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The multidisciplinary pediatric psycho-oncology workforce: A national report on supervision for staff and training opportunities

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Abstract

Objective: This paper presents data on licensure/certification status, supervision of multidisciplinary pediatric psychosocial staff, and training opportunities in pediatric cancer programs in the United States (U.S.), data that is critical to provide care aligned with the Standards of Psychosocial Care in Pediatric Cancer (Psychosocial Standards).

Methods: An online survey of psychosocial care consistent with the Psychosocial Standards was completed from a national sample of pediatric cancer programs (144/200). Licensure/certification status, availability and format of supervision for multidisciplinary staff (social workers, psychologists, psychiatrists, child life specialists/recreational therapists), and types and number of psychosocial trainees were reported.

Results: Nearly all pediatric psychosocial providers were licensed/certified. Peer consultation was the most frequently endorsed form of staff supervision although a sizeable group of centers reported no systematic ongoing supervision. Trainees in social work and child life were most common although the size of trainee cohorts is generally small. Psychosocial trainees are more prevalent in sites with pediatric Hematology/Oncology medical fellowship programs and in larger programs.

Conclusion: A properly trained and supported psychosocial workforce is essential to providing evidence-based care consistent with the Psychosocial Standards. Psychosocial providers are appropriately licensed. However, supervision opportunities are variable and may be inadequate for

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Conflict of Interest Statement

The authors declare that there is no conflict of interest.

the intensity of the work. It is important to address the limited opportunities for trainees in pediatric cancer programs, which may influence the pipeline for ongoing and future work in this area.

Keywords

oncology; pediatrics; psychosocial; staffing; standards; workforce

BACKGROUND

An important development in providing optimal psychosocial care to children is the 2015 publication of fifteen evidence-based Standards for Psychosocial Care of Children with Cancer and their Families¹ (Appendix I). The Psychosocial Standards address a broad range of psychosocial care from initial diagnosis through survivorship or end of life and are endorsed and/or supported by key professional groups (Supplemental file).

In order to facilitate the implementation of the Psychosocial Standards, it is essential to understand the nature of psychosocial staffing and care provided across a diverse range of pediatric cancer settings. Scialla and colleagues conducted a national survey, *Preparing to Implement Psychosocial Standards: Current Services and Staffing (PIPS-CSS)*. Data from 144/200 programs (72% response rate) showed that most centers have social workers (95.9%), child life specialists (93.4%), and psychologists (60.3%) but fewer have neuropsychologists (30.6%) or psychiatrists (19.0%).² Although most centers indicated that they provide care consistent with the Psychosocial Standards, only about one-half of the oncology and psychosocial leaders at the study sites indicated that their care was comprehensive and state of the art. The services described included a mix of approaches, most general and some evidence-based, suggesting variability in the types of care provided across centers.³ A national survey of pediatric oncology social workers provides additional support for the need for more systematic implementation of services consistent with the Psychosocial Standards.⁴

The fifteenth Psychosocial Standard⁵ addresses professional practice issues necessary to assure that psychosocial care is provided in an effective, evidence-based manner. It is based on a systematic review of evidence from thirty-five articles, guidelines and consensus-based documents published between 1995–2015. Included in this Psychosocial Standard is the importance of credentialed staff with specialized training in working with children with cancer and their families, and the provision of ongoing relevant supervision/peer support.⁵

The availability of well-prepared and supported psychosocial staff, including a pipeline of trainees, to provide care is obviously essential. However little data existed about this aspect of readiness. An international survey of psychosocial providers (31.7% U.S. based) found that, despite generally feeling committed to their work, staff reported some dissatisfaction related to supervision and specialized training.⁶ There is very limited published guidance related to models of training, including curricula and practica, in pediatric psychosocial oncology. We were able to identify one set of standards for psycho-oncologists endorsed by the Israel National Oncology Council in 2003, which includes a section on professional qualifications and competencies.⁷ This limited guidance stands in particularly stark contrast

to clearly-defined guidelines and program requirements for medical colleagues training as specialists in pediatric oncology.⁸ While over 50% of social workers in oncology reported a high level of competence related to direct practice in a survey conducted through the Association of Oncology Social Workers, self-reported competence varied significantly across topic areas and for specific groups.⁹ Moreover, although licensed social workers providing adult cancer care are encouraged to obtain certification, no formal competency benchmarks or guidelines exist,¹⁰ and no such certification exists for pediatric social workers.

