ORIGINAL ARTICLE

Pediatric music therapy in the United States: A subsequent inquiry

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ABSTRACT

Objective: Music therapy is a credentialed and established allied health profession with increasing prevalence in medical settings across the United States. The field is evidence-based, guided by research and best practice, and music therapy clinicians collaborate inter-professionally to support patients and families during hospitalization. Pediatric music therapists are uniquely situated to improve patient and family care and positively impact the hospital experience. This cross-sectional survey focused on capturing current trends in pediatric music therapy, comparing current data with previously captured data, identifying unique clinical needs of pediatric music therapists; and providing guidance for current clinical considerations.
Methods: The REDCap survey yielded 84 responses (n = 84) from pediatric music therapists. Survey data were analyzed using a modified exploratory sequential mixed methods design, incorporating an initial data review, followed by an inductive qualitative analysis, and concluding with a quantitative phase. The approach was selected to provide a comprehensive understanding of current trends in pediatric music therapy, allowing for comparisons with findings from a previous survey, identification of unique clinical needs, and the development of insights to inform current clinical practice considerations.
Results: The analyzed data showed significant trends within the pediatric music therapy workforce. The comparison between the previous survey conducted in 2020 and the results from 2023 shows that the demand for music therapy services continues, particularly in the clinical areas of emotional support, coping, rehabilitation, palliative care, and pain management. The data suggest that clarifying career progression opportunities, improving institutional backing, and addressing workload distribution could play a pivotal role in therapist retention and long-term service effectiveness.
Conclusions: Music therapists, creative arts therapists, and hospital administrators can use this data to understand resource allocation better and continue growth and support of music therapy within their respective facilities.

Key Words: Benchmarking, Pediatric music therapy, Workforce survey

1. INTRODUCTION

Many children's hospitals in the United States (U.S.) offer music therapy programs as part of a holistic approach to pediatric care. Pediatric Music Therapy (PMT) is widely recognized for its benefits in the medical setting, helping children cope with fear, anxiety, procedures, and pain through music interventions that offer comfort, autonomy, and control during hospitalization.[1] Stegemann et al. suggest "Music therapy can be considered a safe and generally well-accepted intervention in pediatric healthcare to alleviate symptoms and improve quality of life."[2] (p. 1). This is evident as music therapy in the U.S. continues to emerge as a standard,

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supportive care service in many pediatric hospitals.[2–4]

Authors completed a comprehensive review of the 221 children's hospitals registered with the Children's Hospital Association (CHA) in the U.S. and found that 158 employ or contract at least one board-certified music therapist. Meaning that of all children's hospitals in the U.S. registered with CHA, 72% have access to music therapy service.[5] Given the level of integration of music therapy into pediatric healthcare, it is important to examine how these programs are structured, the challenges they face, and the factors influencing their sustainability and effectiveness. Insights from this study explore how these programs are structured and sustained. These insights are further explored through therapists' perspectives captured in free-text responses, offering a deeper understanding of the structural challenges music therapists face. The data presented offers hospital administrators and policymakers the ability to make informed decisions in order to maximize the therapeutic impact of music therapy in pediatric settings.

In 2020, the American Music Therapy Association (AMTA) Pediatric Work Group published findings from a workforce survey which explored the role and functions of music therapy services in pediatric medical settings.[6] The survey acquired data from 118 music therapists who provided therapeutic music therapy support for pediatric patients. After data collection, the work group analyzed trends and identified themes in areas such as demographics, clinical practice, and other responsibilities named by the workforce. Knott et al. recommended subsequent surveys to "examine the growth and change in service delivery among pediatric music therapists over time."[6] (p. 35). Current practitioners recognized the need for new and updated workforce trend analysis. Therefore, researchers conducted a secondary survey in 2023 to affirm national benchmarking data, evaluate changes, and explore new patterns and trends in PMT. Findings continue to reflect the presence of music therapy services in pediatric medical settings, inform future music therapy program growth and development, and guide professional advocacy efforts.

Approved by the Institutional Review Board at Baylor College of Medicine, this cross-sectional study explored the following areas: demographics, organizational structures, music therapy service delivery and clinical practice, administrative and/or supervisory responsibilities, and current considerations within the field of PMT. The following questions were utilized to craft the creation of additional survey questions and guide data analysis:

1) How have demographic characteristics for music therapists working in pediatric medical settings changed?
2) Were there significant alterations in organizational structures for music therapy services?
3) How has service delivery and clinical practice in PMT changed?
4) What are the current administrative and/or supervisory responsibilities for music therapists providing clinical services within the pediatric healthcare setting?
5) What are current and/or future considerations for PMTs?

2. METHODS

2.1 Sample

Pediatric music therapists (PMTs) were required to meet the following inclusion criteria to participate in this survey: 1) currently employed and providing music therapy services for children in a pediatric hospital in the United States as a part-time, full-time, or contracted employee, and 2) hold current credentialing from the Certification Board for Music Therapists (i.e., board-certified music therapist; MT-BC). Two strategies were used to identify potential survey participants. First, researchers used their professional networks to identify AMTA and non-AMTA members working in pediatric hospital settings. Second, social media platforms (e.g., Facebook, Instagram) frequented by PMTs were utilized to share informative flyers and interactive quick response (QR) codes with access to the online REDCap survey. These combined methods resulted in survey responses from 84 unique participants.

