



## Child Life Services

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Child life programs are an important component of pediatric hospital-based care; they address the psychosocial concerns that accompany hospitalization and other health care experiences. Child life specialists focus on the optimal development and well-being of infants, children, adolescents, and young adults while promoting coping skills and minimizing the adverse effects of hospitalization, health care encounters, and/or other potentially stressful experiences. In collaboration with the entire health care team and family, child life specialists provide interventions that include therapeutic play, expressive modalities, and psychological preparation to facilitate coping and normalization at times and under circumstances that might otherwise prove overwhelming for the child. Play and developmentally appropriate communication are used to (1) promote optimal development, (2) educate children and families about health conditions, (3) prepare children and partner with families for medical events or procedures, (4) plan and rehearse useful coping and pain-management strategies with patients and families, (5) help children work through feelings about past or impending experiences, and (6) partner with families to establish therapeutic relationships between patients, siblings, and caregivers. Child life specialists collaborate with the entire interdisciplinary team to promote coping and enhance the overall health care experience for patients and families.

### CHILD LIFE INTERVENTIONS: PSYCHOLOGICAL PREPARATION

Preparing children for hospitalization, clinic visits, surgeries, and diagnostic and/or therapeutic procedures is essential during a child's hospitalization and an important element of a child life program. It is estimated that 50% to 75% of children develop significant fear and anxiety before surgery; recognized risk factors include age, temperament, baseline anxiety, past medical encounters, and caregiver anxiety.<sup>1</sup> Children's anxiety in the perioperative environment is associated with impaired postoperative behavioral and clinical recovery, including increased analgesic requirements and delayed discharge from the recovery room.<sup>2,3</sup> Preparation can reduce anxiety and distress before surgery and/or during mask induction and may also decrease emergence

### abstract

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*Ms Romito provided the benchmarking data and the majority of the writing; Dr Jewell designed the outline for the policy, noted and updated information that was irrelevant since the last revision, provided assistance with the writing, and presented the content to the Committee on Hospital Care; Dr Jackson provided technical assistance, draft review, and content expertise for the portions related to medical education; and all authors approved the final manuscript as submitted.*

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**DOI:** <https://doi.org/10.1542/peds.2020-040261>

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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**FINANCIAL DISCLOSURE:** The authors have indicated they have no financial relationships relevant to this article to disclose.

**To cite:** Romito B, Jewell J, Jackson M, AAP COMMITTEE ON HOSPITAL CARE; ASSOCIATION OF CHILD LIFE PROFESSIONALS. Child Life Services. *Pediatrics*. 2021;147(1):e2020040261

delirium after surgery.<sup>4-7</sup> More than 50 years of research and experience supports 3 key elements of the preparation process: (1) the provision of developmentally appropriate information, (2) the encouragement of questions and emotional expression, and (3) the formation of a trusting relationship with a health care professional.<sup>3</sup> A recent systematic review of preparation effectiveness evidence concluded that children who were psychologically prepared for surgery experienced fewer negative symptoms than did children who did not receive formal preparation.<sup>3</sup> Findings included a decrease in posttraumatic stress, lower levels of fear and anxiety, increased cooperative behaviors, and better long-term coping and adjustment to future medical challenges. Research also demonstrates that preparation and coping facilitation interventions decrease the need for sedation in procedures such as MRI and radiotherapy, resulting in lower risks for the child and cost savings in personnel, anesthesia, and throughput-related expenses.<sup>8-12</sup>

Preparation techniques, materials, and language must be adapted to the developmental level, personality, and unique experiences of each child and family. Learning is enhanced with hands-on methods versus exclusively verbal explanations. Photographs, diagrams, tours of surgical or treatment areas, actual and pretend medical equipment, and various models (dolls, puppets) are used to reinforce learning and actively engage the child.<sup>1,13</sup> Caregivers should be included in the preparation process because this can decrease parental anxiety and allow them to provide essential family-centered support.<sup>14,15</sup>

An experimental evaluation of one child life program model revealed that child life interventions resulted in less emotional distress, better overall coping during the hospital

stay, a clearer understanding of procedures, and a more positive physical recovery as well as posthospital adjustment for children enrolled.<sup>16</sup> Patients spent less time on narcotics, the length of stay was slightly reduced, and caregivers were more satisfied. In other studies, researchers have found that child life interventions play a major role in calming children's fears and result in higher parent satisfaction ratings of the entire care experience.<sup>8,17,18</sup>