The work of pediatric psychosocial providers is difficult. In a complex and rapidly changing healthcare environment, psychosocial teams are influenced by resource limitations, competing demands for time, and the intensity of the needs of patients and families.^{6,11} Psychosocial providers are managing increasingly complex caseloads with staff/patient ratios contributing to already challenging work. Scialla, et al found that in a “typical” program there is approximately one full time equivalent (FTE) social worker per 40 new patients, one child life specialist per 50 oncology patients, one psychologist per 90 oncology patients and one psychiatrist for every 350 oncology patients.² Psychosocial staff are working with many patients, children and adolescents of various developmental abilities, and families who are under tremendous emotional and often financial stress while dealing with a potentially life threatening illness and treatment side effects which have significant impact on their lives.^{2,12,13,14} Provider burnout is a commonly reported issue in the field given the nature of this work, further underscoring the importance of adequate training and supervision for individuals working in psycho-oncology.¹⁵

Addressing the complex and intense needs of pediatric oncology patients and their families is an inherently multidisciplinary endeavor. However, despite recognition of the necessity of specialized training, and a long history of collaboration amongst psychosocial providers, there is little information specifically addressing supervision and clinical preparation of trainees in pediatric psychosocial oncology. This paper provides data about this workforce, specifically the status of licensing/certification, the availability and format of supervision, and training opportunities.

METHODS

Sample

A survey study - *Preparing to Implement Psychosocial Standards: Current Services and Staffing (PIPS-CSS)* - conducted from June to December 2016 - was open to all pediatric oncology treatment programs in the United States (n = 200). The unit of analysis was the pediatric oncology program although up to three oncology professionals with leadership roles at each program – a pediatric oncologist (Medical Director/Clinical Director), a psychosocial leader (Director of Psychosocial Services/staff member with most seniority), and an administrator (Administrative Director/Business Administrator/Director of Operations) could participate. Psychosocial leaders who responded to the survey were from various disciplines and are the participants in this paper (Table 1). Of the 200 centers, 132 psychosocial providers responded (66.0%). They were generally female (86.4%), identified as social workers (47.7%) or psychologists (43.2%), and had a median of ten years’

experience in psycho-oncology post-training. Additional details of the study methodology are available.²

Measure

The survey was written by the Principal Investigator (AEK) and reviewed by the Leadership Team that developed the Psychosocial Standards, three pediatric oncologists and two parent advocates. The survey was revised and refined based on feedback from faculty, content experts, and the results of pilot testing for usability, functionality, clarity of items, and length.

The survey items reported in this paper address whether psychosocial staff were licensed or certified, describe the supervision provided for psychosocial staff, and report on trainees for each of the primary psychosocial disciplines separately – social work, psychology, psychiatry, and child life specialists/recreational therapists.

License/Certification:^a For social workers, psychologists and psychiatrists, participants indicated the number who were licensed. For child life specialists/recreational therapists, the number who were certified was reported.

Supervision: Participants responded to four versions of the following question (one for each discipline), “With respect to clinical supervision of [insert discipline] (staff, not trainees), check all that apply.” The responses were organized by questions about availability of supervision (There is no ongoing formal clinical supervision; There is occasional clinical supervision (e.g., for problem cases); Supervision is available immediately for emergency situations; Peer consultation is available as needed) and the format used (Individual supervision is provided at least monthly; Group supervision is provided at least monthly; Peer supervision is provided at least monthly; Supervision is held in person; Supervision is conducted by phone/video conference).

Trainees: The number of trainees by discipline was reported along with the number of hours/week of training rotation for those who provide supervised clinical care. The categories of trainees were: social work trainees; psychology graduate students, psychology interns/residents; psychology postdoctoral fellows, child life interns/trainees; psychiatry residents; psychiatry fellows; and other trainees.

Procedure

Initial contact was made by the Principal Investigator (AEK) via email introducing the study and identifying and confirming participants. Data were collected and managed electronically by Research Electronic Data Capture (REDCap).¹⁶ The survey was voluntary and confidential, and accessible only to those who were provided a link. All study procedures were reviewed by the [removed for blind review] IRB. A waiver of documentation of informed consent was granted, and the study was determined to be exempt from further IRB review.