2.2 Survey instrument

Informed by the prior survey study and current clinical practice, the research team constructed a 51-item online questionnaire with four areas of inquiry: 1) therapist demographics, 2) organizational structure, 3) clinical practice, and 4) additional responsibilities. Survey questions included discrete, ordinal, nominal, rank-order, and open-ended response options. Respondents were able to skip questions, and some questions allowed multiple responses. Members of the workgroup tested the online platform for clarity of presentation, ease of use, and to estimate the time required to complete the survey (10–15 minutes). These survey elements were selected and implemented to increase user ease, enhance response rate, and prevent survey fatigue.[7] Of the 51 questions, there were 13 sub-questions prompting respondents to provide additional descriptions and/or specific information to capture supplemental data.

2.3 Procedures

The survey was administered using the Research Electronic Data Capture (REDCap) application, which provides secure, web-based data collection and management.[8] Potential participants accessed the survey via a QR code, which linked the

participant to a secure REDCap web page with information about the survey. The webpage detailed the purpose of the study, provided consent information, and granted participants access to survey questions. All data exported from REDCap was de-identified and shared with each research team member. The study remained open and accessible from January 2023 through March 2023.

2.4 Analysis

REDCap was utilized to aggregate responses, provide summary statistics, and enable the export of all data in multiple file formats for further analysis. Descriptive statistical measures were used to summarize data for questions with discrete and ordinal response types. Statistical analyses and visualizations were performed using *R* (Version 2024.12.1+563)[9] within the RStudio environment. The packages utilized included ggplot2, dplyr, and tidyr for data management, statistical analysis, and visualizations. Data were further analyzed using boxplots, heatmaps, stacked bar charts, and scatterplots to better understand relationships among variables. A pearson correlation analysis was conducted between burnout and staff-to-bed ratio. Then, a multiple regression analysis was conducted to examine the relationship between burnout and key predictor variables, including staff-to-bed ratio, staffing levels, hospital operating budget support, and the presence of a clinical ladder. Qualitative data was analyzed using inductive coding to identify themes and commonalities among the responses. Qualitative and quantitative data components were then compared with corresponding data from the 2020 survey.

A weighted average was calculated for questions related to the prioritization of referrals and the most frequently served clinical need areas. This calculation assigned weight according to the level at which each area of need was ranked, providing a more accurate reflection of the aggregated ranked order data.

Thirteen open-ended questions were presented, asking respondents to provide text responses. Responses were analyzed using inductive coding methods. Inductive coding occurs when themes are developed directly from the harvested data without predetermined categories. This allows insights and theories to emerge organically from the examined data.[10] Responses to each open-ended question were assigned to all three study team members. The group members analyzed each text response question individually, reviewed aggregated responses, and organized the material by emerging themes similar to procedures described by Creswell.[11] Group members then worked collaboratively to compare individual analyses, achieve consensus, and identify themes.

3. Results

Eighty-four unique records were collected via REDCap. The resulting data is summarized in four sub-categories: 1. Demographics, 2. Organizational Structure, 3. Service Delivery and Clinical Practice, and 4. Administrative and/or Supervisory Responsibilities.

3.1 Demographics

The survey contained seven demographic questions. In the 2023 survey, 76.1% of respondents reported having ten years of experience or less, compared to 65.2% in the 2020 survey. A significant discovery from the 2023 survey was that 40% of music therapists in the PMT field have five years of experience or less. This aligns with the 2020 publication, which reported that 46.6% of PMTs were new to the field and had worked for five years or less. In 2020, 57.5% of respondents reported being at their current work setting for three years or less, and similarly, in 2023, 55.2% reported being in their current work setting for three years or less. This affirms that retention remains an issue for music therapy in the pediatric medical setting. Results from this survey also demonstrated a younger workforce, with 78.2% of respondents in 2020 being under 40 years of age compared to 89.4% of respondents who reported being under 40 years old in 2023. The change in age reflects a 12.9% decrease in age diversity from 2020 to 2023. There has been an 11.8% decrease in the number of master's-prepared clinicians within the field of PMT. In 2020, 57.1% of PMTs were master's-prepared clinicians; in 2023, 50% of the workforce were bachelor's-prepared clinicians. PMTs can gain additional advanced music therapy training, although fewer hold specialized training in 2023 than in 2020. This is evident due to 58.9% of respondents holding Neonatal Intensive Care Unit Music Therapy (NICU-MT) certification in 2020,[12, 13] compared to 41.4% in 2023. Neurologic Music Therapy (NMT) was the second-highest additional training area,[14] with 54.4% of the workforce holding an NMT certification in 2020 compared to 41.4% in 2023. Other training(s) reported by respondents included guided imagery and music, hospice palliative care, Nordoff-Robbins, and other(s). Free text responses captured under "other" included the following: Music Therapy Assessment Tool for Awareness in Disorders of Consciousness, abbreviated as MATADOC;[15] Time Together;[16] Rhythm, Breath, Lullaby; Creative Arts and Trauma Treatment through the Kint Institute; and Eye Movement Desensitization and Reprocessing (EMDR). 2023 saw a decrease in PMT's membership in the American Music Therapy Association (AMTA). In 2020, 82.9% of respondents were members of the AMTA compared to just 49.3% in 2023, a significant decrease of 33.6%. Trends in the data show that PMT clinicians are younger, less experienced, less educated, and have less advanced training(s) when compared

to data captured in the 2020 publication. Over half of respondents indicated they were 30 or younger (n = 36, 54.7%), and almost 40.3% reported having practiced five years or less (n = 27). Half of the respondents reported having earned a bachelor's degree (n = 32, 50%), and the most frequently reported specialized training(s) (n = 48) were NICU-MT (n = 24, 41.4%) and NMT (n = 24, 41.4%). A summary of all demographic data is shown in Table 1.