### **CHILD LIFE INTERVENTIONS: PAIN-MANAGEMENT AND COPING STRATEGIES**

When combined with preparation and appropriate pharmacologic interventions, nonpharmacologic pain- and distress-management strategies have proven successful in terms of patient and family experience, staff experience, and cost-effectiveness.<sup>17,19,20</sup> Strategies such as swaddling, oral sucrose, vibratory stimulation, breathing techniques, relaxation, and guided imagery have been shown to decrease behavioral distress and pain experience in children during invasive medical procedures.<sup>21-25</sup>

Distraction strategies have been highly effective in reducing reported and observed pain and distress in children in inpatient, emergency department (ED), and clinic settings.<sup>26-32</sup> The emergence of virtual reality, Internet technology, and electronic and digital devices has been found to be an effective means of distraction in reducing pain.<sup>7,33-38</sup> Child life specialists may also develop comfort kits for use in treatment areas to include age-appropriate distraction items, such as bubbles, pop-up and sound books, light-up toys, and other visual or auditory tools.<sup>39</sup> Distraction techniques have also been shown to be successful in lowering a parent's fear and distress during an invasive procedure.<sup>27</sup>

Child life specialists can effectively provide developmentally appropriate nonpharmacologic pain management and provide coaching and support to patients and caregivers before, during, and after medical procedures.<sup>40,41</sup> They can also provide valuable education and training to nurses, physicians, students, and other personnel, supporting health care team member competencies in the provision of developmentally appropriate, psychosocially sound care.<sup>42,43</sup> Multifaceted institution-wide protocols, such as the Ouchless Place and other similar programs, incorporate the standard use of both pharmacologic and nonpharmacologic techniques, preparation of the patient and family, environmental considerations, and training of all health care team members.<sup>44,45</sup>

Research has demonstrated that children are less fearful and distressed when positioned for medical procedures in a sitting position rather than supine.<sup>46</sup> Child life specialists are often involved in facilitating the use of "comfort holds," techniques for positioning children in a parent or caregiver's lap or other comforting position. In addition to reducing the child's distress and gaining cooperation, these techniques generally require fewer staff to be present in the room, facilitate safe and effective accomplishment of the medical procedure, decrease parent anxiety, and increase parent satisfaction.<sup>47,48</sup> With a goal to severely limit the use of papoose boards and eliminate the practice of multiple staff members holding a child down, these techniques provide a viable and more humane alternative in most cases.

### **CHILD LIFE INTERVENTIONS: THE THERAPEUTIC VALUE OF PLAY**

Therapeutic play during health care experiences is essential and a major component of a child life program and

of the child life professional's role. Play is crucial to a child's social, emotional, and cognitive development and is even more critical during adversity or stress points in a child's life.<sup>49</sup> In addition to its developmentally supportive benefits and as a normalizing activity for children and youth of all ages, play is particularly valuable for children who are anxious or struggling to cope with stressful circumstances of hospitalization, illness, or grief.<sup>50</sup> Erik Erikson<sup>51</sup> writes, "To play out is the most natural auto-therapeutic measure childhood affords. Whatever other roles play may have in the child's development...the child uses it to make up for defeats, sufferings, and frustrations." Play in the health care setting is adapted to address unique needs on the basis of developmental level, self-directed interests, medical condition and physical abilities, psychosocial vulnerabilities, and setting (eg, bedside, playroom, clinic). Play as a therapeutic modality, including health care play or "medical play," has been found to reduce children's emotional distress and help them cope with medical experiences.<sup>52</sup> Research has revealed that physiologic responses, such as palm sweating, excessive body movement, tachycardia, and hypertension, can be reduced with therapeutic play interventions.<sup>53</sup>

Play can be adapted to address the developmental and psychosocial needs of patients in every pediatric age group. For example, infants and toddlers benefit from exploratory and sensorimotor play, and preschoolers enjoy fantasy play and creative art activities.<sup>54</sup> Opportunities for parents to engage in play activities with their young children are beneficial to both the patient and family, alleviating some feelings of helplessness that can be common in caregivers and assisting in the child's adjustment to the hospital.<sup>55</sup>

School-aged children and adolescents seek play that contributes to feelings of mastery and achievement (one

reason video games are so popular with this age group<sup>56</sup>). Patients in this age group also benefit from activities that allow them to maintain relationships with peers and establish new connections through, for example, online networking and the availability of teen-aged activity rooms in the hospital setting.<sup>57</sup>

