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## Perspectives on facility dogs from pediatric hospital personnel: A qualitative content analysis of patient, family, and staff outcomes

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### Abstract

An increasing number of children’s hospitals feature full-time resident facility dogs, which are specially trained to work alongside pediatric healthcare professionals to improve the patient experience. This qualitative study aimed to describe the role that facility dogs play in the lives of patients, families, and hospital staff. A total of N = 73 pediatric healthcare professionals that worked with 46 facility dogs across 17 children’s hospitals in the US completed a set of open-ended questions in an online survey. Responses were analyzed via a conventional thematic analysis and organized into themes and sub-themes. Facility dogs were described to benefit pediatric healthcare professionals’ daily lives through improving stress and wellbeing, staff relationships, and job-related morale. Negative impacts included increased burdens and responsibilities in the workplace. Facility dogs were also described to benefit patients and families by helping build rapport, providing a comforting presence and positive resource, and normalizing the hospital environment. In conclusion, facility dog programs were found to be a promising complementary intervention to benefit both staff as well as and patients and families. Future research is warranted to examine short-term and long-term implications of facility dog programs for staff, patient, and family wellbeing.

### Keywords

Therapy dogs; Facility dogs; Human-animal interaction; Animal-assisted intervention; Child life specialists

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Declaration of competing interest

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## 1. Introduction

Hospitalization can be an emotionally traumatic and distressing event for children and their families [47]. Not only can the hospital environment bring about feelings of uncertainty, loneliness, and fear [26], but pain, anesthesia, and other pre- and post-operative experiences can cause significant anxiety for children [48]. These negative experiences can be exacerbated among children hospitalized in pediatric oncology [23] or pediatric intensive care units [33]. As a result of the stress surrounding children's hospitalization, parents and family members can also experience anxiety [34], emotional distress [2], and negative impacts to overall family functioning [6]. For pediatric healthcare personnel, stress from both patient and family interactions (e.g., high levels of empathetic engagement, repeated exposure to grief and loss), as well as job-related factors (e.g., staffing shortages, long hours, poor organizational support [9]; can lead to poor mental health and burnout [31]. To improve the patient, family, and staff experience, pediatric hospitals incorporate a number of programs and interventions to promote individual and group-level wellbeing [20,46].

One increasingly common intervention in pediatric hospitals is animal-assisted intervention [10]. Animal-assisted interventions (AAIs) are goal oriented and structured interventions that intentionally include or incorporate animals to provide therapeutic benefits [21]. Studies have found that AAIs in the form of dog visitation programs can have a range of psychological and physiological benefits for hospitalized children. For example, short interactions with therapy or visitation dogs have been shown to improve hospitalized children's mood and quality of life [22,41] as well as reduce both child and family stress during the hospitalization experience [19,27,39]. In addition to patient and family benefits, dog visitation programs have been found to benefit staff wellbeing by improving clinic and unit climate [29,49] and reducing both perceived and physiological stress of healthcare professionals [4, 24]. Studies have found that dog visitation programs are overwhelmingly viewed as positive by hospital staff and families alike [29, 40].

Facility dogs are another form of AAI that are increasingly present in pediatric hospitals. Facility dogs differ from therapy dogs or visitation dogs in that they are specially trained to work full-time alongside a professional within a facility setting such as a hospital, school, or courtroom to provide therapeutic support for an intended goal or outcome [1]. While therapy and visitation dogs are usually handled by trained volunteers, facility dogs are handled by pediatric healthcare professionals that are employed by the hospital. In children's hospitals, facility dog roles may include encouraging compliance with medical procedures or therapy, offering therapeutic support to normalize the hospitalization experience, and assisting with coping and bereavement [5].

Despite promising findings regarding the beneficial effects of visiting volunteers' therapy dogs, there is a lack of published research examining the benefits of these specially trained facility dogs who accompany staff full-time in pediatric hospital settings. Specifically, even though facility dog programs are increasingly common in pediatric hospitals, the role that facility dogs play in the child, family, and staff experience has been minimally quantified. This information is not only beneficial to improving our knowledge on how AAIs may impact the hospitalization experience, but is crucial to leading to further refinement and

standardization for the roles of canine-assisted interventions in healthcare [3]. To fill this research gap, this exploratory, non-hypothesis driven qualitative study aimed to (1) describe the roles that facility dogs play in children's hospitals, (2) describe both the positive and negative effects of facility dogs on their handlers' daily lives, including both professional and home lives, and (3) describe the impacts of facility dogs on the hospitalization experience for child patients and their families.