Table 1. Demographics, organization, and work setting

	2020			2023		
Question	**# Responses**	**Sum**	**%**	**# Responses**	**Sum**	**%**
Highest level of education	112			64		
Bachelor		44	39.3		32	50
MT Equivalency		3	2.7		3	4.7
Master		64	57.1		29	45.3
Doctoral		1	0.9		0	0
Advanced, specialization training	90			58		
NICU-MT		53	58.9		24	41.4
Neurologic MT		49	54.4		24	41.4
Guided Imagery & Music		14	15.6		3	5.2
Hospice & Palliative Care		9	10		3	5.2
Nordoff-Robbins MT		4	4.4		1	1.7
Other		5	5.6		7	12.1
	2020			**2023**		
Question	**# Responses**	**Sum**	**%**	**# Responses**	**Sum**	**%**
Type of work setting	118			74		
Free-standing children's hospital		60	50.8		37	50
Pediatric hospital in larger organization		49	41.5		34	45.9
A pediatric unit within general hospital		5	4.2		3	4.1
Serving children across mixed units		1	0.8		0	0
The department where PMT resides	116			74		
Child Life		66	56.9		42	56.8
Music Therapy		9	7.8		3	4.1
Integrative Medicine		4	3.4		0	0
Creative Arts Therapies		4	3.4		17	23
Expressive Therapies		4	3.4		1	1.4
Other		28	24.1		11	14.9
How is your position funded	118			74		
Philanthropy		59	50		41	55.4
Hospital operating budget		58	49.2		41	55.4
Short-term grant		13	11		2	2.7
Third-party reimbursement		2	1.7		0	0
Other		5	4.2		3	4.1
Do not know		4	3.4		6	8.1
Total # of PMTs in setting	118					
1		42	35.6		11	14.9
2		31	26.3		13	17.6
3		17	14.4		17	23
4		7	5.9		14	18.9
5		4	3.4		7	9.5
6		8	6.8		0	0
7		5	4.2		0	0
8		1	0.8		2	2.7
9		0	0		5	6.8
10 or more		3	2.5		5	6.8
What is your employment status*				74		
Contract					1	1.4
Per Diem					2	2.7
Part-time					9	12.2
Full-time					62	83.8

Note. * Indicates a question added in the 2023 survey

Table 2. Clinical load and music therapy service structure

Question	2020					2023				
	n	Min	*Max*	Mean	SD	n	Min	*Max*	Mean	SD
Clinical Load										
# of beds you cover	103	10	400	93.89	85.11	71	0	360	85.52	70.69
# of total beds in facility	107	10	651	225	178.8	71	30	973	309.4	230.2
	# Responses		**Sum**	**%**		**# Responses**		**Sum**	**%**	
Music Therapy Service Structure										
Hours worked per week	118					74				
0-8			3	2.5				2	2.7	
9-16			12	10.2				2	2.7	
17-24			11	9.3				4	5.4	
25-32			14	11.9				7	9.5	
33-40			78	66.1				59	79.7	
# of individual sessions per day	115					74				
0			2	1.7				1	1.4	
1-3			8	7				14	18.9	
4-6			75	65.2				53	71.6	
7-9			22	19.1				4	5.4	
10-12			4	3.5				2	2.7	
13 or more			4	3.5				0	0	
What is your service delivery model*						72				
Service lines								14	19.4	
Unit-based								43	59.7	
Floor-based								14	19.4	
Referral based								48	66.7	
Other								1	1.4	

Note. * Indicates a question added in the 2023 survey

3.2 Organizational structure

Half of the PMT workforce is consistently employed in free-standing children's hospitals. The organizational structure of departments remained consistent; in 2020, 56.9% of PMTs were housed within the Child Life department, and 56.8% of PMTs were under the Child Life department in 2023. Funding for programs saw minor changes from 2020 to 2023. In 2023, position funding was split evenly, with half of PMT positions funded through philanthropy and half through hospital operations. In 2020, 56.2% of respondents identified that their position was funded through philanthropy, followed by 43.8% of positions falling under hospital operating budgets. This indicates a 6.2% increase in music therapy positions being funded through hospital operations. Survey results also indicate growth in the number of full-time music therapy positions. In 2020, 35.6% of respondents reported being the sole music therapist in their facility. However, in 2023, most respondents reported having at least three music therapists in their setting. The majority of respondents (83.8%) reported full-time employment, and 39.2% of respondents reported they have flexibility within their work schedule.

Overall, data suggests pediatric medical music therapists are experiencing stagnation concerning organizational structure. Examples include similar percentages for work setting types and music therapy positions continuing to be primarily funded through philanthropic support. An area where positive change is noted consists of the number of full-time music therapists employed in pediatric hospitals. Organization and work setting data are detailed in Table 1.

3.3 Service delivery and clinical practice

3.3.1 *Clinical practice*

Individual respondents were asked for how many hospital beds they provide music therapy coverage. In the 2020 results, PMTs covered an average of approximately 94 beds. In 2023, survey results depicted an 8.37% decrease in bed coverage, with PMTs singularly providing services for a mean of roughly 86 beds per therapist. Data regarding clinical load is included in Table 2. In addition to bed ratios, data was collected on which units PMTs provide services. Notably, the top five units receiving music therapy services remain the same across both surveys: Pediatric Intensive Care (PICU), Neonatal Intensive Care (NICU), Hematology and Oncology, Medical, and Surgical units.

