

A Survey of Music Therapists Working in Pediatric Medical Settings in the United States

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Abstract

Music therapy is becoming a standard supportive care service in many pediatric hospitals across the United States. However, more detailed information is needed to advance our understanding about current clinical practice and increase availability of pediatric music therapy services. The purpose of this cross-sectional survey study was to collect and summarize data about music therapists working in pediatric medical settings. Specifically, we collected information about (1) therapist demographics, (2) organizational structure, (3) service delivery and clinical practice, and (4) administrative/supervisory responsibilities. Board-certified music therapists working in pediatric medical settings ($n = 118$) completed a 37-item on-line questionnaire. We analyzed survey data using descriptive statistics and content analysis. Findings indicated there is a ratio of approximately one music therapist for every 100 patient beds, that one-third of respondents are the only music therapist in their setting, and that half of the surveyed positions are philanthropically funded. Prioritizing patient referrals based on acuity was common (95.7%, $n = 110$), with palliative care and pain as the most highly prioritized needs. More than half of respondents reported serving in high acuity areas such as the pediatric intensive care, hematology/oncology or neonatal intensive care units. We recommend replication of this survey in 5 years to examine growth and change in service delivery among pediatric music therapists over time, with additional studies to (a) explore how therapist-to-patient ratios influence quality of care, (b) identify factors that contribute to sustainability of programs, and (c) determine how expansion of services support a broader population of patients and families.

Keywords: benchmarking, hospital, music therapy, pediatrics

Music therapy is becoming a standard supportive care service in many pediatric hospitals across the United States (American Music Therapy Association [AMTA], 2018; AMTA, 2015a). This was made evident in 2015, when an informal survey was conducted revealing over half of Children's Hospital Association (CHA) hospitals surveyed reported offering music therapy

(AMTA, 2015a). However, we need more detailed information about therapist demographics and program characteristics in order to evaluate growth and change in service structure and delivery over time. To address this need, the AMTA Pediatric Music Therapy Resource Group¹ conducted the present survey study to establish national benchmark data for pediatric music therapy in medical settings. Findings serve to establish prevalence, inform program development, and guide advocacy efforts.

Surveys help researchers estimate parameters of a target population by questioning a representative sample and analyzing the data collected in order to generalize findings to the larger population (Fowler, 2009). In a workforce survey, the group sampled is composed of individuals who perform the same type of work and meet the sampling criteria established for the research. Few surveys examining music therapy in pediatric medical settings exist. Most relevant to the current study are two music therapy workforce surveys (AMTA, 2018; Kern & Tague, 2017), and two professional practice surveys centered on music therapists working with pediatric patients in medical settings (Tabinowski, 2013; Tucquet & Leung, 2014). Findings from these studies have helped to establish what is currently known about the availability and characteristics of music therapy services in pediatric medical settings, and areas that warrant further investigation.

AMTA conducts an annual workforce survey and subsequently publishes a descriptive, statistical profile that includes information about member demographics, employment, salary, populations served, and work setting characteristics (AMTA, 2018). Administered since 1998, the AMTA annual workforce survey generates important data that documents growth and change in music therapy employment and the workforce over time. Kern and Tague (2017) gathered information from 2,495 music therapists from six world regions and identified

¹ The penultimate and last author serve as advisors to the workgroup, and have contributed to the design, data analysis, interpretation and dissemination of the survey and its findings.

similarities in clinical practice such as adherence to basic standards of clinical practice and confidence in treating individuals with a wide range of needs. In addition, they identified barriers to growth of the field such as inconsistencies in government regulation and lack of recognition and adequate pay, and recommended that the survey be replicated every decade to document development of the profession.

The aforementioned workforce surveys captured important information about the music therapy profession in the United States (AMTA, 2018) and internationally (Kern & Tague, 2017). Based on these surveys, 14% of the total United States respondents (259 out of 1,852; AMTA, 2018) and 9.4% of the total international respondents (201 out of 2,331; Kern & Tague, 2017) reported working in a medical setting. However, it is difficult to ascertain the actual number of music therapists working with pediatric patients in medical settings due to ways data were gathered by population and work setting because many of these categories overlap. In addition, the AMTA workforce survey did not capture more detailed information about the organizational structure of work settings, service delivery, and clinical practice. Although Kern and Tague (2017) captured information related to work setting (e.g., workload, referral source) and clinical practice (e.g., goal areas, clinical approach techniques) it is difficult to link these findings with a specific sub-set of music therapists working in a specialized setting (i.e., pediatric medical settings). Both surveys answer important questions related to the larger group of music therapy professionals and their clinical practice, but were not designed to provide detailed information about specific areas of clinical practice.

Given expected variations in music therapy practice based on population and work setting, several clinical practice surveys answered more nuanced questions about music therapy practice. Researchers have used surveys to examine characteristics of music therapy services for several specific populations, including individuals with mental health needs (Silverman, 2007; Johnson & Heiderscheidt, 2018), older adults (Smith & Lipe, 1991), individuals with autism (Kern, Rivera, Chandler, & Humpal, 2013), and patients receiving care in medical

hospitals (Lam, 2007). Based on our search, we identified two survey studies that have examined the work of music therapists in pediatric medical settings; one focused on therapists working in pediatric hospitals and units (Tabinowski, 2013) and a second focused on therapists working in pediatric oncology (Tucquet & Leung, 2014).

In 2013, Tabinowski surveyed music therapists working with children in a hospital setting ($n = 72$, 36% response rate) to examine therapist demographics (including their clinical and education background), music therapy practices, and working conditions. Findings for therapist demographics indicated a majority were women, 25-34 years of age, with an average of 9 years clinical practice experience. More than half held masters degrees and had completed specialized training programs. Findings for clinical practice and workplace indicated that a majority of the therapist's time was spent in direct service delivery, and more than half of respondents held full-time positions, with an average of two full-time positions at each institution. Funding for a majority of positions was through grants, hospital budget, and/or foundation/philanthropy.