## 2. Methods

This study analyzes qualitative data gathered as part of a larger cross-sectional study of the impact of facility dogs on pediatric hospital personnel [42]. All study protocols were approved by the Purdue University Human Research Protection Program Institutional Review Board (Protocol #1607017967) and by the Purdue University Animal Care and Use Committee (Protocol #1702001541).

### 2.1. Participants

Potential participants were recruited from the database of Canine Assistants, a non-profit facility and service dog provider in the United States. Inclusion criteria for participants included being over 18 years old, and currently serving as a handler for a Canine Assistants facility dog in a hospital in the US for at least six months prior to study participation. Therefore, all participants had already been accepted by the Canine Assistants program, which screens individuals for a history or conviction of any violent crime or animal abuse (exclusion criteria) and a demonstrated ability to care for and maintain the health of the facility dog (inclusion criteria). A total of N = 73 facility dog handlers participated in the online survey from 94 contacted (78% response rate), with data collection occurring from February 2018 to March 2019.

Facility dogs were selectively bred by Canine Assistants for a calm temperament and suitable friendly demeanor for working with children in hospital environments. Breeds of facility dogs included Golden Retrievers, Labrador Retrievers, Golden Retriever-Poodle crosses, and mixes of the three breeds. All dogs spent approximately 18 months being raised and prepared for their roles as facility dogs in which they gained familiarity with hospital equipment and environments, were exposed to a variety of people and situations, and screened for appropriate behavior and temperament around children, adults, and in public spaces. To be paired with a facility dog, pediatric healthcare professionals travel to Canine Assistants's facilities where they are guided through exercises in bond-building and learn how to work with and care for their facility dog, including education on canine welfare and body language. All handlers were first time facility dog handlers. Each facility dog was handled by a minimum of two and maximum of four pediatric healthcare professionals which were given the role of "primary" or "secondary" handlers and received identical training. Primary and secondary handlers shared responsibilities for the facility dog both during work and leisure hours, with facility dogs usually living at the home of their primary handler. Of N = 73 handlers in this study, 45 served as primary handlers and 28 as secondary handlers.

## 2.2. Procedure

Potential primary and secondary facility dog handlers were mailed a packet that contained information about the study, consent forms, and \$10 as remuneration for reviewing study materials. Potential participants were then called by a member of the research team to discuss the study, answer any questions, and obtain voluntary informed consent. Interested participants received an email with a link to complete a voluntary online survey via Qualtrics. Before beginning the survey, participants were asked to verify their informed consent electronically. Participants were informed at all stages of recruitment and participation that their survey answers would be kept confidential, and that their individual responses would not be shared with Canine Assistants, their employers, or anyone outside of the research team. For completing the survey, participants received \$45 remuneration.

## 2.3. Measures

The online survey contained questions regarding demographic and facility dog characteristics, standardized measures of job-related burnout, job perceptions, and mental health [42] and a set of 11 open-ended questions. For Aim 1, four open-ended questions asked handlers to describe how facility dogs were integrated into healthcare professionals' *roles*: (1) How many days per week does the facility dog go to work with you?, (2) On average, how many hours per day does the facility dog work?, (3) What specific age groups does the facility dog work with?, and (4) Do you work with any specific special populations (e.g., mental health disorders, cancer patients, etc.) with the facility dog? For Aim 2, five open-ended questions asked about the facility dog's impact on participants' *daily lives*: (5) What changes in your daily routines have you experienced since you began working with the facility dog?, (6) How has the facility dog impacted the interaction between hospital employees?, (7) How has the facility dog negatively impacted you and your job?, (8) How has the facility dog positively impacted you and your job?, and (9) What impact has the facility dog had on your home and family life? For Aim 3, two open-ended questions asked about the dog's impact on *patients and families*: (10) What impact has the facility dog had on your patients? and (11) What impact has the facility dog had on your patients' family members and/or caregivers?

## 2.4. Analysis

Data analysis was carried out with a six phase thematic analysis [8]. The first phase involved familiarization with the data, in which the first author read through the data set in its entirety. The subsequent coding phases were data-driven in which phrases and sentences were coded and categorized based on participant's responses, rather than driven by theory. All coding was done within the qualitative coding software NVivo 11 (QSR International) with two coders, who reached very good inter-rater reliability (Fleiss's Kappa = 0.845). For Aim 1 (facility dog roles), data was reported descriptively. For Aims 2 and 3 (impacts to *handlers' daily lives* and *patient and families*), codes were organized into themes and sub-themes and organized within each aim. Themes and sub-themes are illustrated by direct quotes from participants. To ensure participant anonymity, facility dogs' and human names were removed from quotes.