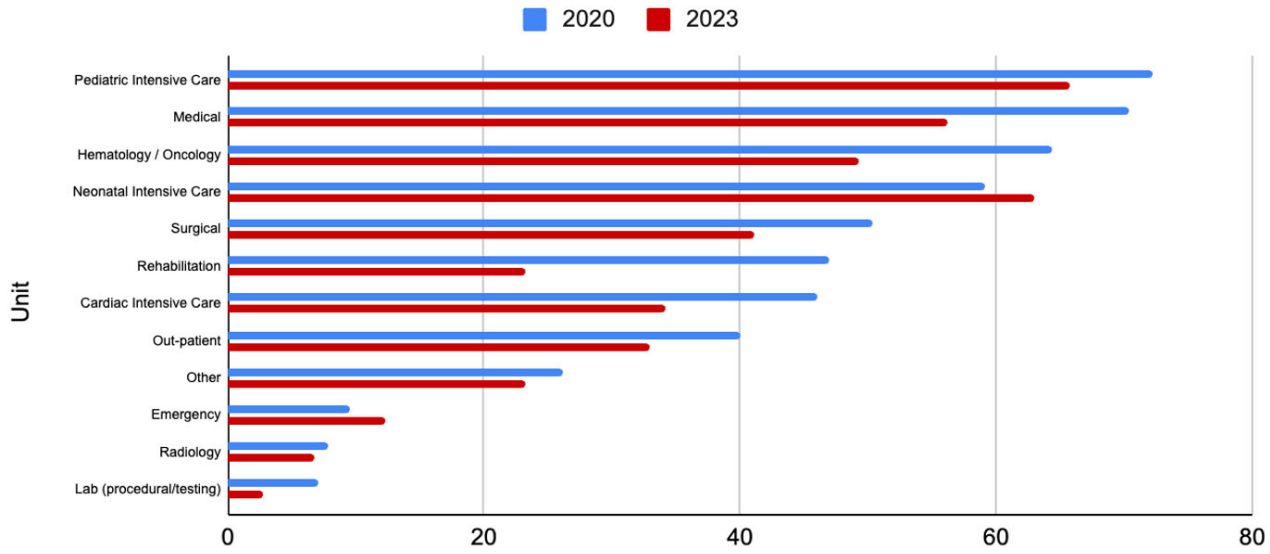

Figure 1. Units served by pediatric medical music therapists

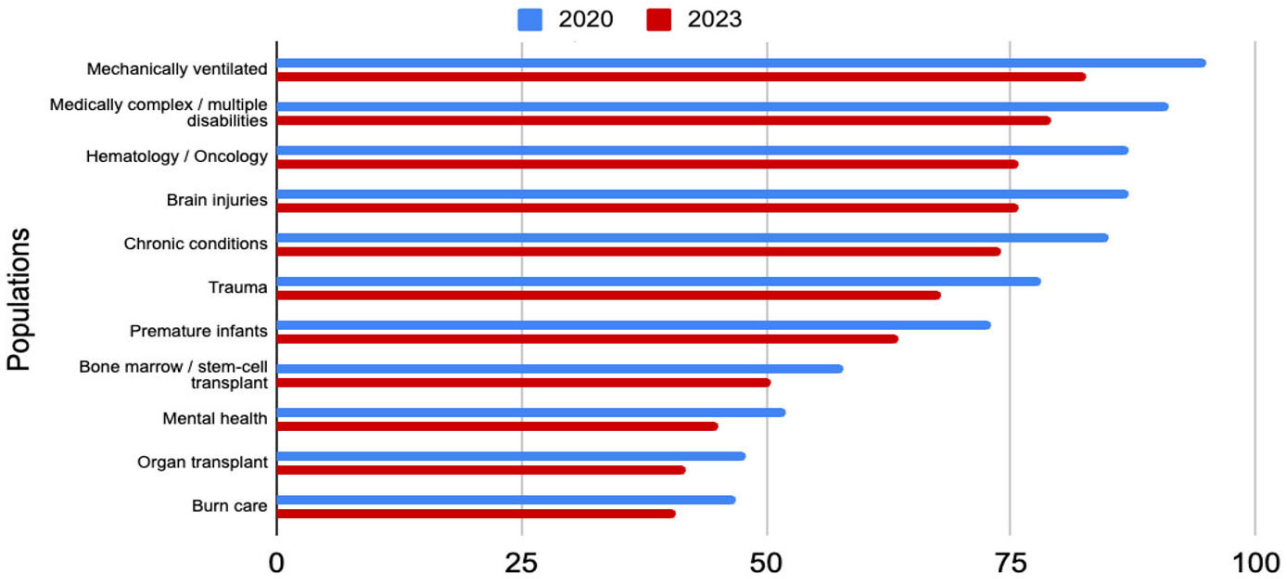

Figure 2. Populations served by pediatric medical music therapists

Though the units remained unchanged, the populations served on each unit varied slightly in the most recent survey. The results displayed in Figure 2 suggest that mechanically ventilated, medically complex/multiple disabilities, hematology/oncology, chronic conditions, and brain injuries are the five most prominent clinical populations served by music therapists in the pediatric healthcare setting.

3.3.2 *Music therapy service delivery*

Currently, findings show that 79.7% of PMTs work 33–40 hours per week, see between 4–6 patients a day individually, and spend an average of 56.2% of their day in direct patient care. Most of their referrals (63%) come from electronic medical record systems, and 26% are obtained through verbal referrals from colleagues. Responses reported that 98.5% of PMT charting happens electronically. An exciting finding regarding caseload prioritization was that an overwhelming number (98.6%) responded "yes" to prioritizing their patient caseload; however, only 60.3% utilized any form of standardized procedure for prioritization. It is evident that PMTs are navigating technological advancements in the healthcare setting, as evidenced by the use of electronic medical records

for charting and referrals. PMTs are not required to serve as many beds as in 2020, with an 8.7% reduction in PMT-to-bed ratios. Despite this, productivity has not been hindered; PMTs continue to spend an average of 55% of their day, or more, providing direct patient care.