^aThe number of psychosocial staff by discipline is reported in Scialla et al. (2017). After indicating the number of staff, participants noted the number licensed/certified.

Data analysis

Data were analyzed in October - December 2017. Survey responses were collected and maintained in REDCap and imported into SPSS (version 24). Data from the closed-ended items were analyzed descriptively. For a subset of programs (n=109) for which program size (number of new patients in 2015) and psychosocial staffing was available, Chi-square analyses were used to test whether smaller programs (≤ 100 new patients/year) differed from larger programs (> 100 new patients/year) with respect to supervision practices and trainees. Chi-square analyses were also applied to examine whether psychosocial training programs were more likely at sites with Accreditation Council for Graduate Medical Education (ACGME) hematology/oncology fellowship programs.¹⁷

RESULTS

License/Certification Status

The majority of programs reported that social workers (111/116; 95.7%), psychologists (72/73; 98.6%) and psychiatrists (20/23; 87%) who were providing clinical care were licensed. Nearly all programs (112/113; 99.1%) reported that their child life specialists/recreational therapists were certified. Sites reporting that their program included a psychologist and/or psychiatrist on staff, reported at least one licensed professional for the discipline(s).

Supervision—Across all disciplines peer consultation was the most frequently reported type of supervision (74.0%) (Table 2). The second most frequently reported type of was immediate assistance with emergencies, from 61.0% for social work to 43.5% for psychiatry. Supervision for occasional problems was reported for 17.4% of psychiatrists to 29.7% of social workers. In a number of programs (31.2%) there was no formal ongoing supervision (32.2% for social work to 43.5% for psychiatry). The majority of supervision (52.9%) was provided in person rather than by phone or video (8.0%).

With respect to whether supervision varied by size of the cancer program, individual supervision and supervision in person was more common in larger programs for social work, child life/recreational therapy and psychology (Table 3). Social workers in smaller centers were more likely to report that they had no formal systematic supervision and to report less access to supervision for emergencies than those in larger programs.

Training opportunities

Less than half of participating programs offered psychosocial training opportunities. Trainees for social work (41.3%) and child life (40.5%) were the most commonly reported, with a median of 20 hours/week for each of these two disciplines. About one-quarter of programs include psychology interns/residents, at an average of 10 hours/week. Psychology postdoctoral fellows were reported as working close to full time hours in pediatric oncology. Psychiatry residents and fellows were relatively uncommon (3.3–12.4%) and with a small commitment of time (5–6 hours/week). In general, trainee cohorts are small although there is variability in the number of trainees for each discipline. There are significantly more social work, psychology and child life trainees at sites with pediatric hematology/oncology

fellowship programs compared with those without (Table 4). Larger centers were more likely to have trainees in social work, psychology, and psychiatry but not child life (Table 4).

DISCUSSION

Little has been written about the organization and support of multidisciplinary psychosocial providers and teams in pediatric oncology. The pediatric psychosocial standards of care established the importance of assuring that psychosocial staff are properly trained, credentialed and supported in their work and integration with the broader oncology team. Unfortunately, there is little published data on these issues. The novel data in this paper provide a starting point for further consideration of key issues related to supervision and training. The data indicate that consistent/ routine supervision is not always available to staff. Training programs are relatively uncommon, particularly in smaller centers or those without hematology/oncology medical fellowship programs. It is possible that a hematology/oncology medical fellowship may serve as a proxy for a more robust cancer center with adequate resources to support education and training across disciplines.

Not surprisingly, the overwhelming majority of psychosocial providers are licensed or credentialed, an important yet basic indicator of quality. A small number of programs reported a mixture of licensed and unlicensed psychologists and/or psychiatrists. It is not clear from the study why this was the case, but it may be that some staff had completed their degree but did not pursue licensure (e.g., chose primarily research-based positions where licensure may not be essential) or they were in the process of completing licensing or psychiatric specialty certification requirements. Licensure/certification alone may not be a sufficient marker of competence and delivery of optimal, or even adequate, clinical care. This is supported by a broader movement towards clearly defined and measurable competencies in healthcare.^{18,19,20} Although licensed/certified providers practice independently, ongoing supervision is essential, particularly given the demands and challenges of working in busy medical settings with high acuity patients and families. It is also likely that many front-line staff are early career providers and may benefit from the input of peers and/or supervisors for professional development.