### 3. Results

#### 3.1. Participants

A total of  $N = 73$  handlers of 46 facility dogs from 17 children's hospitals in the US were represented in the data (range of 1–15 handlers per hospital). Demographic information for facility dog handlers is displayed in Table 1. Participants were white (100%), mostly married (63%) and female-identifying (88%) pediatric healthcare professionals working in child life specialist (33%) or managerial/administrative positions (36%). On average, participants had been handling their facility dog for a little less than two and a half years, ranging from 0.5 to 8.85 years.

#### 3.2. Facility dog roles

Facility dogs worked in the hospital setting an average of  $4.23 \pm 1.21$  days a week with their handler, and were reported to work an overall average of  $6.45 \pm 2.37$  h a day. Most facility dogs worked with and visited young children (ages 2–12; 77%) and adolescent (ages 13–17; 77%) populations in the hospital, followed by infants (ages 0–2; 45%) and adult family and staff (ages 18+; 17%). One handler/facility dog pair visited older adults (65+; 1%). While 25% of participants indicated the facility dog worked with all hospitalized patients, common special populations worked with included children with developmental disorders (17%), hematology/oncology (15%) or oncology (13%) patients, trauma (13%) or intensive care units (ICU; 9%), epilepsy patients (9%), and psychiatry patients (9%). Some participants (<8%) also worked in gastrointestinal units and transplant units as well as with cardiac and post-operative patients.

#### 3.3. Facility dogs' impacts on daily life

The first set of open-ended questions asked about the facility dog's impact on participants' daily lives, including changes to routines, impacts to staff interactions, and both positive and negative impacts to handlers' daily work. Five themes emerged from the data, including *handler stress and wellbeing*, *staff stress and wellbeing*, *staff relationships and interactions*, *slower pace and longer days*, and *facility dog responsibilities*.

**3.3.1. Handler stress and wellbeing**—When asked how the facility dog impacted their life and workdays, handlers often described how the facility dog improved their daily stress and wellbeing. For example, handlers reported how their facility dog contributed to greater job satisfaction, less job-related fatigue, added more meaning to their jobs (“helps me enjoy my job”, helps “manage stress/fatigue that I experience because of the job”, “has brought so much meaning to my job”). One handler shared how “[the facility dog] has made my days brighter and has taught me the power of taking a deep breath and a break. He makes my stressful job easier and full of joy.” Another handler described how the facility dog helped them find a sense of empowerment in their job:

“I work in a high-stress environment, whether that stress be families that are terrified, children that are crying out in pain, death, trauma—these are my reality on a daily basis and I just did not believe my soul or psyche could take the daily toll any longer. But ever since [the facility dog] has come along, my world is

completely different. I feel empowered in my role again. I feel like I can make a difference ... She has restored me as a vessel of service. I could not do what I do without her.”

Handlers described the inherent benefits of having the facility dog around in improving everyone’s mood, therefore improving their own mood. For example, one handler stated “It is amazing to visibly see the joy on people’s faces when their eyes light up and a smile spreads across their face as soon as they see her coming down the hall. I truly feel honored to be a part of that and it makes it worth it to come to work every day.” Some handlers described how “I am easily calmed when [the facility dog] is around, and I find more joy and laughter throughout my day with her.” Other handlers described how they actively sought out the facility dog’s comfort and companionship when experiencing job-related stress. Participants described how “When I’m having a tough or stressful day, [the facility dog] provides the relief and distraction I need. I’ll take her for a walk, or play ball with her outside and everything is right with the world again.” Facility dogs also functioned as a source of emotional support for handlers. As one handler described, “[the facility dog] helps me in situations that would otherwise be difficult, for example, sharing news with children that their brother/sister/or parent(s) have died.”

However, in addition to positive changes to professional wellbeing, handlers also reported some negative changes to their roles. The most commonly described negative change to handlers’ wellbeing was increased fatigue due to the social pressures surrounding being a facility dog handler. For example, one handler described how “you have to be ‘on’ much more than without a dog, so I have to use my energy in a different way.” The need to be “on” can be difficult for these healthcare professionals who already experience significant stress in their daily jobs. As one handler reported:

“It is difficult because I have to have a smile on my face at all times, and be overly courteous and engaging at all times because I now represent more than myself, and I have a job to do that is greater than me. The receipt of so much attention is an adjustment, one that does get easier with time but one that does make my job more difficult.”