Results show that PMTs continue to prioritize patients considered high acuity based on their clinical needs in Table 3. This trend remained consistent across both surveys, with palliative, bereavement, or end-of-life care being the top priority, followed by acute pain, procedural support, difficulty coping, and limited family support. These areas rounded out the top five clinical priorities when triaging caseloads. A clinical need area centered around rehabilitative support and co-treatment with rehabilitation therapists was identified in the 2020 and 2023 surveys; however, it is not considered an area of high clinical need when prioritizing caseloads.

Table 3. Most frequently addressed clinical need area

2020	**Most frequently addressed**						
Clinical Need (*n* = 112)	**1st**	**2nd**	**3rd**	**4th**	**5th**	**Total Weight**	**Total Weight Ratio**
Coping/engagement (withdrawn, noncompliant fearful)	49	39	18	8	2	473	0.84
Pain (procedural, acute, chronic)	26	42	31	13	3	420	0.75
Palliative care and bereavement (compassionate extubation, legacy creation — voice and/or heartbeat recording, remembrance ceremony music planning, sibling and parent support, grief support groups, sibling support)	24	24	19	29	20	351	0.63
Adjunct motor and speech/language habilitation/rehabilitation	25	17	26	22	26	341	0.61
Other	13	9	10	10	20	171	0.31
2023	**Most frequently addressed**						
Clinical Need (*n* = 112)	**1st**	**2nd**	**3rd**	**4th**	**5th**	**Total Weight**	**Total Weight Ratio**
Coping/engagement (withdrawn, noncompliant fearful)	36	17	8	5	4	296	0.92
Pain (procedural, acute, chronic)	14	21	24	7	3	243	0.70
Palliative care and bereavement (compassionate extubation, legacy creation — voice and/or heartbeat recording, remembrance ceremony music planning, sibling and parent support, grief support groups, sibling support)	15	13	17	17	7	219	0.63
Adjunct motor and speech/language habilitation/rehabilitation	10	14	16	17	7	200	0.57
Other	9	4	4	7	13	37	0.29

Respondents were asked to identify the most challenging issues impacting the provision of music therapy services in their facilities, shown in Table 4. Staffing limitations were cited as the most significant barrier, with 62% of all responses mentioning staffing needs. Respondents noted high demand for music therapy services, large caseloads, high patient acuity levels, and the need for additional music therapy positions to meet the number of referrals and provide quality therapeutic support. Funding was another challenge identified by PMTs, with 38% of respondents naming donor-funding and philanthropic support often resulting in small programs, instability, and difficulty with program growth. Thirty six percent of respondents pointed to a "lack of support and understanding of services" from hospital administration, leadership, and interdisciplinary staff. Qualitative responses suggest a great need for advocacy and education within healthcare organizations. In summary, challenges identified by respondents include staffing, funding, leadership support, education, and advocacy efforts.

The research team added novel questions to understand further opportunities for best practices and resiliency in pediatric medical music therapy. A resounding 94% of respondents expressed a strong interest in standardizing language across the field. When asked about burnout, 40% of respondents answered they "often" experience burnout, while 40.3% reported experiencing burnout "sometimes." Additionally, 44.8% of respondents stated they "sometimes" received burnout prevention opportunities within their organizations. Data shown in Table 5.

Table 4. Challenges to provision of music therapy services

2020 Challenge Categories	Examples of reported challenges faced by PMTs
Workload	High volume of referrals
	Caseload
	Staffing
Advocacy	Lack of support
	Staff education
	Understanding of staff of appropriate referrals
	Lack of understanding and full utilization of services territorial attitudes
Funding	Lack of funding for more positions
	Budget cuts
	Financing
	Financial resources
	Full time funding – for non-income producing position scheduling conflicts
Operational	Scheduling conflicts
	Prioritizing and standardization
	Fitting sessions in around MD/RN appointments
	Lack of scheduled sessions
	An efficient method for referrals
Lack of Organizational Development	Lack of clinical ladder
	Lack of formal supervision structure
	Space
	No budget for continuing education
	Conference attendance
	Do not have access to client records
2023 Challenge Categories	**Examples of reported challenges faced by PMTs**
Funding	Donor funding (difficult to grow program, lack of job security)
	Hospital operating budget (desire for more PMT positions to be operationalized)
	Limited budget (salaries, supplies)
	Salary (low pay compared to other therapeutic services (PT, OT, SLP)
	Reimbursement (explore reimbursement for MT services in relation to PMT, CPT codes for billing)
Workload	Caseload (high needs, high acuity, large number of consults, increase in beds)
	Staffing (more positions, not enough MTs, need more coverage, lack of coverage)
	Administrative expectations (supporting MT students, balancing admin vs. clinical, increasing responsibilities)
Operational	Clinical supervision (often not supervised by a creative arts therapist)
	Lack of support (leaders, departments, administration, organization)
	Limited communication (small subset in a larger department)
Professional Development	Limited funding (no reimbursement for certifications, limited funds for ongoing education)
	Limited growth opportunities (clinical ladder, leadership positions)
Advocacy/Education	Role confusion (lumped with rec svcs, creates confusion as MT is therapeutic service
	MTs credentialed/well trained/continuing ed
	Small team results in lack of awareness
	Need for emphasis on therapeutic support service, clinical service (Inappropriate referrals)

Table 5. Current and future practice considerations

Question	2023	
	# Responses	Sum
Would having universal terminology be beneficial in your clinical practice*	67	
Yes		94
No		6

Question	2023					
	# Responses	Never	Rarely	Sometimes	Often	Always
Have you experienced burnout in your current role*	69	9%	17.9%	32.8%	40.30%	0%
Does your facility provide burnout prevention opportunities*	67	4.5%	22.4%	44.8%	19.4%	9%

Note. * Indicates a question added in the 2023 survey

3.4 Administrative and supervisory responsibilities

3.4.1 *Administrative*

Slightly less than half (47.3%) of music therapists serve in a clinical training director or supervisor role (e.g., internship, practicum) to support music therapy students. Compared to 2020, there has been a 13.3% decrease in volunteer music programs on campus, which may be attributed to COVID-19 restrictions within the healthcare setting that limited outside visitors. Hospitals with volunteer music programs are primarily run or supervised by PMTs, with 75% of respondents stating they are responsible for training and supervising volunteer musicians.