Tabinowski (2013) also provided several observations and recommendations to improve subsequent survey studies, including areas of the survey where unclear instructions may have impacted results (e.g., referral ranking) and places where the inclusion of definitions for terms (e.g., units served, intervention techniques, goal areas) may improve accuracy and completion of survey items. Open-ended questions requiring description of clinical work revealed great variability and inconsistency in terminology used by respondents.

A second survey study, conducted by Tucquet and Leung (2014), focused on a specialized sub-set of clinical practice in medical settings – pediatric oncology. The authors surveyed eight music therapists who provided care to pediatric oncology patients at eight different hospitals in Australia ($n = 8$, 100% response rate) for the purpose of establishing national benchmark data for current clinical practice and to compare clinical practice findings with current evidence and patient feedback. The authors collected data across six areas,

including referral source, program goals, program structure, assessment, evaluation, and clinician involvement in research. Findings indicated services across all sites align well with published research and patient/family identified needs; however, a noted limitation was inclusion of only one hospital in the patient/family survey component of the study. The authors' primary recommendation was to gather patient/family feedback about music therapy services across institutions with the aim of gaining a broader perspective about patient and family needs to inform tailored service delivery (Tucquet & Leung, 2014). Taken together, the studies by Tabinowski (2013), Tucquet and Leung (2014), and Kern and Tague (2017) support the value of survey studies to inform clinical practice models and offer important suggestions for improving survey content. A comprehensive summary of music therapy practice in pediatric medical settings would provide benchmarking data to inform program development, support advocacy efforts, and to help music therapists monitor changes in the availability and structure of music therapy services over time.

In 2014, AMTA established the Pediatric Music Therapy Task Force "...to explore the feasibility of establishing a strategic priority regarding the practice of music therapy in pediatric medical settings" (AMTA, 2014; p.47). In June 2015, members of the task force conducted an informal survey of Children's Hospital Association (CHA) member institutions to acquire initial prevalence data and size of programs. The group created a spreadsheet of CHA hospitals as well as other non-CHA children's hospitals that were known to offer music therapy, totaling 254. According to unpublished survey data, the group was able to query 206 (81%) of the 254 hospitals. Of those 206, 116 (56%) offered music therapy services to their patients and families (AMTA, 2015a), suggesting that music therapy in pediatric medical settings was an area of growth for the profession. Based on these findings, the Pediatric Music Therapy Work Group was established to "...increase awareness and recognition as well as establish best practice models for music therapists working in pediatric medical settings" (p.303; AMTA, 2015b).

As a first step in meeting this charge, the work group decided to conduct a large cross-sectional survey study. The purpose of this survey study was to gather and summarize information about music therapist demographics, organizational structure of the work setting, characteristics of music therapy service delivery and clinical practice, and the administrative and supervisory duties of music therapists working with hospitalized infants, children, and/or adolescents/young adults. Pediatric medical settings were defined as free-standing children's hospitals; pediatric hospitals within a larger healthcare organization; pediatric units within a hospital; or hospitals that provide music therapy to hospitalized infants, children, or adolescents/young adults across different hospital units. Specific research questions guiding this survey study were as follows:

- 1) What are the demographic characteristics of music therapists working in pediatric medical settings?
- 2) What are the organizational structures of pediatric medical facilities where music therapists work?
- 3) What are characteristics of music therapy service delivery and clinical practice?
- 4) What are the administrative and/or supervisory responsibilities of music therapists working in pediatric medical settings?

Method

Sample

Music therapists who met the following criteria were eligible to participate in this survey study: (1) currently employed to provide services to hospitalized infants, children, adolescents and/or young adults in the United States as a part-time, full-time, or contracted employee, and (2) hold active certification from the Certification Board for Music Therapists (i.e., board-certified music therapist; MT-BC). The Institutional Review Board at Seattle Children's Hospital approved this study on June 30, 2017.

We used two strategies to identify potential survey participants. First, we requested from AMTA email addresses of all professional members identified as working in a children's hospital as of August 17, 2017. We followed AMTA procedures for obtaining email addresses for research purposes, and the request was pre-approved by the AMTA Executive Director, as per AMTA policy. Second, from May - August 2017, members of the Pediatric Music Therapy Work Group used their professional networks to identify non-AMTA members working in pediatric hospital settings. Using these combined methods, we identified 220 unique potential participants who then received an invitation to participate in the survey study.

Survey Instrument

Informed by prior survey studies (Kern & Tague, 2017; Tabinowski, 2013; Tucquet & Leung, 2014) and current clinical practice, the study team constructed a 37-item online questionnaire with four areas of inquiry: (1) therapist demographics, (2) organizational structure, (3) music therapy service delivery and clinical practice, and (4) administrative and supervision responsibilities. Survey questions included a combination of discrete, ordinal, nominal, rank order and open-ended response options. Open-ended response questions were used to solicit descriptions of clinical ladders, other music programming used in the work setting (i.e., beyond clinical music therapy services), and challenges or barriers to the provision of music therapy services. Respondents could choose to skip questions and some questions allowed multiple responses. Prior to its use in the current study, members of the work group tested the online delivery platform for clarity of presentation, ease of use, and to estimate time required to complete the survey (10-15 minutes). These design considerations were selected and implemented to increase response rate (Saleh & Bista, 2017).

Below we describe survey content for each of the four areas assessed. For a full copy of the survey instrument and corresponding response options, please see Supplementary Data.

Section 1: Demographics. This section was comprised of eight questions including: (1) confirmation of current employment as a music therapist in a pediatric medical setting, (2)

respondents' age, (3) number of years as a board certified music therapist (i.e., MT-BC), (4) highest level of education, (5) advanced training, (6) number of years in current work setting, (7) geographic region, and (8) membership in AMTA.