**3.3.2. Staff and unit stress and wellbeing**—In addition to facility dog handlers’ own stress and morale, handlers described how the facility dog improved other staff’s mood, stress, overall happiness. For example, handlers described how “[the facility dog] has been a significant positive influence on staff morale” and “[the facility dog] contributes to a warm, friendly, positive atmosphere both on the unit and throughout the hospital.” Facility dogs were often described as bringing a light-hearted mood to an otherwise stressful environment. For example, one participant noted how “[the facility dog] will always provide comic relief during meetings, she has a calmness if anyone is upset.” Another handler described:

“Staff have said they are happier here at work when [the facility dog] is around them ... It changes the mood in a room or walking down the hall. Employees cannot help but smile when they see her!”

Many facility dog handlers described how staff in their units or hospitals sought out physical contact with the facility dog throughout the day and benefited from the facility dog’s

presence. For example, participants described how “I often find employees calling [the facility dog]’s name or laying down on the floor with her to get a good snuggle in.” Many handlers described how interacting with the facility dog was a significant highlight of many staff member’s days, especially during stressful times. Other participants noted how even the simple presence of the facility dog in their unit improved staff’s wellbeing:

“The pediatric intensive care unit is an intense high stress place to work and nurses have voiced that just knowing [the facility dog] is there is a comfort to them. This means staff don’t even need to see him. The knowledge that he is on the unit and can be sought out if needed in itself is a huge comfort.”

**3.3.3. Staff relationships and interactions**—A positive change to handlers’ professional lives was having improved relationships and/or communication with staff and co-workers. Handlers described how they were able to develop more intimate relationships with coworkers as a facility dog handler (“I feel closer and more bonded with other members of my care team”) and had more positive social interactions when the facility dog was with them (“Hospital employees are typically friendlier and more approachable when I have [the facility dog] with me”). Participants also noted how the facility dog allowed them to meet new people due to the dog making them by being a social facilitator. For example, as one handler described:

“I used to tend to stay in my ‘bubble’ and would walk straight into my department, engage with the people in my area, and then walk straight back out to my car. Now I stop and talk to EVERYONE and I have found connections with others I would have never went out of my way to find without [the facility dog]. She makes it so much easier to engage with others because she leads the way for me and I simply fill in the blanks.”

On the other hand, the attention that the facility dog received from other staff members sometimes overshadowed the facility dog handler. For example, participants noted that “most [employees] get immediately excited, ignore me, and get right down on [the facility dog]’s level” and “everyone wants to come up to [the facility dog] ... frequently with no eye contact with me.” Handlers also described how the facility dog often became their identity in the hospital. For example, one handler described how “Sometimes staff and families forget my role as a certified child life specialist and label me as the ‘dog lady’ or ‘volunteer.’ Sometimes I find that my education and experience is lost behind the dog.”

**3.3.4. Slower pace and longer days**—A sub-theme that emerged from descriptions of how the facility dog impacted handlers’ routines and workdays was the facility dog taking more time out of the day, including being “slowed down” by having multiple requests to visit with the facility dog per day, being stopped in the hallways for requests to pet or interact with the facility dog, and having longer days overall. As one handler described:

“I must anticipate being stopped in the hallways on a regular basis and in the cafeteria. I cannot take a break in a public area or go to the restroom without being asked about the dog ... Patients and families have gotten upset at times because I was not able to stop and interact with them.”

In fact, being stopped in hallways was a frequent drawback to handling a facility dog. Handlers described how these stops would contribute to longer travel times (“It’s like walking around with a celebrity. It takes significantly longer to arrive at destinations”), would make them late (“It takes much longer to get from point A to point B, and frequent stops mean I’m always late no matter how early I leave or what route I take”), or could be socially overwhelming (“I get stopped in the hallway often. Sometimes I get sick of the small talk and talking about dogs”). Some handlers also felt burdened by having increased social interactions during their days (“People cease to take social cues when they see me rushing through the hallway - I am stopped all the time, no matter what I am doing”). Handlers also reported that being slowed down negatively impacted their time management and limited their productivity in the workplace. One participated stated:

“I am very busy at work and at times, [the facility dog] can slow me down. I truly enjoy having her, but it is time consuming, especially when I am trying to complete tasks and other clinicians request me to bring [the facility dog] in to see their patients.”

On the other hand, handlers commented on how slowing down at work was a positive change to their routine. Another handler noted how:

“When I have [the facility dog] with me, my routine tends to slow down. I am normally in an outpatient area that is fast paced and I am constantly on the go. But, I look forward to the days I have [the facility dog] because we go at a slower pace throughout the day and spend more time with patients versus just ‘in and out’.”