3.4.2 *Supervision*

Clinical supervision is another responsibility placed on PMTs. Therapists desire clinical supervision from a trained professional with a similar clinical background and credentials. Oftentimes, PMTs create their own opportunities for clinical supervision when their organization does not have appropriate support systems in place. Sixty-seven percent (67.1%) of respondents participate in or are provided with clinical supervision; however, half of these therapists are engaged in peer supervision, where they also provide feedback and supervision to one another.

In addition to providing clinical music therapy services, PMTs are also responsible for internship and practicum student programming, training and supervising volunteer music programs, and organizing and providing clinical supervision for themselves and their peers. These additional responsibilities impact the time a clinician is able to spend at the bedside providing direct patient care.

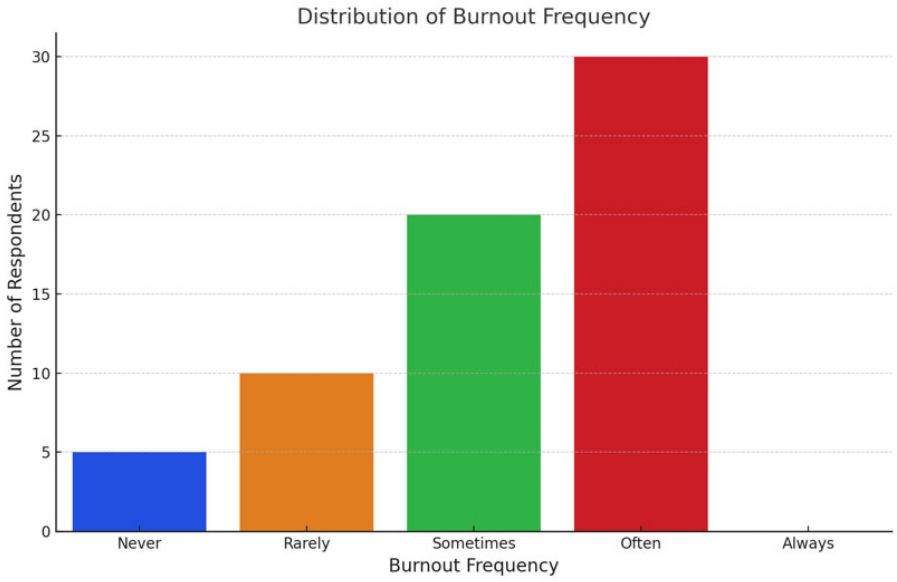

Figure 3. Distribution of burnout frequency

3.5 Statistical analysis

3.5.1 *Background*

During the initial descriptive analysis, burnout emerged as a significant trend among respondents (see Figure 3). The themes identified during the qualitative analysis were utilized as variables throughout the quantitative analysis. To begin looking for connections among the variables, burnout was identified as an independent variable.

3.5.2 *Method and Results*

A Pearson correlation analysis[17] was conducted using RStudio to examine the relationship between burnout and the staff-to-bed ratio. The analysis revealed a moderate positive relationship between burnout and the staff-to-bed ratio (r = 0.358). The correlation was statistically significant (p = .001), indicating that as the staff-to-bed ratio increases, burnout levels tend to rise. A multiple regression analysis was also conducted to examine any relationships between burnout and other key predictor variables, including staff-to-bed ratio, staffing levels, hospital operating budget support, and the presence of a clinical ladder. The regression model produced an R-squared value of 0.1375, indicating that approximately 13.7% of the variance in burnout could be explained by the independent variables included in the model. These intersecting relationships are demonstrated on the heatmap in Figure 4. The heatmap provides a visual representation of the correlations among the key variables identified, allowing for insights into how different factors interact. The color gradient shows the strength and direction of relationships.