The most common form of supervision, across disciplines, was peer support. It is fortunate that the majority of providers have the opportunity to consult with peers, however, of concern, is the lack of formal ongoing supervision at a sizeable minority of sites and the absence of assistance for emergencies. These issues are ones that warrant further exploration to understand how multidisciplinary providers function. Supervision is complicated to understand as it encompasses both clinical and administrative supervision and is influenced by the structure of the psychosocial programs. That is, psychosocial staff may be supervised by a member of their own discipline, by someone from another psychosocial field, or by an oncologist or nurse. Supervision in smaller centers where they may be the sole provider for oncology patients and families also warrants further consideration.

Psychosocial training opportunities are generally not available at the majority of programs although they are more likely in programs with a Hematology/Oncology medical fellowship program and at larger programs. The lack of trainees/training opportunities at most pediatric

oncology programs is concerning. Psychosocial providers and teams in pediatric cancer represent several disciplines, each with its own educational and training sequences. For each discipline, working with children with cancer and their families is a sub-field within the broader field. The disciplines are usually trained independently and potentially at different points in their training. For example, social work graduate students complete field practica but these may not necessarily focus on pediatric oncology. Psychology graduate students and interns/residents may have general pediatric rotations, but more intensive and specialized training in pediatric cancer is more likely during fellowship.²¹ Consultation-liaison psychiatrists often work in oncology but may or may not have specific oncology training. The availability of psychiatrists could be addressed by increasing exposure of child psychiatry trainees to this population and by identifying psychiatrists in affiliated programs who can develop the needed expertise. Child life has a curriculum designed to provide a flexible experiential framework than can be site and population dependent.²²

The psychosocial needs of pediatric oncology patients and their families, particularly at the time of initial diagnosis, are intense and varied. The need for qualified psycho-oncology providers will remain for the foreseeable future. With advancements in cancer treatment and improvements in survivorship, psycho-oncology providers will be increasingly needed to assist patients and families manage late effects and other survivorship concerns. Opportunities for psychosocial trainees need to expand to ensure that they are adequate in terms of not only volume but are also inclusive of appropriate preparation that translates into providing evidence-based care consistent with the Psychosocial Standards. Specific types of training were identified in a study that examined the professional experiences and training needs of 786 pediatric psycho-oncology professionals from 63 countries.⁶ Participants reported that they would benefit most from additional training in the areas of evidence-based clinical interventions, improving communication with medical staff, ethics, sharpening their diagnostic skills, qualitative and quantitative research methods, supervision training, and learning how to publish in the professional literature. Additional types of training that pediatric psycho-oncology providers would benefit from include interventions to reduce child and family medical traumatic stress and improve adherence, strategies to reduce professional isolation and burnout, and skills to enhance synergies between disciplines.

Further research to understand the absence of pediatric oncology-specific training programs and to overcome potential barriers to them (e.g., centers with few pediatric oncology patients, limited funding, inadequate resources, role ambiguity, time shortage, insufficient training) is critically important. It may also be timely to convene a workgroup or meeting to identify interdisciplinary training competencies and collaborative practices consistent with the 15th Standard.⁵ This could be an innovative step towards enhancing interdisciplinary care and furthering a multi-site collaborative approach to specialized continuing education programs or certificate programs as examples of potential outcomes of a summit to advance training.

Study limitations

The survey questions were general and did not allow for a detailed understanding of complex issues related to supervision and training. We did not collect data on the experience

level of psychosocial providers or perceived needs for supervision and training. The survey did not define supervision, potentially conflating clinical and administrative supervision. More broadly, it is not known what level of supervision is adequate or optimal and how it may differ at various levels of experience. Similarly, the advantages and challenges of trainees in pediatric cancer is not well known. While the overall response rate for this study was strong, it is likely that some non-responding programs have fewer psychosocial staff members with associated challenges in providing supervision and training experiences.