Auxiliary programs, such as animal-assisted therapy, infant massage instruction, therapeutic clowning, performing arts, and artist-in-residence programs, often used in conjunction with child life services and incorporated into child life departments, provide additional outlets for patients of all ages and their families.<sup>58-60</sup> Live, interactive programming using closed-circuit television systems and studios can be a particularly effective way to engage patients restricted to their rooms for infection-control or medical reasons. Other interactive technology, such as video conferencing, can help patients engage with people outside the hospital, including their peers, the community, and their schools. The ability to connect with a child's school, community, and home helps normalize the experience by minimizing disruption of usual routines. Expressive therapies, such as those provided by distinctly certified play therapists, music therapists, and art therapists, can be offered to complement child life programs and to provide support for particularly vulnerable patients.<sup>26,61,62</sup>

#### **CHILD LIFE INTERVENTIONS: PARTNERING WITH FAMILIES TO PROVIDE SUPPORT**

The presence and participation of and partnership with family members is a fundamental component of patient- and family-centered care and has a significant positive effect on a child's adjustment to the health care experience.<sup>63</sup> When parents or other family members are highly anxious about the child's illness or diagnostic and treatment regimens, such anxiety

is easily transmitted to the patient.<sup>64</sup> Child life specialists help facilitate the family's adjustment to the child's illness and health care experience by providing psychosocial support and coping strategies for caregivers. They can help family members understand their child's response to treatment and support caregiving roles by promoting parent-child play sessions and sharing strategies for comforting or coaching their children during medical procedures. In addition, child life specialists play a pivotal role in encouraging and facilitating family involvement in the patient's care as well as promoting communication between family members, providers, and the interdisciplinary team.

Siblings of pediatric patients present with their own unique anxieties and psychosocial needs, not often assessed or addressed. Siblings, much like children of adult patients, can be helped to comprehend a family member's illness via therapeutic play and educational interventions or by offering support during hospital visits, including diagnoses, critical care, and end-of-life situations.<sup>65,66</sup> Although sibling support is essential in all areas, a critical care hospitalization in the neonatal or pediatric ICU presents additional stressors for the entire family, and child life interventions are often focused on the siblings' psychosocial needs. Sibling support may include preparing the sibling(s) for an initial visit and providing ongoing emotional support throughout the patient's hospital stay. Child life specialists are often involved in providing bereavement support to patients as well as siblings and other family members. Grief support and legacy activities, such as hand molds or memory boxes for siblings and family members, are often provided at the end of life for both pediatric and adult patients throughout the hospital. In conjunction with the interdisciplinary team, child life specialists are critical in helping all family members

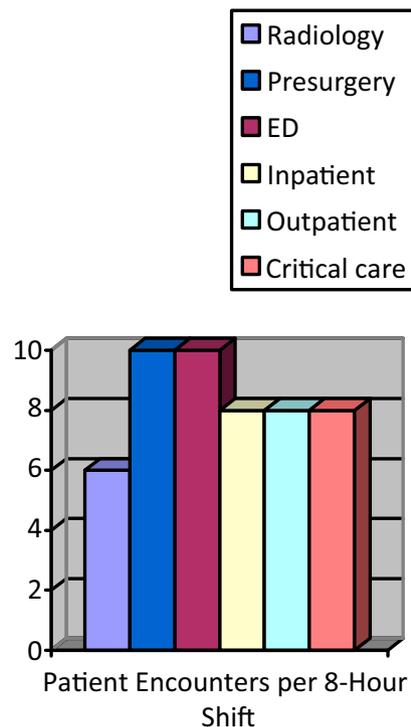
understand how to support children in age-appropriate ways during end-of-life events.