**3.3.5. Facility dog responsibilities**—A final noteworthy change to handler’s professional lives was taking into account the facility dog’s needs in terms of grooming, walking, and resting as well as accounting for bathroom and playtime breaks during the workday. One handler reported, “It’s a lot of work. Every morning I make time to brush her hair, brush her teeth . . . I also have to allow for nap, snack, potty and playtime, which I have found essential to a happy working dog.” However, others noted how an increased need of taking breaks was a positive change to their daily routine. Participants described how “I get outside every few hours, which is a nice change” and “Every day I get outside, take a walk, get fresh air, and clear my head all under the pretense of a bathroom break.”

Participants also described additional scheduling and/or planning needed before, during, or after workdays because of their responsibilities as a facility dog handler. This included accounts of needing to wake up earlier and/or leave earlier for work (“Getting ready for work takes longer, as I walk her in the morning before work to go to the bathroom”), accounting for the facility dog’s needs after work (“Sometimes I would like to meet someone for dinner or go run an errand on the way home from work, but I always have to take [the facility dog] home first”), and communicating with other handlers to share responsibilities (“I also have to coordinate my day around [the facility dog]’s time with his other handlers”).



### 3.4. Facility dogs' impacts on patient and families

The second set of open-ended questions asked about the facility dog's impact on child patients as well as their family members and/or caregivers. Four themes emerged from the data, including *building rapport*, *providing a comforting presence*, *transforming the hospital environment*, and *a resource for families*.

**3.4.1. Building rapport**—One of the most often described benefits of facility dogs in improving client interactions was how the facility dog's presence resulted in improved patient and family rapport. Handlers noted how facility dogs are “a wonderful way to ‘break the ice’” and “models mutual trust, fosters nurturance and encourages conversations.” One handler described how: “[The facility dog] never needs to build rapport, it is instantaneous ... He easily starts conversations even in the most delicate of situations like bereavements. He brings an ease into starting conversation.” Another handler accounted how the facility dog impacts the energy and mood of patient conversations:

“[The facility dog] brightens every room she enters. She can build instant rapport with some of the patients that are closed and hard to connect with on any level. She brings an immediate wave of relief and smiles into each room she enters. You can see the child or teen immediately relax and also the parents.”

Facility dogs also encouraged patient and family communication. One of the ways that facility dogs were reported to do this was by making handlers appear more friendly and approachable (“I'm no longer the ‘scary social worker’, instead I'm the ‘lady with the dog’”). This quick rapport building served to encourage more positive communication and sharing with patients and their families. For instance, one handler described how “I find that kids and even parents will open up and talk more readily when I have [the facility dog] with me.” Another handler reported that her caregivers were more willing to talk to her with the facility dog present (“The mom told me she didn't want to see me at all, but then she saw [the facility dog] and she ‘knew I couldn't be a bad person if I had a dog with me’”).

Another way that facility dogs positively impacted patient communication was by providing a calming and loving presence that facilitated sharing, especially in times of distress. For instance, handlers described how “His presence facilitates conversation, allows for tears to be shed, fears shared, and for healing to begin.” The facility dog's presence was found to be a specific benefit for connecting with patients who had been previously unresponsive to other healthcare professionals. For example, as one handler said, “Having [the facility dog] has helped me connect with patients that I may not have been able to otherwise. [The facility dog] is a great way to get in with some of those sullen teens who want nothing to do with child life services.” Another handler shared that “[the facility dog] has made breakthroughs with patients that I was not able to do on my own.”

**3.4.2. Providing a comforting presence**—Facility dogs assisted with patient stress during the hospitalization experience by offering a calming presence which served to decrease child stress, anxiety, and fear. For example, handlers described how the facility dog's “calm demeanor helps fearful children and teens feel some peace during difficult procedures or exams.” This calming effect was also found to benefit aggressive patients

(e.g., “[The facility dog] is able to bring a sense of calm to anxious patients and has, on more than one occasion, helped to de-escalate patients with known aggressive behavior”), patients in physical distress (“kids return to their baseline much more quickly when [the facility dog] is involved in a procedure”), and patients experiencing emotional distress (“we have had kids that are dealing with a new diagnosis and don’t want to be here, and [the facility dog] can help bring their smile back”).

Another benefit of the facility dog towards patient interactions was improving overall patient mood, including promoting joy, happiness, and smiles. As one handler shared, “the amount of laughter and smiles are on another level with [the facility dog] being here.” Another handler described how:

“On more than one occasion, I’ve had a bedside staff member tell me that [the facility dog] brought a smile to the face of a child they hadn’t seen smile in days. He helps with distraction and comfort during procedures, provides snuggles on hard days, and joins in play during joyful times.”