Section 2: Organizational Structure. This section was comprised of six questions including: (1) type of work setting (i.e., free-standing children's hospital, pediatric hospital within a larger general hospital/health system, dedicated pediatric unit within a hospital, serving children across multiple mixed units, other), (2) departmental location of music therapy services, (3) number of music therapists in the work setting, (4) total number of full-time equivalency positions (where 1.0 FTE = 40 hours) dedicated to music therapy service delivery in the work setting, (5) presence of a clinical ladder, and (6) funding sources for the music therapy program.

Section 3: Service Delivery and Clinical Practice. This section was comprised of 17 questions across six subareas (workload; referral, assessment, and documentation; prioritization; units and clinical populations served; most frequently addressed clinical needs; interventions). A description of the questions within each of the six subareas follows:

1. Respondents answered five questions about the number of hours they provide music therapy services in their current work setting, the total number of beds in their work setting, the total number of beds covered by music therapy services, the number of patients seen for individual (1:1) sessions each day, and the number of patients seen in group settings each week.

2. Five questions focused on the primary communication tools used to receive referrals, use of standardized assessment tools, use of outcome measures, use of electronic charting, and use of documentation to gather and record service delivery statistics.

3. Respondents answered three questions related to prioritization: whether or not they prioritized patients for services, if they used a standardized tool to assist them with prioritization, and how they would rank order five potential referral areas by level of urgency.

4. Respondents answered two questions about areas of the hospital and types of patients for whom they provide music therapy.

5. Respondents ranked the order of prevalence of clinical needs they serve.

6. One open-ended question allowed respondents to write in the five most frequently provided interventions.

Section 4: Administrative and Supervision Responsibilities. This section consisted of six questions about: (1) serving as a music therapy internship clinical training director, (2) supervising music therapy practicum students, (3) presence of a music volunteer program, (4) supervisory responsibilities of music volunteers, (5) presence of other music programs in the work place, and (6) greatest challenges to providing music therapy in their work place setting.

Procedures

The Research Electronic Data Capture (REDCap) system enabled survey administration through a secure, web-based data collection and management system (Harris, Taylor, Thielke, Payne, Gonzalez, & Conde, 2009). Potential participants received an email explaining the purpose of the study, consent information, and a URL invitation unique to their email address that led to the survey questions. The lead author was the only member of the study team to have access to data that included respondent identifiers (i.e., email addresses). All data exported from REDCap and circulated to other members of the study group were de-identified. All participants received an initial invitation. Those who did not respond to the initial invitation received additional emails weekly until they completed the study or reached the end of the study period, a total of three weeks. The study remained open from September 6 through September 28, 2017. Participants received no remuneration for their participation in the study.

Analysis

REDCap provided aggregated responses, summary statistics, and enabled export of all data in multiple file formats for further analysis. Descriptive statistics were used to summarize data for questions with discrete and ordinal response types.

We calculated a weighted average for questions related to prioritization of referrals and most frequently served clinical need areas. This calculation was used to assign weight according to the level each need area was ranked, providing a more accurate reflection of the aggregated ranked order data, as well as another measure for comparison with simple summary statistics (Hwang & Yoon, 1981). We assigned descending weight to each rank total by multiplying the clinical need ranked “first priority/most frequently addressed” by 5 and the clinical need area ranked “fifth priority/least addressed” by 1. We divided total weight for each clinical need area by 560, the total weight possible if all participants rated a given clinical need as first priority/most frequently addressed. This analysis yielded a total weight ratio (*TWR*) range for each clinical need area from 0.01 to 1.0 (see Table 5).

There were thirteen open-ended questions, asking respondents to provide text responses. We assigned responses to each open-ended question to two members of the study team to analyze using content analysis procedures briefly described by Creswell (2002). The group members who paired to analyze each text response question independently reviewed aggregated responses, organized the material by identifying themes and for some questions, categories of themes. Then group members compared individual analyses until a consensus summary was achieved.

Results

Response Rate

Of the 220 invited to participate, 118 music therapists practicing in a pediatric medical setting completed the survey for a response rate of 53.6%, calculated as the number of respondents divided by the total number invited to participate. There is no generally agreed upon minimum acceptable response rate for survey research, in part due to the variability of nonresponse bias (Fowler, 2009). However, our observed response rate of 53.6% matches the mean mail survey response rate (53%), and significantly exceeds the mean internet survey response rate (33%), cited in a meta-analysis of studies comparing response rates between

both methods of survey administration (Shih & Fan, 2008). Nevertheless, it is difficult to estimate the representativeness of our sample, due to our inability to estimate the nature and degree of non-response bias.

Demographics

Over half of the respondents indicated they were 30 or younger ($n = 57$, 52%) and almost 50% reported having practiced five years or less ($n = 56$). More than half of the respondents reported having earned a Masters Degree ($n = 64$, 57.1%), and the most frequently reported specialized trainings ($n = 90$) were neonatal intensive care music therapy ($n = 53$, 58.9%) and neurologic music therapy ($n = 49$, 54.4%). A summary of resulting demographic data is shown in Table 1.

Organizational Structure

Table 2 summarizes responses to survey items about the organizational structure of respondents' work settings. Half of the respondents ($n = 60$, 50.8%) reported working in a free-standing children's hospital, with most of the remainder indicating that they worked in a pediatric hospital within a larger general hospital or health system ($n = 49$, 41.5%). More than half ($n = 66$, 56.9%) indicated their position resided in a Child Life Department, with a small number indicating their position was located in a Music Therapy Department ($n = 9$, 7.8%). The second most frequently selected response was "other" ($n = 28$, 24.1%); however, due to an error in the survey design respondents were not prompted to write in the department affiliation of their music therapy position. Half of respondents ($n = 59$, 50%) reported that their position was funded through philanthropic donations, while the other half indicated their position was funded through the hospital operating budget ($n = 58$, 49.2%).

Roughly one-third of respondents indicated that they were the only music therapist in their work setting ($n = 42$, 35.6%). Of those with more than one music therapist in their work setting, the most frequently reported numbers were two ($n = 31$, 26.3%) and three ($n = 17$,

14.4%) music therapists. Three respondents indicated having 10 or more music therapists in their work setting ($n = 3$, 2.5%).