## RECENT BENCHMARKING DATA

In 2016, the Association of Child Life Professionals (ACLP) constructed the Child Life Professional Data Center (CLPDC), an online database to house comprehensive child life program data and metrics, including staffing models, staffing ratios, budget allocation data, and hospital descriptors.<sup>67</sup> Using a systematic and evidence-based approach to measure the impact of psychosocial services provided to pediatric patients and families, this database has synthesized information from more than 160 child life programs. In addition, the ACLP established a productivity metric measuring the number of patient and family encounters a child life specialist provides in a specified setting within the hospital during a shift. Currently, more than 50 programs have participated in the productivity data collection. The productivity metric is a numerical indicator of the number of patient and family encounters that can be expected during the child life specialist's shift. This measure of productivity is collected for 6 distinct areas of service: (1) inpatient acute care units, (2) critical care, (3) radiology, (4) presurgery, (5) outpatient ambulatory care, and (6) the ED. These 6 distinct areas are being used to collect and segment data because the type and length of child life intervention can depend on which medical service is being provided. A patient encounter is defined as a child life specialist-provided interaction with a patient, sibling, or caregiver, and this serves as the numerator of the productivity metric. The denominator is the length of the child life specialist's shift (eg, 8 hours). The final metric given is the measure of patient and family encounters per hour. These metrics account for nondirect patient care activities and direct patient care interventions. By

using the shift length as the denominator, additional nonpatient care responsibilities are accounted for in the productivity calculation, including such things as meetings, committee work, student and staff education, and donor events.<sup>67</sup>

Figure 1 identifies the total number of individual patient and family encounters an individual child life specialist provides in an 8-hour shift in each of the 6 service areas. In radiology, the median productivity is 0.74 patient encounters per hour, or approximately 6 encounters in an 8-hour day. Of all 6 areas of service, radiology encounters trend the longest because radiologic procedures often require significant preparation and support during the procedures, which may be lengthy. Child life specialists in presurgery and the ED have the highest median productivity, with an average of 1.2 patient encounters every hour, roughly 10 patients seen per 8-hour shift in each of these areas.



**FIGURE 1**  
Average patient/family encounters per 8-hour shift for child life specialists in various hospital settings.

The remaining 3 areas, inpatient acute care, outpatient ambulatory clinics, and critical care units, all have similar productivity, with approximately 1 patient encounter per hour, or 8 in an 8-hour shift.

The productivity data allow participating hospitals to clearly identify how their program compares to the national average or similar hospitals on the basis of median scores. The data also serve as a tool to support appropriate staffing during hospital program growth by offering a benchmark to adjust staffing depending on changes in patient volumes.

Although these ratios establish national benchmarking and staffing trends, other factors should influence staffing allocations. Child life services should be available to meet identified patient and family needs 7 days per week. Staffing plans should be sufficient to meet fluctuations in anticipated and unanticipated staff absences, seasonal swings in the patient census, and nonclinical community activities (such as school programming, outreach events, and increased visits and in-kind donations during the holiday season). Child variables (such as age, temperament, coping style, and cognitive abilities), family variables (such as caregiver anxiety, presence, and involvement) and diagnosis and treatment variables (acute versus chronic, repeat admissions, number of invasive procedures) are known to affect psychosocial vulnerability and, thus, influence the child's particular child life needs.<sup>68</sup> A combination of psychosocial risk assessment, medical and/or treatment variables (eg, the proportion of patients on isolation precautions and the volume of patient and family teaching needs), and the time requirements associated with particular interventions directly affect operational staff-to-patient ratios in both inpatient and outpatient settings and could necessitate a lower ratio of patients to child life specialist.<sup>69,70</sup>

In addition to establishing a benchmarking standard for child life specialist and patient encounters, the CLPDC houses multifaceted information, such as types of organizations in which child life specialists work, staffing, program funding, reporting structure, services provided, and special services. The CLPDC should be used as a resource for programs and hospitals in evaluation and continuous performance improvement of child life programming.

### **CHILD LIFE STAFFING AND ROLES**

Child life specialists are part of an interdisciplinary, patient- and family-centered model of care, collaborating with the family, physicians, advanced practice providers, nurses, social workers, and other members of the health care team to develop a comprehensive plan of care. Child life contributions to this plan are based on the patient's and family's psychosocial needs, cultural heritage, and responses to the health care experience. Child life specialists can participate in the care plan by, for example, teaching a child coping strategies for adjusting to a life-changing injury, promoting coping with examinations for alleged abuse, assisting families in talking to their children about death, facilitating nonpharmacologic pain-management techniques, preparing and educating children about their medical care in age-appropriate ways, and communicating the child's developmental and individual needs and perspective to others. These interventions are most effective when delivered in collaboration with the entire health care team.

The credentials of a certified child life specialist (CCLS) currently include the minimum of a bachelor's degree in child life, child development, or a closely related field; the successful completion of a 600-hour child life internship under the supervision of

a CCLS; and passing a standardized certification examination.<sup>71</sup> Ongoing and future requirements for the CCLS credential are determined by the Child Life Certification Commission of the ACLP.

