5
			There is a need for an evidence-based comprehensive standard of psychosocial care to be developed that can be universally incorporated.	Summary of findings appropriate and salient outcomes considered.	