Finally, handlers described how facility dogs were able to provide comfort during emotionally difficult experiences, such as when grieving or being told a diagnosis. Facility dogs were often described to provide nonjudgmental comfort during these times. For example, one handler described how “Kids facing difficult news seem to find solace in being able to hold and pet the dog. You can hug a dog without being judged.” Other handlers shared that the facility dog “has brought smiles were nothing else would” and “has provided comfort I am unable to provide.”

**3.4.3. Transforming the hospital environment**—Facility dogs were described to be a transformative presence in the hospitalization experience, serving to normalize the hospital environment and something to look forward to when undergoing a procedure or inpatient stay. For example, handlers shared how “patients have said many times that [the facility dog] is the best part of being here” and how the facility dog “helps patients forget where they are.” One of the ways that facility dogs normalized the hospital environment is that they often reminded children of their own pets. For example, as one handler described:

“Patients love to see [the facility dog]. She makes an otherwise scary and anxiety-provoked hospital stay seem more normal and not quite so scary. She is such a calming presence. Makes patients feel like they are more at home and helps if they are missing their pet.”

Normalizing the hospital experience served to make the hospital environment a more positive place where kids wanted to return. One handler described how “there are patients that would rather stay at the hospital than go home because they love [the facility dog] so much, and will miss him when they are home.” Another handler specifically noted that:

“I cannot tell you how many times a patient has said [the facility dog] is their favorite thing at the hospital or that they can’t wait to come get their chemotherapy so they can spend time with her. It has been life-changing for them.”

Facility dogs also served to normalize the hospital environment for families as well as children patients. For example, one handler reported that “A lot of parents ... request for

[the facility dog] to visit and they talk about how they miss their dog at home. Even for parents, he is a welcomed distraction and break from what is happening at the bedside.” Other handlers described how “[the facility dog] provides a calm and normal presence in a hospitalization” and that the facility dog “gives a sense of comfort and something familiar to them.”

Finally, facility dogs served to motivate patients and promote compliance with procedures. Some handlers discussed how patients would be responsive to the dog, but not to hospital staff. For example, handlers shared that “it is not uncommon for patients to ‘only respond to [the facility dog]’” and “[the facility dog] has helped tremendously with challenging patients.” Another handler shared that “I have witnessed a child refusing to get out of bed for days, but then very willingly get up to take [the facility dog] for a walk. One of the ways that facility dogs were described to help patient’s compliance was to model procedures. For example:

“Many kids tell me that [the facility dog] makes them ‘feel brave’. A lot of kids will try things that scare them after they see her do it (e.g., drink something from a syringe, put on a gown, eat a popsicle, etc.)”

**3.4.4. A resource for families**—Facility dogs served as a positive resource for caregivers and families of child patients. Many facility dog handlers described how the families sometimes needed the facility dog’s comforting presence more than the child patients (“Often times, the parents, siblings and caregivers of the patients we see are in need of more comforting than the patients themselves”). One of the ways in which facility dogs helped caregivers and families was to indirectly improve their stress and wellbeing through improving the child’s mood and affect. For example, handlers described how “We’ve had parents drop to their knees in the lobby and hug on [the facility dog], knowing what joy, comfort, relief or a sense of home that he brought to their child.” Through helping the child, this helped families feel more relaxed (“Often, parents tell us how nervous they are, but when they see [the facility dog] interact with their child, and see their child be a “kid” and not a “sick kid”, the parents feel so much better and are able to relax a bit”). One handler described this phenomenon in detail:

“When family members see their child’s positive response to [the facility dog], many of them cry and say ‘I saw my true daughter/son again.’ They are amazed how [the facility dog] indirectly creates a safe place for the patients to smile again and open up about what is going on in their minds. Many of them say that they are so thankful for her because [the facility dog] brought such joy and comfort to their child.”

Another way in which facility dogs were able to positively impact families of patients is by providing a comforting, nonjudgmental presence. Facility dogs were described to be beneficial in times of familial stress (“I can see [families] relax if even for a moment, during such a stressful time”), in times of emotional stress (“I have many parents who say how much just having a dog around is helpful to their processing and emotional state”), and when experiencing anxiety (“When parents are anxious about the results of a scan, [the facility dog] helps to get their mind off of that and allows them to just focus and love on

her”). Handlers also described how facility dogs were sometimes an important resource for siblings, as well (“Sometimes siblings need the attention because so much attention is placed on their brother/sister with a chronic medical need”).