In some settings, child life services are augmented by child life assistants (or activity coordinators, child life technicians, etc). Child life assistants are typically required to have core college coursework, such as an associate degree in child development, and experience with children in group settings. They generally focus on the normalization of the health care experience, providing play activities, coordinating special events (community visitors, holiday celebrations, etc), and maintaining the playroom environment. Both child life specialists and assistants actively participate in the orientation, training, and supervision of volunteers, thereby contributing to volunteer effectiveness, satisfaction, and retention. This collaboration enables the child life specialist to conduct an assessment and delegate as appropriate, allowing patients with varying degrees of psychosocial vulnerability and activity levels to be supported by the team member whose skills and knowledge are most closely aligned with patient and family needs. Although volunteers are a valuable supplement, they can never be considered an adequate replacement for CCLSs.

### **EVOLUTION OF CHILD LIFE SERVICES**

The provision of child life services is a quality benchmark of an integrated patient- and family-centered health care system, a recommended component of medical education, and an indicator of excellence in pediatric care.<sup>72-74</sup> There are more than 430 child life programs in operation in North America<sup>75</sup>; most are located in freestanding children's hospitals, children's hospitals within hospitals, community hospitals with pediatric units, and EDs.

The scope of child life programs has developed beyond pediatric inpatient acute care settings to include outpatient and other areas in which child life expertise can be effectively applied to support children and families in stressful situations. Child life specialists provide services to presurgery and surgical centers, radiology and imaging departments, dialysis centers, ambulatory clinics, NICUs, urgent care centers, psychiatric units, hospice programs, camps for children with chronic illness, rehabilitation settings, and some outpatient dental and physician offices.<sup>76</sup> Because the majority of children with medical complexities are being treated on an outpatient basis, child life services are increasingly common outside the hospital.<sup>77</sup> Increasingly, CCLSs are also part of interdisciplinary health care teams, including palliative care, behavioral health, trauma, and child protective services. In cases of hospitalized or ill adults, child life specialists may be consulted to work with children of adult patients, particularly in end-of-life, trauma, and critical care situations.

Child life programs continue to evolve and adapt to meet the changing health care needs of patients and families. Children with special health care needs now represent 18.8% of all children, up from 12.8% in 2001.<sup>78</sup> Specifically, the increase in patients with a diagnosis of autism spectrum disorder presents opportunities for child life specialization in supporting this population in medical settings.<sup>36,79,80</sup> In addition, the number of children with mental health and developmental disabilities conditions is increasing, either alone or comorbid with a physical health condition.<sup>81,82</sup> Hospitals are also admitting children with more complex medical conditions, with rates doubling between 1991 and 2005, and may need greater individualization of care from the CCLS.<sup>83,84</sup> The numbers of children with disabilities and

medical complexities are increasing, likely because of the increases in technology that ensures the survival of patients with previously lethal conditions.<sup>85</sup> Given the increasing survival rate of patients with cystic fibrosis, cardiac conditions, spina bifida, short gut, cancer, and other chronic illnesses, more teenagers and young adults face the challenging transition to adult health care.<sup>86</sup> Acknowledging team goals to normalize the transition process and address patient and family anxieties or questions, child life specialists can assist in this transition by providing education and helping patients to communicate their needs, fears, hopes, and expectations.<sup>87–89</sup>

In recent years, patient experience and/or patient satisfaction has become a key quality and performance indicator. Although the definition of patient experience continues to be explored and honed by health care leaders, there is common agreement that when evaluating health care quality, patient satisfaction is an important metric that translates to health care ratings and payment.<sup>90</sup> Family-centered care is a core principle for child life specialists; the recent emergence of the patient experience as a key quality indicator has resulted in child life specialists often taking the lead in family-centered care and patient experience initiatives. Research studies have demonstrated the positive impact of child life intervention on patient and parent perception and evaluation of the hospital experience, which is increasingly important for incentive-based reimbursement, accreditation, marketing, and public reporting of outcomes.<sup>8,17,34,67,91</sup> Health care professionals and organizations acknowledge the significant impact child life specialists have on the patient experience as well as the role child life plays in helping the concept of patient experience continue to evolve and grow.<sup>80</sup>

Although evidence supports the value of child life services, financial pressures in many health care settings have threatened the growth and sustainability of child life services. In addition to contributions to the patient experience, the literature has also demonstrated financial benefits of child life interventions, including reduced sedation-related costs, and increased compliance during procedures, resulting in procedure completion.<sup>8–12</sup> A child life program improves quality and decreases costs and, therefore, should be included in the value-added equation and discussion of health care cost, including with payers.