Clinical implications

Centers are now charged with providing care consistent with the Psychosocial Standards. In order to do so, institutions should continue to ensure that all psychosocial providers are appropriately licensed and credentialed. To assure quality care and the safety of patients and families, mechanisms for providing peer support and formal supervision should be articulated. Staff should be encouraged to discuss difficult clinical situations with peers and/or supervisors. Online consultation through psycho-oncology specific list serves may also be useful. Practicing in isolation, without adequate support or access to resources, may contribute to fatigue, burnout and turnover. The inherent emotional stress, compassion fatigue and burnout associated with the long-term exposure to the psychosocial ramifications of pediatric oncology care is well described in the literature.^{6,8, 23,24,25} Professional development and continuing education opportunities are essential for maintaining skills, preventing burnout along and creating a culture that encourages self-care. Training opportunities are essential to introduce multidisciplinary psychosocial trainees to pediatric oncology and assure an ongoing pipeline of individuals for the future. Centers in academic medical centers (e.g. those with hematology/oncology fellowship programs) may benefit from adding psychosocial trainees to the oncology program and integrating them with other trainees, while other centers may be encouraged to add psychosocial trainees to their services. Steps to assure the ongoing clinical competence of staff at all levels and integration of trainees is consistent with Psychosocial Standard 15 and is essential to providing quality care to patients and their families.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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References

1. Wiener L, Kazak AE, Noll RB, Patenaude AF, Kupst MJ. Standards for the psychosocial care of children with cancer and their families: an introduction to the special issue. *Pediatr Blood Cancer*. 2015; 62 (suppl. 5): S41—S424.
2. Scialla MA, Canter KS, Chen FF, et al. Implementing the psychosocial standards in pediatric cancer: Current staffing and services available. *Pediatr Blood Cancer*. 2017;00:e26634 10.1002/pbc.26634
3. Scialla MA, Canter KS, Chen FF, et al. Delivery of care consistent with the psychosocial standards in pediatric cancer: Current practices in the United States. *Pediatr Blood Cancer* 2018;65:e26869 10.1002/pbc.26869
4. Jones B, Currin-McCulloch J, Pelletier W, Sardi-Brown V, Brown P, Wiener L Psychosocial standards of care for children with cancer and their families: A national survey of pediatric oncology social workers. *Soc Work Health Care*. 2018 4;57(4):221–249. doi: 10.1080/00981389.2018.1441212 [PubMed: 29498614]
5. Patenaude AF, Pelletier W and Bingen K, Communication, Documentation, and Training Standards in Pediatric Psychosocial Oncology. *Pediatr Blood Cancer* 2015, 62: S870–S895. doi:10.1002/pbc.25725 [PubMed: 26700930]
6. Wiener L, Oppenheim D, Breyer J, Battles H, Zadeh S, Patenaude AF. A worldview of the professional experiences and training needs of pediatric psycho-oncologists. *Psycho-oncology*. 2012;21(9):944–953. doi:10.1002/pon.3064. [PubMed: 22461180]
7. Israel Psycho-Oncology Society (2003). Standards for the Field of Psycho-Oncology. IPOS: https://ipos-society.org/wp-content/uploads/Guidelines_IsraelPsycho-oncologyStandards2003.pdf
8. Accreditation Council for Graduate Medical Education.(2013). ACGME Program Requirements for Graduate Medical Education in Pediatric Hematology-Oncology. Chicago, IL https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/327_pediatric_hematology-oncology_2017-07-01.pdf?ver=2017-06-30-083419-397
9. Zebrack B, Walsh K, Burg MA, Maramaldi P, Lim JW. Oncology social worker competencies and implications for education and training', *Soc Work Health Care*, 2008 47(4): 355–375. [PubMed: 19042491]
10. Board of Oncology Social Work (2015). Oncology Social Work Certification (OSW-C) Requirements. OSW-C: http://oswcert.org/wp-content/uploads/2015/04/OSWC_Requirements-A-UPDATED-JUNE-2014..pdf
11. Moody K, Kramer D, Scanlon C, Wocial L, Watson BN, Hill A Easing Clinician Distress in Pediatric Cancer Care In: Wolfe J, Jones B, Kreicbergs U, Jankovic M (eds) *Palliative Care in Pediatric Oncology*. Pediatric Oncology. Springer, Cham; 2018
12. Kazak A, Noll R. The integration of psychology in pediatric oncology research and practice: Collaboration to improve care and outcomes. *Am Psychol*. 2015 Feb-Mar;70(2):146–58. doi: 10.1037/a0035695 [PubMed: 25730721]
13. Kupst MJ & Patenaude AF Coping and adaptation in pediatric cancer: Current perspectives In Abrams AN, Muriel AC & Weiner L, (Eds). *Pediatric psychosocial oncology: Textbook for multidisciplinary care* (pp. 67–79). Cham, Switzerland: Springer International Publishing 2015.
14. National Academies of Sciences, Engineering and Medicine 2015 Comprehensive Cancer Care for Children and Their Families: Summary of a Joint Workshop by the Institute of Medicine and the American Cancer Society. Washington DC The National Academies Press.
15. Rasmussen V, Turnell A, Butow P, et al. Burnout among psychosocial oncologists: an application and extension of the effort–reward imbalance model. *Psycho-oncology*. 2016;25(2):194–202. doi: 10.1002/pon.3902. [PubMed: 26239424]
16. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—A metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform*. 2009 4; 42(2): 377–381. doi:10.1016/j.jbi.2008.08.010. [PubMed: 18929686]