Importantly, facility dogs were described to benefit families both “on good days and bad - we’ve celebrated and given high fives to families in time of triumph, and we’ve provided presence in times of grief.” When families are grieving due to a diagnosis, poor prognosis, or even death, facility dogs were often reported to be a valuable resource for families to express their emotions without judgement. As one participant described:

“I’ve had some parents break down and cry when [the facility dog] comes in the room as they are immediately comforted by her presence. There are caregivers that will lay with her on the floor and just pet her for long periods of time. She provides care that no one else can and a calming presence just by being in the room.”

## 4. Discussion

The goal of this exploratory study was to describe the roles that facility dogs play in children’s hospitals for staff, patients, and families from the perspective of the pediatric healthcare professionals who handle them. Specifically, this study aimed to describe both the benefits and challenges of handling a facility dog as well as the impacts of facility dogs on the hospitalization experience for child patients and their families. Findings suggest that facility dogs play important roles in improving staff and unit wellbeing, but require added responsibility and job-related burdens. Findings also suggest that facility dogs are instrumental in providing a positive resource for patients and families that involved building positive rapport, providing a comforting presence, transforming the hospitalization experience, and being a resource for families.

### 4.1. Practice implications - healthcare professionals

Facility dogs were found to impact pediatric healthcare professionals’ lives in positive and negative ways. Positive aspects of handling a facility dog included the facility dog’s ability to decrease the handler’s own stress, including improving job-related wellbeing and morale, as well decreasing the stress of other staff members and the hospital unit. These findings align with the quantitative portion of this study, which found that handling a facility dog was significantly associated with higher perceived personal accomplishment, more positive job descriptions and lower intention to quit, and better self-reported mental health [42]. Taken together, these findings suggest that handling a facility dog may not only improve the wellbeing of the pediatric healthcare professionals who handle them, but also may improve overall staff and unit morale in children hospital environments. Given the high prevalence of burnout in pediatric healthcare settings [31], a facility dog program may offer a novel strategy to improve morale and burnout in pediatric healthcare environments. However, clear expectations are necessary regarding the facility dogs’ care both during and outside work, as well as potential shifts in job-related roles and responsibilities, to prevent excess strain and stress on handlers.

In addition to improved staff stress and morale, facility dogs were described to improve staff relationships and interactions resulting in more intimate relationships, more positive daily social interactions, and more opportunity to casually socialize as a result of the facility dog's social facilitation effects. In fact, one of the proposed mechanisms for how companion animals such as dogs improve our wellbeing is by facilitating social interactions with others. Studies have found that individuals accompanied by dogs receive more smiles and more social approaches from strangers compared to when alone [7,28], and that having a dog present increases prosocial and helping behavior in groups [13,16]. In the workplace, other studies have found that dogs enhance the social atmosphere in professional environments by promoting more work-based friendship [18] and social interactions with co-workers [17]. While the quantitative portion of this research found that handling a facility dog had no impact on perceived co-worker social support (e.g., "My coworkers are willing to listen to my job-related problems"), qualitative findings suggest that the facility dog improves more casual social interactions. Future research is needed to understand the potential role of facility dogs improving social connectedness with co-workers, as well as the potential effects of this improved social cohesion on burnout (e.g., mediating or moderating effects).

A final benefit of the facility dog's partnership with pediatric healthcare professionals was the increased ability to develop trust and rapport with patients, which served to improve client and family communication. Participants shared how having the facility dog with them allowed parents and children to more readily "open up" to the healthcare professional. In fact, experimental studies have found evidence that people are perceived more positively when accompanied by a dog, including being viewed as more trustworthy, friendly, and relaxed [35,45]. This positive perception bias has also been found for health professionals, with one study reporting that participants were significantly more willing to disclose personal information to a psychotherapist pictured with a dog present compared to a psychotherapist with no dog present, regardless of attitudes towards dogs and past dog ownership [36]. The facility dogs' beneficial effects on rapport-building also mirrors other animal-assisted intervention studies which find that an animal can facilitate trusting relationships between clinicians and patients, especially with youth [15]. This ability to facilitate communication and rapport is a large reason why facility and therapy dogs are being increasingly incorporated into child psychotherapy sessions [32], courtroom testimonies [38], and forensic interviews [25]. Findings from this qualitative study suggest that facility dog programs may be a promising intervention to improve patient and family communication; however, future research is necessary to determine the extent to which having a facility dog present may result in more efficient client communication compared to without a facility dog present.