#### **ADDITIONAL CONSIDERATIONS**

Child life services contribute to an organization's efforts to meet the standards set forth by The Joint Commission and other accreditation agencies, including effective communication, patient- and family-centered care, age-specific competencies, and cultural competence.<sup>92</sup> Child life specialists' psychosocial and developmental expertise and their keen awareness of the benefits of patient- and family-centered care provide a useful perspective at a systems level. Child life input is often incorporated into hospital committees, such as ethics, family-centered care, patient experience, safety, environmental design, bereavement, and strategic planning. Child life expertise has applications beyond conventional hospital care. Interventions can help children transition back to their homes, schools, communities, and medical homes.<sup>11,93</sup> Child life specialists often collaborate with local school districts to arrange hospital or homebound education, and hospital-based teachers may be incorporated into child life program administration. These interventions help provide continued normalization and help make the transition to and

from the hospital to the home setting less disruptive. Child life specialists also provide services outside hospital-based settings, including private practice, community agencies, and hospice care, and are becoming increasingly involved in providing support to children and families during catastrophic events.

For hospitals or other health care settings considering the initiation or expansion of child life services, the ACLP offers a consultation service to support existing program review and development, new program startup, interdisciplinary education, and written practice guidelines.<sup>94</sup> In community hospital settings with few pediatric beds and minimal pediatric outpatient or ED visits, the provision of full-time child life services may not be financially feasible. In such cases, part-time or consultative services of a CCLS may be obtained to assist in the ongoing education of staff, students, and volunteers as well as to advise on a psychosocially sound, developmentally appropriate patient- and family-centered approach to care. The advancement of telemedicine also presents an opportunity for child life specialists to intervene when they cannot be on-site. Advocating for child life services as an essential part of the interdisciplinary team is a responsibility of health care organizations to ensure it is a standard of pediatric care and should occur on local and national levels as well as in regulatory and accrediting organizations.

#### **CONCLUSIONS**

Child life services are associated with improved quality, outcomes, and patient and family experiences as well as decrease costs in pediatric care. There is evidence that child life services help to contain costs by reducing the length of stay, decreasing the need for sedation and analgesics, and increasing patient satisfaction ratings. Patient

experience data and interdisciplinary team member feedback further confirm the positive effects of child life programs on children, families, and staff. It remains essential for child life services to adapt and grow with the changing health care delivery system in support of the highest possible quality of care for children and their families.

## RECOMMENDATIONS

1. Child life collaboration with the entire interdisciplinary team is essential to meeting the overall health care needs of children and families.
2. Child life services are part of an integrated patient- and family-centered model of care and can be used as a quality measure in the delivery of health care services for children and families.
3. Child life services, provided directly by CCLSs, are recommended in pediatric inpatient units, EDs, chronic care centers, and other diagnostic and treatment areas to the extent appropriate for the population served. In hospitals with a small number of inpatient or outpatient pediatric visits, ongoing consultation with a CCLS is needed to educate health care team members and support developmentally appropriate patient- and family-centered practice.

4. Child life services staffing must be individualized to address the needs of specific inpatient and outpatient areas. The ratio of child life specialist to patient should be adjusted to account for the patient's medical, psychosocial, and developmental complexity and vulnerability as well as family needs and preferences. Child life services need to continuously evolve to meet the changing needs in pediatric health care, including the significant increases in children with disabilities and medical complexity.
5. Child life services optimize pediatric health care and, therefore, should be included in the hospital operating budget; they cannot solely rely on contingency or philanthropic funding.
6. Legislative advocacy of child life services by pediatricians and other stakeholders is recommended at the state and federal levels.
7. Additional research is needed to further identify the impact of child life services on patient care outcomes, including patient experience, cost-effectiveness, and quality and safety measures.

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## ABBREVIATIONS

ACLP: Association of Child Life Professionals  
CCLS: certified child life specialist  
CLPDC: Child Life Professional Data Center  
ED: emergency department

**FUNDING:** No external funding.

**POTENTIAL CONFLICT OF INTEREST:** The authors have indicated they have no potential conflicts of interest to disclose.

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