Thirty-four (29.3%) respondents reported use of a clinical ladder for music therapists in their work setting. Through a follow-up free text question, this subgroup provided additional information with the most frequent examples being tiered job titles such as Music Therapist I, Music Therapist II and Music Therapist III ($n = 14$, 41.1%), systems with a designation of “senior” or “lead” in the title ($n = 10$, 29.4%), and job classification systems that included supervising, managing or directing responsibilities ($n = 13$, 38.2%). One tiered system reported included a “senior” as well as “clinical specialist” designation, including that (to hold the designation) ‘research is an important component with a thesis/Capstone paper/published research required.’

Music Therapy Service Delivery and Clinical Practice

Workload. Based on reporting from all respondents, average total hospital beds per facility was 255 ($n = 107$). Pediatric music therapists are often responsible for providing services to certain areas of the hospital, corresponding with the coverage of a certain number of patient beds. Coverage provides a representation of workload and enables construction of a therapist-to-patient ratio. Overall, respondents reported covering an average of 94 beds ($n = 103$), but when isolating data from the 78 respondents who reported working full-time, music therapists covered a mean of 108 beds (median = 74 beds, range 10 to 400 beds), see Table 3.

A full description of music therapy service structure results appear in Table 4. A majority of respondents ($n = 78$, 66.1%) reported working full-time (33-40 hrs per week), while 14 (11.9%) reported working part-time (25-32 hrs per week). Two-thirds of respondents reported serving four to six patients per day in individualized (1:1) sessions ($n = 75$, 65.2%), while 22 (19.1%) reported serving seven to nine patients per day in individualized sessions. The number of patients served per day remained consistent, even when considering the data of respondents who only provided individualized sessions. A summary of responses from those who did not

provide group sessions demonstrated that 46 (60.5%) reported serving four to six patients per day, and 14 (18.4%) reported serving seven to nine. While only two respondents reported not providing individual sessions (1.7%), more than one third of respondents reported not providing any group experiences ($n = 40$, 34.8%). For those who did provide group sessions ($n = 75$, 62.7%), 47 (63%) reported serving one to 10 patients/caregivers per week in groups and 28 (37%) reported serving 11 or more patients/caregivers per week in groups.

Referral, assessment, and documentation. Survey respondents were asked to report the primary communication tool used to receive referrals. The most common referral method was via the electronic medical record ($n = 57$, 49.6%), followed by verbal referrals ($n = 44$, 38.3%). Roughly one third of respondents reported using standardized non-musical assessment tools ($n = 40$; 35.1%). Of those, free text responses primarily described tools used to assess pain with the Faces scale (Bieri, Reeve, Champion, Addicoat, & Ziegler, 1990), Faces, Legs, Activity, Cry and Consolability (FLACC) (Manworren & Hynan, 2003), and the Neonatal Pain, Agitation and Sedation Scale (N-PASS) (Hummel, Puchalski, Creech, & Weiss, 2008) being the most frequently cited. Participants reported using Likert rating scales to measure anxiety and mood, and reported using the Music Therapy Assessment Tool for Awareness in Disorders of Consciousness (MATADOC), a tool used for assessing auditory responsiveness in disorders of consciousness (Magee, Siegert, Taylor, Daveson, & Lenton-Smith, 2015). A quarter of survey respondents ($n = 26$) reported using additional outcome measures including physiological outcomes ($n = 28$), self-report surveys ($n = 13$) and measures specific to infants or premature infants ($n = 12$). A majority of respondents reported using electronic charting ($n = 105$, 92.1%) and maintaining service delivery data ($n = 99$, 86.8%).

Prioritization. The vast majority of respondents ($n = 110$, 95.7%) reported prioritizing patients seen for music therapy, but only 41 (36%) reported having a standardized procedure. To better understand how pediatric music therapists triage incoming referrals, we asked respondents to rank five areas of clinical need in order of priority. Table 5 summarizes

prioritization responses. Respondents largely rated palliative care, bereavement and end of life referrals as first priority ($n = 76$). Total weight ratio scores indicate the group ranked pain as the second priority, followed by procedural support, difficulty coping with hospitalization, and limited family support.

Units and clinical populations served. Survey respondents were presented with 11 units and 11 clinical populations and asked to select all units/individuals they serve (Table 6). About three-quarters of respondents reported serving the pediatric intensive care unit ($n = 83$, 72.2%) and more than half indicated serving the following four units: medical, hematology/oncology, neonatal intensive care, and surgical. Rehabilitation was served by 54 (47%), cardiac intensive care by 53 (46.1%) and out-patient by 46 (40%). Far fewer respondents served emergency, radiology and lab areas. "Other" hospital areas were reported by roughly a quarter of respondents ($n = 30$, 26.1%). Thirty-three respondents described additional units covered. Of those, out-patient areas treating cancer-related diagnoses (i.e., hematology/oncology infusion ($n = 10$, 30.3%) were most often reported, followed by out-patient dialysis ($n = 4$, 12.1%), rehabilitation ($n = 4$, 12.1%) and neurology ($n = 4$, 12.1%).

Respondents indicated which of 11 presented clinical populations they served. More than 75% of respondents indicated they served acute patient populations, including those with medically complex conditions/multiple disabilities ($n = 95$, 82.6%), mechanical ventilation/intubated ($n = 91$, 79.1%), hematologic/oncologic diagnoses ($n = 87$, 75.7%) and those with brain injuries ($n = 87$, 75.7%). Fourteen respondents wrote in an additional 24 populations served, such as mothers/babies ($n = 5$, 20.8%), individuals with neurologic impairment ($n = 5$, 20.8%), as well as individuals with spinal cord injuries ($n = 2$, 8.3%) and those with eating disorders ($n = 2$, 8.3%).