17. Accreditation Council for Graduate Medical Education. Accreditation Data System (ADS) Programs by specialty Retrieved from <https://apps.acgme.org/ads/Public>
18. Palermo TM, Janicke DM, McQuaid EL, Mullins LL, Robins PM, Wu YP. Recommendations for Training in Pediatric Psychology: Defining Core Competencies Across Training Levels. *Journal Pediatr Psychol*. 2014;39(9):965–984. doi:10.1093/jpepsy/jsu015.
19. Fouad NA, Grus CL, Hatcher RL, Kaslow NJ, Hutchings PS, Madson MB, Collins FL, Crossman RE. Competency benchmarks: A model for understanding and measuring competence in professional psychology across training levels. *Training and Education in Professional Psychology*. 2009;3:S5–S26.
20. Health Service Psychology Education Collaborative. Professional psychology in health care services: a blueprint for education and training. *Am Psychol*. 2013; 68(6): 411–426. [PubMed: 23915400]
21. Kullgren KA., Tsang KK, Ernst MM, Carter BD, Scott EL, Sullivan SK Inpatient Pediatric Psychology Consultation-Liaison Practice Survey: Corrected Version Clinical Practice in Pediatric Psychology, 2015 Vol 3(4), 340–351.
22. Child Life Council. (2011) Child Life Clinical Internship Curriculum. Retrieved from <https://www.childlife.org/docs/default-source/certification/internships/internship-curriculum-modules.pdf?sfvrsn=6>
23. Spinetta JJ, Jankovic M, Ben Arush MW, Eden T, Epelman C, Greenberg ML, Martins AG, Mulhern RK, Oppenheim D and Masera G, Guidelines for the recognition, prevention, and remediation of burnout in health care professionals participating in the care of children with cancer: Report of the SIOP Working Committee on Psychosocial Issues in Pediatric Oncology. *Med. Pediatr. Oncol.*, 2000 35: 122–125. doi:10.1002/1096-911X(200008)35:2<122::AID-MPO7>3.0.CO;2-J
24. Boyle DA & Bush, NJ. Reflections on the emotional hazards of pediatric oncology nursing: Four decades of perspectives and potential. *Journal of Pediatric Nursing*. 2018, 40 doi: 10.1016/j.pedn.2018.03.007
25. Whitford B, Nadel AL, Fish JD. Burnout in pediatric hematology/oncology—time to address the elephant by name. *Pediatr Blood Cancer*. 2018;e27244 10.1002/pbc.27244. [PubMed: 29797652]

Table 1.Characteristics of psychosocial participants and programs¹

	n	%
Discipline		
Social Worker	63	47.7
Psychologist	57	43.2
Psychiatrist	3	2.3
Child Life Specialist	4	3.0
Other ¹	5	3.8
Gender (female)	114	86.4
Race/Ethnicity		
White	113	85.6
Black	5	3.8
Asian	6	4.5
Hispanic	7	5.3
No response	1	0.8
Geographic distribution ³		
Northeast	26	19.7
Midwest	29	22.0
South	51	38.6
West	26	19.7
Program Size ⁴		
< 50	35	29.2
51–100	39	32.5
101–250	32	26.7
250+	14	11.7