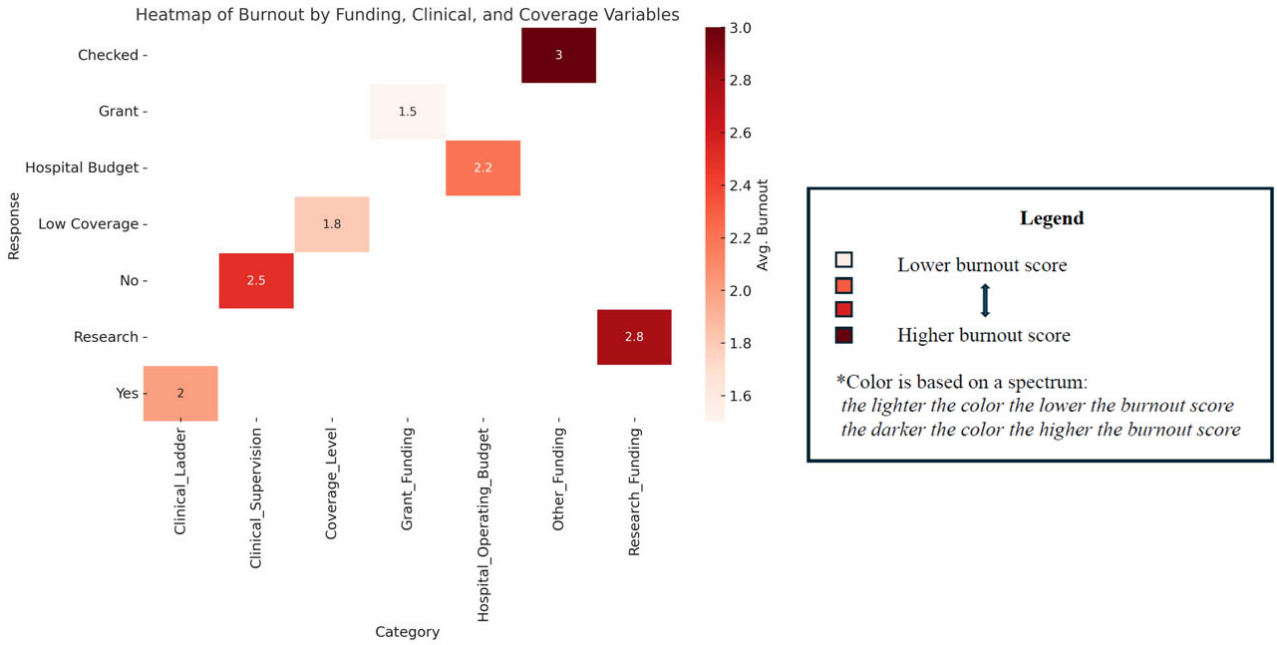

Figure 4. Heatmap of burnout by funding, clinical, and coverage variables

4. Discussion

The purpose of this survey was to capture current trends in pediatric medical music therapy, further explore workforce demographics, and assess clinical music therapy services. Based on the data comparison and the results analyzed, several pertinent trends were detected, and the current state of pediatric music therapy was established. The data suggest that Pediatric Medical Music Therapists (PMTs) work across diverse hospital environments with significant variability in funding, staffing, and departmental structures. Funding sources vary from hospital operating budgets to philanthropic contributions, highlighting a need for stable financial backing. Moreover, the data underscore the essential role of PMTs in addressing a wide range of clinical needs, spanning from neonatal care to hematology/oncology and intensive care units, while also fulfilling supervisory and educational responsibilities. These findings emphasize the growing demand for music therapy services in pediatric settings and the ongoing need for strong organizational support, structured supervision, and clear pathways for professional development. Challenges in practice are prominently featured in the data, with a majority of respondents indicating they often experience burnout.

One pattern identified from the results of both surveys is the continued high demand on music therapy services in pediatric settings, despite PMTs reporting inefficient support within their respective organizations. This was evidenced by 90% of the 2023 survey respondents, who described staffing

and funding as the top barriers to their work. The statistical analysis revealed that higher caseloads may contribute to increased burnout among music therapists, aligning with existing literature on workload and clinician well-being. As the number of patients per therapist rises, increased emotional and physical demands may lead to greater professional exhaustion. These findings highlight the potential impact of staffing levels on burnout rates. One respondent highlighted the importance of increasing staffing knowledge across the field of music therapy: "...what is MORE helpful to our hospital's leadership is being able to see the specifics of how staffing looks at other similar institutions." Hospital administrations are encouraged to leverage the unique skill set of PMTs as they design and consider initiatives to address the integrative health needs of patients and families in their communities.

Another trend cited in both surveys is a growing concern regarding professional development opportunities within PMT. Clinical supervision is recommended for allied health professionals to support them in their professional role, ensure continued development, and maintain patient safety and high-quality care.[18] In music therapy, clinical supervision is defined as a structured, collaborative process between therapists typically involving observation, feedback and reflection.[19] Despite the importance of clinical supervision, half of PMTs are not provided with clinical supervision. The other half have cited that they provide peer supervision to themselves and their creative arts colleagues. The Heatmap shown in Figure 4 demonstrates that the absence of clinical ladders and clinical supervision strongly correlates with higher burnout scores. This finding is supported qualitatively by therapists' voiced concerns about limited professional growth opportunities and inadequate clinical oversight.

A continued trend across both surveys is that PMTs are utilized across every facet of a child's care while admitted to a pediatric institution. Utilizing music as a therapeutic tool allows music therapists to address a wide variety of therapeutic goals such as pain management, rehabilitation, development, and bereavement. The unique training music therapists receive on therapeutic applications of music allows interventions to be tailored to meet highly specialized needs, making music therapy a valuable service in pediatric hospitals. As reflected in the data, music therapists serve patients and families across various hospital units, including inpatient and outpatient areas.

A new and interesting finding from the 2023 survey was the concept of clinician-led research. This concept arose from the idea that further investigation and clarification could better unite the field of PMT. When asked what efforts should be prioritized in the future, the overwhelming response centered on standardization across several areas, including standardized assessment tools;intervention titles, and prioritization/triage. One respondent emphasized the importance of unifying terminology and creating a best practices model: "I would love more knowledge and guidance on other facilities' documentation standards and referral practices." PMTs also called for continued research into staffing ratios, validating the 2020 survey's recommended ratio of a minimum of one music therapist per 108 patient care beds.[5] This was underscored in a participant's free-text request: "Researching and enforcing several required therapists per patient bed within a facility — a nationally recognized ratio that facilities can use to justify additional positions." This serves as a call to action to increase the involvement of music therapists in research. Increased access to literature supporting the advocacy and enrichment of the field will benefit music therapy and the patients and families it serves.