Most frequently addressed clinical needs areas. Music therapists were asked to rank order the areas of care they most frequently address (1 = most frequent, 5 = least frequent) through their clinical practice (see Table 7). Helping children cope with hospitalization was

ranked first ($TWR = 0.84$), pain second ($TWR = 0.75$), followed by palliative care ($TWR = 0.63$) and adjunct to motor rehabilitation ($TWR = 0.61$). For the open-ended item, “other” areas of clinical need, forty-seven respondents provided a clinical area of need not included in the original list and some respondents listed more than one area. Based on content analysis of the free-text data, the following clinical need areas were identified: developmental support (17), family support/bonding (13), psychiatric/emotional (12), NICU-specific (10), calming (7), normalization (5), respiratory (3), altered mental state (3) and interdisciplinary collaboration (3).

Interventions. Survey respondents reported their top five most frequently used interventions and 106 (89.8%) responded to this query. Reported interventions included neurologic music therapy techniques ($n = 52$), improvisation ($n = 49$), music-assisted relaxation ($n = 36$), songwriting ($n = 47$), legacy work ($n = 20$) and parent-caregiver interaction ($n = 19$).

Administrative and Supervision Responsibilities

About half of the respondents ($n = 57$, 49.6%) reported serving as Clinical Training Directors for music therapy interns, and half reported supervising music therapy practicum students ($n = 62$, 53.9%). Sixty-five (56.5%) respondents also reported that their hospital had a music volunteer program, with 46 (44.9%) providing training or supervision for music volunteers in their facility. Other music organizations or uses of music apart from music therapy were reported to be active in 49 (43%) of respondents’ pediatric settings. Summary data related to this section can be found in Table 9.

Survey respondents described the most challenging issues they face in providing music therapy services in their work setting (Supplementary Table 1). A majority of respondents ($n = 107$, 91%) offered a response, and using content analysis we categorized responses based on their commonalities. Analysis resulted in the following five categories: workload, lack of advocacy, limited funding, operational challenges, and lack of organizational development. Table 8 provides examples of reported challenges coded across the five categories, with corresponding descriptive statistics.

Here we provide more detailed examples for each thematic category. Comments referencing inadequate staffing, inability to respond to all referrals, and not being able to provide the desired frequency of sessions were categorized as “workload” challenges ($n = 41$). Misunderstandings about the role of music therapy, lack of respect and support, inappropriate referrals and the need for staff education accounted for “advocacy” challenges ($n = 36$). Funding, budget cuts, and lack of resources were coded as “funding” challenges ($n = 34$). Scheduling conflicts, prioritization, lack of standardization (i.e., lack of established therapist-to-patient coverage ratio and lack of standardization of music therapy practice), systemic inefficiencies, and management concerns comprised the “operational” challenges category ($n = 14$). The category, “lack of organizational development” ($n = 15$), included comments about a lack of supervision, absence of a clinical ladder, inadequate space, and no assistance for continuing education. All free-text responses to the question about greatest challenges to provision of services can be found in online Supplementary Table 1.

Discussion

The purpose of this survey was to establish initial demographic, organizational structure, and clinical practice data from music therapists currently practicing in pediatric medical settings in the United States. Findings indicate that respondents were responsible for providing music therapy coverage for approximately 100 patient beds each. One third reported being the only music therapist in their setting. Respondents provided an average of four to six individual music therapy sessions per day and served one to 10 patients/caregivers in groups each week. Half of the respondents received philanthropic funding, with the remaining half funded through hospital operating budgets. Most music therapists were located within Child Life Departments, and half reported serving as music therapy clinical supervisors for interns or students. Respondents reported their service was referral based and they provided documentation of service within their scope of practice (CBMT, 2019) through the electronic medical record. The vast majority of respondents use some kind of prioritization scheme for patient referrals, with the majority giving

first prioritization to patients with palliative care, bereavement and end-of-life care needs; followed by prioritization to pain, procedural support, and patients who have difficulty coping. Pediatric intensive care was the most frequently served hospital unit, followed by medical, hematology/oncology, neonatal intensive care, and surgery units.

Current survey findings suggest that music therapy services are most present in areas with the highest medical acuity. Nearly three-quarters of respondents reported serving the pediatric intensive care unit, and providing services for infants, children and youth who are medically complex, require mechanical ventilation, or have hematological/oncological diseases or brain injuries. Furthermore, more than half of the respondents served neonatal intensive care units. These findings contribute to the knowledge base, as previous surveys of music therapy in pediatric medical settings (Tabinowski, 2013; Tucquet & Leung, 2014) did not specifically assess the level of acuity of patients served, or the specific clinical populations served.

In the current study, reported prioritization of palliative, bereavement and end-of-life care, along with pain and procedural support is consistent with the noted prevalence of service provision to high acuity areas. Though participants ranked palliative care and bereavement as top priority, they reported addressing coping/engagement and pain management more frequently than palliative care/bereavement in actual practice. The apparent inconsistency of these findings may be explained by the potential overlap in the response items related to “most frequently addressed clinical areas,” wherein the facilitation of coping/engagement and pain management might have been understood by respondents as a common part of palliative care support. Furthermore, although music therapists give first priority to palliative care and bereavement, they may only infrequently encounter patients and families requiring such services.

An additional factor that might explain the use of music therapy services for patients with highest medical acuity is the considerable amount of research evidence informing music therapy practice in neonatal intensive care and hematology/oncology (Bieleninik, Ghetti, & Gold, 2016;

Bradt, Dileo, Magill, & Teague, 2016; Robb, 2003; Robb et al, 2008; Robb et al, 2014; Standley, 2012). Conversely, such reasoning does not seem to extend to pediatric intensive care, where music therapy research continues to lag behind clinical practice development (Ghetti, 2013). Another contributing factor may be the existence of advanced trainings that inform practice in areas of high medical acuity. More than half of our respondents hold advanced training in neonatal music therapy ($n = 53, 58.9\%$), or in neurologic music therapy ($n = 49, 54.4\%$). This finding is consistent with survey results from Tabinowski (2013) where these two advanced trainings were also the most frequently reported. Surprisingly, neurologic music therapy techniques were the most frequently reported interventions used, even though less than half of respondents reported serving patients on a rehabilitation unit ($n = 54, 47\%$). It is possible these techniques are used more widely in pediatric settings beyond traditional rehabilitation units.