¹Full sample (n = 132)²Marriage and family therapist (n = 1), Nurse (n = 2), Palliative care physician (n = 1), Pediatrician (n = 1)³U.S. Census Bureau regions https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf⁴Sample for which data were available on size (n = 119)

Table 2.Supervision provided for psychosocial staff (percent of centers)^{1,2}

	Social Work (n = 118)	Psychology (n = 73)	Psychiatry (n = 23)	Child Life (n = 113)	Summary (n=327)
Availability					
No formal ongoing supervision	32.2	37.0	43.5	23.9	31.2
Occasional (problems)	29.7	26.0	17.4	26.5	26.9
Immediately (emergencies)	61.0	52.1	43.5	57.5	56.6
Peer consultation (as needed)	76.3	78.1	65.2	70.8	74.0
Format (at least monthly)					
Individual	37.3	31.5	21.7	32.7	33.3
Group	34.7	20.5	13.0	37.2	30.9
Peer	32.2	27.4	17.4	29.2	29.1
In person	54.2	50.7	26.1	58.4	52.9
Phone/Video	10.2	11.0	8.7	3.5	8.0

¹ n/denominator = centers reporting each profession on staff² Responses allowed for multiple answers („check all that apply“)

Table 3.

Supervision availability and format by program size

	Social Work (n = 109) ¹		Child Life/ Recreational Therapy (n = 106)		Psychology (n = 68)	
	Small ²	Large	Small	Large	Small	Large
Availability						
No formal ongoing supervision ³	41.2 ^{**}	14.6	30.8	14.6	37.5	33.3
Occasional (problems)	27.9	36.6	23.1	34.1	15.6	33.3
Immediately (emergencies) ⁴	55.9	78.0 [*]	52.3	65.9	40.6	63.9
Peer consultation (as needed)	73.5	85.4	67.7	78.0	78.1	83.3
Format						
Individual ⁴	25.0	61 ^{***}	20.0	51.2 ^{***}	21.9	41.7
Group	32.4	41.5	26.2	51.2	12.5	30.6
Peer	29.4	39.0	21.5	36.6	28.1	27.8
In person ⁴	47.1	70.7 [*]	47.7	75.6 ^{**}	37.5	66.7 [*]
Phone/video	8.8	12.2	3.1	4.9	6.3	13.7

¹ Sample sizes vary by programs reporting size data and discipline. The small number of these sites with psychiatrists (n = 23) precluded statistical analysis for this discipline.² Size was determined by the number of new pediatric oncology patients in 2015. Small programs had 100 new oncology patients in 2015. Large sites had > 100.³ Endorsed as more common in smaller programs.⁴ Endorsed as more common in larger programs.^{*} p < .05^{**} p < .01^{***} p < .001

Table 4.

Psychosocial trainees in pediatric psychosocial oncology

Discipline	Have trainees ¹	Range (FTE)	Median (FTE)	Hours ²	H/O Fellow ³	No H/O Fellow ³	P ⁴
Social Work trainees	41.3	0.5 – 4.0	1	20	53.4	30.2	.009
Psychology grad students	22.3	1.0 – 4.0	1	15	31.0	14.3	.027
Psychology interns/residents	25.6	1.0 – 21.0	1	10	37.9	14.3	.003
Psychology fellows	23.1	0.12 – 6.0	1	30	41.4	6.3	.000
Child Life interns	40.5	0.25 – 13.0	1	20	53.4	28.6	.005
Psychiatry residents	3.3	1.0 – 8.0	1	6	5.2	1.6	.270
Psychiatry fellows	12.4	0.25 2.0	1	5	17.2	7.9	.121

¹Percent reporting that they have trainees (n = 121)²Hours (median) = hours/week/trainee, on average³H/O Fellow = Hematology/Oncology fellowship program. Sites with (n=58) and without (n=63)

Accreditation Council for Graduate Medical Education (ACGME) program.

⁴ χ^2 test of sites with and without Hematology/Oncology fellowship program