4.1 Limitations and strengths

There are two main limitations to this study that should be considered. First, the unit of analysis in the current survey was based on individual responses of PMTs, not their PMT teams. Due to the open-access nature of survey distribution methods, it is difficult to estimate the representativeness of our sample. Researchers aimed to mitigate over-reporting by stating questions related to each participant (e.g., "For how many hospital beds do you alone provide coverage?"). A second limitation was the lack of study recruitment resources at professional organization levels to find PMTs, resulting in a smaller sample size (84). Researchers recruited PMTs through professional networks and known social media platforms utilized by clinicians. Although the sample size was small and without additional incentive, 84 respondents out of a potential pool of 285 demonstrates a typical response rate for follow-up research.[20]

Additionally, the small sample size also reduces the generalizability of the findings. A limited number of respondents can impact the statistical power of the analyses, and with a smaller dataset, outliers or variations in responses may disproportionately influence correlation and regression results, making it more challenging to establish definitive relationships between variables. Although relationships between burnout, staffing ratios, and institutional support were explored, the directionality of these associations remains unclear. Future research utilizing longitudinal designs could provide deeper insights into how these factors evolve over time and influence therapist retention and service delivery.

A strength of the current study is the continuity between the survey structure and questions. Utilizing the same REDCap build from the 2020 Knott et al. publication allowed for

similarity in construction and continuity with question development, resulting in precise data for trend comparisons.[5] The study highlights meaningful trends and areas for intervention, emphasizing the need for further research with larger, more diverse samples and longitudinal tracking to strengthen the understanding of workforce sustainability in pediatric music therapy. There is potential to continue to build upon the survey and build a longitudinal data set.

4.2 Recommendations/Future implications

Given the ratio of music therapists to patient beds (1:86) reported in this study, we recommend that those employing PMTs consider the following:

1. Hire an adequate number of music therapists (minimum one music therapist per 85 beds) for your institution as operationalized positions. This growth trend in therapist-to-patient ratios has emerged over several years of survey data collection and evaluation.

2. Support PMTs in developing best practice recommendations for music therapy service structures, such as a policy statement specific to PMT services, to help align PMTs with other ratio-protected professionals in healthcare settings.

3. Increase opportunities for professional development through funding continuing education opportunities, implementing a clinical ladder, and creating leadership opportunities for music therapists.

By strategically allocating music therapy services based on clinical demand and therapist capacity, institutions can maximize the impact of music therapy while mitigating burnout-related attrition. A more data-driven approach to staffing and resource distribution could help ensure that therapists are deployed where they are most needed, allowing for more efficient use of available personnel and services. Additionally, refining operational structures, such as interdisciplinary collaboration and funding models, could enhance institutional integration and reduce unnecessary workload burdens on therapists.

Proactively addressing these systemic challenges not only improves therapist well-being and retention but also strengthens the overall efficacy of music therapy services in pediatric healthcare settings. Organizations can better utilize music therapy as a high-value intervention by prioritizing sustainable staffing models, resource optimization, and professional growth opportunities.

Should this survey be replicated in the future, the following adjustments are recommended:

1. Collect additional demographic information, such as gender.

2. Specify the source of referrals.

3. Add mental health and behavioral health into the populations and units covered.

4. Specify the data collected by PMTs about patient care, productivity, etc. Further, an in-depth qualitative study of well-established PMT programs could provide insight into how the success of those programs has been sustained.

5. CONCLUSIONS

Medical settings are rapidly changing as healthcare organizations adapt to provide leading-edge medical care, respond to community needs, and promote patient- and family-centered care. Music therapists are highly trained professionals who receive extensive education and clinical training to provide psychosocial support during hospitalization. Therefore, it is essential to consider how credentialed music therapists are working to support and advance standards of care through research, evidence-based interventions, innovative programming, and collaboration as multidisciplinary care team members. Equally important is understanding how music therapy programs are structured within the hospital setting to continue supporting access to music therapy services for patients and families.

The comparative benchmarking data gathered in this study provided an opportunity to look at current practices while also evaluating the growth and trends of PMT practice in the United States across demographic, organizational, and clinical practice domains for the past six years. It solidified that PMTs remain purposeful and beneficial in the workplace. This is best seen by the comparative evidence that emerged when the two surveys were analyzed against one another. The most substantial findings were the wide diversity of clinical expertise requested of PMTs, decrease in patient to therapist ratio, and increase in operating budget funding. We recommend replication of this survey to continue examining growth and change in service delivery over time, with additional studies exploring how therapist-to-patient ratios influence the quality of care, identifying factors that contribute to the sustainability of PMT programs, and exploring how the expansion of services could support a broader population of patients and families.

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AUTHORS CONTRIBUTIONS

M.B wrote the initial draft of the article, took place in all re-submissions, and secured funding for open access and publication. C.C. created all Tables, majority of Figures, and took place in authorship and all re-submissions. C.K. provided all qualitative analysis, expanded the Figures, and took place in all authorship and re-submissions.

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CONFLICTS OF INTEREST DISCLOSURE

The authors declare they have no conflicts of interest.

INFORMED CONSENT

Obtained.

ETHICAL STATEMENT

This study was performed in accordance with the Declaration of Helsinki, and written informed consent obtained from all the participants. The protocol was approved by the Ethics Committee of Baylor College of Medicine (H-52633) on 12/6/2022-10/26/2027. Clinical trial registration was waived because this study does not meet the definition of an Applicable Clinical Trial.

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DATA AVAILABILITY STATEMENT

The datasets generated during this study are available in the Journal of Hospital Administration repository at [DOI Link]. Data are also available from the corresponding author upon reasonable request.

DATA SHARING STATEMENT

No additional data are available.

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