Pediatric music therapists indicated that they prioritized their services for patients with palliative care and pain needs. This appears consistent with findings that music therapy services are most often used in high acuity areas of the hospital; however, prioritization may also be driven by the size of the music therapy program. Three-quarters of respondents reported that their program had three or fewer music therapists, with therapists often expected to cover a large number of hospital beds. For example, two-thirds of our respondents reported working 33-40 hours per week, and of those, each covered an average of 108 hospital beds. While a 2014 American Academy of Pediatrics (AAP) policy statement recommended one full-time Certified Child Life Specialist (CCLS) for every 15 inpatient beds (Perceland et al., 2014), no similar policy statements are available for music therapists working in pediatric medical settings. A policy statement specific to music therapy services could help support the growth of programming, and capacity of programs to serve a broader population of patients and families.

Available funding, and the source of funding, represent additional factors that may drive patient prioritization for music therapy services. Half of respondents reported that their programs were funded by philanthropic donations and/or organizations, while slightly fewer than half

indicated that funds came from the hospital operating budget. The percentage of respondents reporting philanthropic funding in the current study (50%) far surpasses the 18% of all respondents (not limited to those working in pediatric medical settings) who reported receiving philanthropic funding in the 2018 AMTA workforce survey for music therapists working in the United States (AMTA, 2018). Thus, our findings suggest there may be a higher reliance on philanthropically funded music therapy positions in pediatric medical contexts than in the profession at large. In some pediatric settings, philanthropic funding leads to stability in programming, especially in the area of oncology (Tucquet & Leung, 2014; Shoemark et al., 2015). As discussed by Ghetti (2016), the size and scope of pediatric music therapy programs and their development are often impacted by the nature of their funding; and an overreliance on philanthropic funding might "...contribute to marginalization of music therapy within the hospital hierarchy and in some cases may undermine sustainability" (p.65). There are some notable exceptions of thriving programs being long-sustained by philanthropic funding (see for example, Icahn School of Medicine at Mount Sinai, 2019), but future research is needed in order to systematically determine how funding source impacts music therapy program development and sustainability in pediatric medical settings.

With regard to size of programs, one-third of our sample reported being the only music therapist working in their setting and more than three-quarters reported having three or fewer. This is consistent with findings from Tabinowski (2013), who found a mean of two music therapists per hospital setting serving children. It is encouraging that a majority of the pediatric work settings represented in this survey are employing more than one music therapist; however, without prior survey data we are unable to determine if this represents significant growth. The current survey provides an important benchmark that will enable survey replication in 5 years to determine program growth and changes in service structure and delivery.

Challenges associated with music therapy program delivery identified by our survey respondents were similar to those identified in a study that focused on introducing music

therapy services to an established health system (Ledger, Edwards, & Morley, 2013). While we did not ask our respondents how long their program had been in existence, results indicate that two-thirds of responding music therapists had been working four years or less in their work setting. Respondents also noted challenges similar to Ledger et al. (2013), including a lack of understanding about music therapy, limited use of the service, a need to navigate political and cultural dynamics of the healthcare system, and personalization of challenges. In addition to the aforementioned organizational challenges, our respondents identified funding challenges, namely, lack of funding for positions, threat of budget cuts and lack of full-time funded positions that echo findings from an international cross-sectional survey of music therapists across multiple practice areas (Kern & Tague, 2017).

In addition to funding and organizational dynamics, another potential challenge to program development and implementation relates to inconsistent terminology used by clinicians to describe clinical practice. During analysis of open-ended responses to the question requesting respondents to list the “top 5 interventions used,” we found a wide range of terms used to describe clinical interventions. Clearly defined terminology is essential to informing clinical practice (Stouffer, Shirk, & Polomano, 2007) and research (Robb, Carpenter, & Burns, 2011; Robb, et al., 2018). The terms that music therapists use to describe their work play a critical role in communicating with other disciplines, and should adequately represent and communicate processes that are indigenous to music therapy itself (Loewy, 2000). Robb and colleagues (2018), noted that ill-defined and inconsistent terminology used to describe music-based interventions can be a barrier to interprofessional communication and diminish our ability to compare and synthesize outcomes across research studies.

Limitations and Strengths

There are several limitations to the current study. First, our unit of analysis in the current survey was the individual respondent, and not the music therapy program of which the respondent was a part. Thus, there are likely instances where several respondents were

reporting from a single music therapy program. We tried to counter the potential of over-reporting of phenomena by stating questions in a way that related to the individual (e.g. “For how many hospital beds do you alone provide coverage?”). There may, however, be a potential for overlap in reporting of certain areas (e.g., units and populations served) among music therapists working at the same hospital. Additionally, due to the limited use of open-ended questions, detailed inquiry into the complexities of clinical practice was limited. We did not attempt to trace the origin and nature of referrals or inquire about music therapists’ decision making during treatment planning. As we do not have a reliable estimate of the total number of music therapists working in pediatric medical settings, it is difficult to evaluate the representativeness of the sample of respondents included in this survey. Recruiting through the Certification Board for Music Therapy may enable a broader sample size than the current survey achieved. Compared with similar studies, a strength of the current survey study was our higher response rate (AMTA, 2018; Kern & Tague, 2017; Tabinowski, 2013).

Recommendations

Given the ratio of music therapists to patient beds covered (1:108) reported in this study, we recommend the pediatric music therapy professional community consider the following: (1) developing best practice recommendations for pediatric music therapy service structure that include optimal therapist-to-patient ratios to ensure quality care, and (2) exploring how a tiered service delivery model, based on acuity and level of need, might enable availability of services for a greater number of families.

First, engaging in research that explores how therapist-to-patient ratios influence quality of care would help us understand the clinical impact of such variations and inform development of a policy statement specific to music therapy services. Development of a well-informed policy statement would also support expansion and availability of pediatric music therapy services to a larger number of patients and families. Additional analyses exploring how response may vary

based on demographic factors (e.g., level of education, years of experience, hospital setting, number of patients seen per day) may offer insights into factors that influence quality of care.

Second, prioritizing services based on need enables a wider range of music therapy and music therapy-informed services to be provided such that a broader range of patients and families may be served. The Pediatric Psychosocial Preventative Health Model (Kazak et al., 2007) is a three-tiered conceptual model for providing services to hospitalized children and their families based on level of need. In this model, the largest group of families (tier three), are well-equipped and able to navigate health-related stressors in an adaptive manner with general or “universal” supportive care programming. A smaller group of families (tier two), includes those who present with elevated levels of distress and risk factors for ongoing psychosocial difficulties that may require more “targeted” services. Targeted services include a variety of problem-focused approaches aimed at reducing symptoms and preventing the escalation of distress (Kazak et al., 2007). The smallest group of patients and families (tier one), present with more significant symptoms that require “clinical/treatment” services (Kazak et al., 2007). Music therapists can consider the ways in which they can prioritize patients and families for clinical music therapy services vs. more “universal” music programming, and offer tiered services in collaboration with other partners, including interdisciplinary staff and arts in healthcare programs. The “Time Together” program for parent-infant interaction provides an example of music therapy-informed programming applied at the universal level (Shoemark, 2017). Prioritization and the resulting use of tiered services may aid growth of programs by determining thresholds for referrals where clinical music therapy services from a board-certified music therapist are warranted, while also expanding the scope of services by working with members of the care team to develop guidelines for music and arts programming (at the “universal” level) to benefit the larger number of patients and families who may not require clinical music therapy services.

Music therapists are of particular value in providing holistic programming, offering leadership and program guidelines for safe and effective uses of music by other health care providers and/or volunteers (McDermott, Ridder, Baker, Wosch, Ray, & Stige, 2018). Given increased interest in the broader areas of music and arts programming in hospitals, and an emerging interest in improving the 'patient experience' (Press Ganey Associates, 2017), exploring these strategies with hospital leadership may demonstrate the value of a music therapist's role in their organization beyond direct patient care such as supervising additional music related programs, musicians/music volunteers, external organizations and live and recorded music listening programs.

We recommend that the current survey be replicated in 5 years with the following minor adjustments: (1) addition of numeric reporting of practice statistics such as number of patients seen per day, (2) additional demographic information such as therapist gender, (3) specification of source of referrals, (4) identification of factors that would enable respondents to overcome current challenges with service provision, and (5) questions related to leadership roles and organizational support for clinical and peer supervision. In addition to benchmarking surveys, future research involving program level analysis and patient/caregiver feedback such as that undertaken by Tucquet and Leung (2014) could provide perspectives useful for program development and advocacy in other similar-sized organizations. Further, in-depth qualitative study of well-established and thriving music therapy programs could provide insight into the successful sustainability of those programs.

Conclusion

The benchmarking data gathered in this study provide a snapshot of current pediatric music therapy practice in the United States across demographic, organizational, and clinical practice domains. We recommend replication of this survey in 5 years to examine growth and change in service delivery over time; with additional studies to explore how therapist-to-patient ratios influence quality of care, to identify factors that contribute to sustainability of pediatric

music therapy programs, and to explore how expansion of services could support a broader population of patients and families.

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Table 1
Demographics

Question	<i>n</i> responses	Sum responses	%
Number of years as an MT-BC	113		
1-5		56	49.6%
6-10		21	18.6%
11-15		13	11.5%
16-20		8	7.1%
21-25		7	6.2%
26 +		5	4.4%
Number of years in current work setting	110		
Less than 1 year		12	10.6%
1		13	11.5%
2		22	19.5%
3		18	15.9%
4		10	8.8%
5		4	3.5%
6		3	2.7%
7		0	0%
8		4	3.5%
9		6	5.3%
10		5	4.4%
11 or more years		16	14.2%
Age	110		
26 or younger		21	19.1%
27-30		36	32.7%
31-35		17	15.5%
36-40		12	10.9%
41-45		10	9.1%
46-50		6	5.5%
51-55		6	5.5%
56-60		2	1.8%
61 or older		0	0%
Highest level of education	112		
Bachelor		44	39.3%
MT equivalency		3	2.7%
Master		64	57.1%
Doctoral		1	0.9%
Advanced, specialization training completed	90		
Neonatal ICU-MT		53	58.9%
Neurologic MT		49	54.4%
Guided Imagery & Music		14	15.6%
Hospice & Palliative Care		9	10.0%
Other		5	5.6%
Nordoff-Robbins MT		4	4.4%
Geographical region	112		
Great Lakes		30	26.8%
Western		21	18.8%
Mid-Atlantic		18	16.1%
Southeastern		18	16.1%
Midwestern		12	10.7%
Southwestern		12	10.7%
New England		1	0.9%
Member of AMTA	111		
Yes		92	82.9%

No	19	17.1%
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Table 2
Organization and work setting

Question	<i>n</i> responses	Sum responses	%
Type of work setting	118		
Free standing children's hospital		60	50.8%
Pediatric hospital in larger organization		49	41.5%
Pediatric unit within general hospital		5	4.2%
Serving children across mixed units		1	0.8%
Department where MT resides	116		
Child Life		66	56.9%
Music Therapy		9	7.8%
Other		28	24.1%
Integrative Medicine		4	3.4%
Creative Arts Therapies		4	3.4%
Expressive Therapies		4	3.4%
How position is funded	118		
Philanthropy		59	50.0%
Hospital Operating Budget		58	49.2%
Short-term grant		13	11%
Other		5	4.2%
Don't know		4	3.4%
Third-party reimbursement		2	1.7%
Total # of MT's in setting	118		
1		42	35.6%
2		31	26.3%
3		17	14.4%
4		7	5.9%
5		4	3.4%
6		8	6.8%
7		5	4.2%
8		1	0.8%
9		0	0%
10 or more		3	2.5%
Total full-time-equivalent (FTE) in setting	118		
0-0.5		15	12.7%
0.6-1.0		34	28.8%
1.1-2.0		31	26.3%
2.1-3.0		11	9.3%
3.1-4.0		11	9.3%
4.1-5.0		5	4.2%
5.1-6.0		6	5.1%
6.1-7.0		4	3.2%
7.1-8.0		1	0.8%
Is there a clinical ladder for music therapists	116		
Yes		34	29.3%
No		82	70.7%

Table 3

Clinical load

Question	<i>n</i>	Min	Max	Mean	SD
How many hospital beds do you alone provide MT coverage?	103	10	400	93.89	85.11
How many hospital beds do you alone provide MT coverage? (F/T only)	69	10	400	108	87.17
How many hospital beds in total facility?	107	10	651	255	178.80

Table 4
Music therapy service structure

Question	<i>n</i> responses	Sum responses	%
Hours worked per week	118		
0-8		3	2.5%
9-16		12	10.2%
17-24		11	9.3%
25-32		14	11.9%
33-40		78	66.1%
# of individualized sessions per day	115		
0		2	1.7%
1-3		8	7.0%
4-6		75	65.2%
7-9		22	19.1%
10-12		4	3.5%
13 or more		4	3.5%
# of patients seen per week in group settings	115		
0		40	34.8%
1-5		30	26.1%
6-10		17	14.8%
11-15		10	8.7%
16-20		4	3.5%
21-25		7	6.1%
26 or more		7	3.5%
Primary referral system	115		
Electronic medical record		57	49.6%
Verbal		44	38.3%
Email		9	7.8%
Voicemail		5	4.3%
Standardized non-music assessment tools	114		
Yes		40	35.1%
No		74	64.9%
Uses electronic charting	114		
Yes		105	92.1%
No		9	7.9%
Do you keep statistics of sessions delivered?	114		
Yes		99	86.8%
No		15	13.2%
Do you prioritize patients?	115		
Yes		110	95.7%
No		5	4.3%
Standardized procedure for prioritization	114		
Yes		41	36.0%
No		73	64.0%

Table 5

Prioritization of referrals (n = 112)

Clinical Need	Priority					<i>Total weight</i>	<i>Total weight ratio</i>
	1st	2nd	3rd	4th	5th		
Palliative care, bereavement or end of life	76	9	8	10	9	469	0.84
Pain	7	45	39	17	3	369	0.66
Procedural support	20	32	12	20	28	332	0.59
Difficulty coping with hospitalization, diagnosis or treatment	8	19	35	33	17	304	0.54
Limited family support	1	7	17	32	55	203	0.36

Table 6
Units and populations served

Question	<i>n</i> responses	Sum responses	%
Units served	115		
Pediatric Intensive Care		83	72.2%
Medical		81	70.4%
Hematology / Oncology		74	64.3%
Neonatal Intensive Care		68	59.1%
Surgical		58	50.4%
Rehabilitation		54	47.0%
Cardiac Intensive Care		53	46.1%
Out-patient		46	40.0%
Other		30	26.1%
Emergency		11	9.6%
Radiology		9	7.8%
Lab (procedural/testing)		8	7.0%
Populations served.	115		
Medically complex / multiple disabilities		95	82.6%
Mechanically ventilated		91	79.1%
Hematology / Oncology		87	75.7%
Brain injuries		87	75.7%
Chronic conditions		85	73.9%
Trauma		78	67.8%
Premature infants		73	63.5%
Bone marrow / stem-cell transplant		58	50.4%
Mental health		52	45.2%
Organ transplant		48	41.7%
Burn care		47	40.9%
Other		14	12.2%

Note. Other units reported included Outpatient clinics and Behavioral Health and Psychiatry. Other populations reported included Neurologic, Eating disorder, Orthopedic, Palliative care, Spinal cord injury and Dialysis.

Table 7

Most frequently addressed clinical need area (n = 112)

Clinical Need	Most frequently addressed					Total weight	Total weight ratio
	1st	2nd	3rd	4th	5th		
Coping/Engagement (withdrawn, non-compliant, fearful)	49	39	18	8	2	473	0.84
Pain (procedural, acute, chronic)	26	42	31	13	3	420	0.75
Palliative care & bereavement (compassionate extubation, legacy creation – voice and/or heartbeat recording, remembrance ceremony music planning, sibling & parent support, grief support groups, sibling support)	24	24	19	29	20	351	0.63
Adjunct motor & speech/language habilitation/rehabilitation	25	17	26	22	26	341	0.61
Other	13	9	10	10	20	171	0.31

Table 8.

Challenges to provision of music therapy services (n = 107)

Challenge category	n responses	Examples of reported challenges to provision of services
Workload	41	high volume of referrals number of hours in relation to high patient needs caseload/staffing effective coverage of multiple floors as one MT I can only provide so much
Advocacy	36	lack of support staff education understanding of staff of appropriate referrals lack of understanding and full utilization of services territorial attitudes
Funding	34	lack of funding for more positions budget cuts financing financial resources full time funding – for non income producing position
Operational	19	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	15	lack of clinical ladder lack of formal supervision structure space no budget for continuing education, conference attendance Do not have access to client records

Table 9
Supervision and development

Question	<i>n</i> responses	Sum responses	%
Serves as a Clinical Training Director	115		
Yes		57	49.6%
No		58	50.4%
Does program host practicum students	115		
Yes		62	53.9%
No		53	46.1%
Hospital has a Music Volunteer program	115		
Yes		65	56.5%
No		50	43.5%
Trains or supervises Music Volunteers	65		
Yes		46	70.8%
No		19	29.2%
Other music programs serving patients	114		
Yes		49	43.0%
No		65	57.0%