Pediatric healthcare professionals in this study also described many negative aspects of handling a facility dog on both their work and home lives. Negative aspects included increased responsibility, having longer days with less flexibility, being stopped repeatedly in hallways by those who want to pet the dog, and always having to feel "on" during the day. In fact, the quantitative portion of this study found that handling a facility dog had no relationship with emotional burnout [42] suggesting that handling a facility dog may not improve certain areas of job-related fatigue. Qualitative data revealed that facility dog handlers reported seeing more patients and having longer days than in their previous

roles without a facility dog present. Therefore, it is possible that emotional burnout and job-related fatigue may be unchanged or even increased in a facility dog handler role. Additional responsibilities and daily burdens of handling a facility dog may add stress to an already stressful position [44]. It is important that potential future handlers of facility dogs and children's hospitals planning to start a facility dog program understand these potential drawbacks in order to have realistic expectations and prepare thoughtfully.

#### 4.2. Practice implications – patient interactions

In regards to patient benefits, facility dogs were described to improve many aspects of patient's hospitalization experiences. One of the most described benefits of facility dogs for patients was providing a comforting, nonjudgmental presence. Specifically, facility dogs served to both decrease child patient's anxiety, fear, and stress while also promoting happiness, joy, and positive mood. These findings mirror a myriad of studies finding that therapy dog visits to hospitalized patients can decrease patient's heart and respiratory rates and decrease self-reported feelings of distress and anxiety [11,12,30,43]. Therefore, it seems that the simple presence of the animal during the hospital visit or stay is an important factor in improving patient outcomes.

Facility dogs were also described to be an important factor in normalizing the hospital experience for children and their families by promoting a positive environment. Specifically, facility dogs provided a reason for children to be motivated to receive treatment or return to the hospital for follow-up visits. In a 2014 systematic review of the effects of canine-assisted interventions in inpatient settings, authors concluded that many of the summarized benefits to patients stemmed from a dog's ability to provide a motivation and a positive external focus, allowing patients to focus on the dog rather than on the stress from hospitalization [37]. Therefore, both this study and others suggest that animal-assisted interventions are a promising way to improve patient's hospitalization experiences by providing a positive source of distraction, calming social support, and normalizing the hospital environment. Future research is necessary to determine the extent to which a facility dog may be more or similarly beneficial as a volunteer therapy dog team on these patient outcomes.

Finally, facility dogs were described to be a positive resource for parents and/or families of child patients. These benefits are important, given that parents and family members often experience significant anxiety [34] and emotional distress [2] from their child's hospitalization experience. Facility dog handlers shared that often parents and families needed the facility dog's comfort just as much, if not more, than the child patients they visited. Parents were described to benefit from the facility dog's comforting presence, especially in times of emotional distress such as grief. Research on the effects of therapy dog visits for parental stress and wellbeing have been sparse, but mirror with findings from this study. In a 2018 study, parents of children with cancer who were randomized to receive therapy dog visits reported significant reductions to their stress and anxiety over 4-months of their child's treatment compared to controls, including reduced communication stress when talking to doctors and staff and a significant reduction in the frequency of emotional distress related to their child's medical care over time [27]. In this study, parents were also indirectly benefited as a result of the direct effect of the facility dog on their child's stress, mood, and

overall wellbeing. These benefits to parents are important given that greater parental stress has been found to be associated with poorer child health-related outcomes [14]. However, future research is necessary to determine the potential child- and family-related implications of facility dog programs on both short-term and long-term familial stress and adjustment following hospitalization.

#### 4.3. Limitations

This study is not without its limitations. Participating facility dog handlers were employed by many different children's hospitals all over the US, each of which have different cultures, resources, and procedures surrounding patient interactions and facility dog policies. While this provides a broad representation, these hospital- and unit-level differences likely influence facility dog handlers' experiences, but were not included in analyses. We also did not account for the fact that many handlers of the same facility dog participated in our study and that some hospitals contained more than one facility dog/handler team. It is possible that handlers in hospitals with multiple facility dog teams may create a support network community to increase knowledge and reduce negative impacts that facility dog handlers may experience. In addition, we did not explore the differences in experiences among primary versus secondary handlers. Future research is necessary to understand how factors such as hours worked with the facility dog per day or whether the facility dog returns home with the handler may impact handlers' experiences. Another limitation of findings is that we relied on the self-report of facility dog handlers to describe patient and family benefits without incorporating the viewpoints of child patients and their parents/families directly. Future facility dog research will benefit from incorporating the direct perspective of the child patients and their parents/families. Finally, this study captured experiences at a single time-point, and did not take into account change over time. Future studies may consider a longitudinal design to account for staff wellbeing and patient/family interactions prior to being paired with a facility dog to determine a more causal effect of facility dogs on these outcomes.

#### 4.4. Conclusion

This exploratory qualitative study aimed to describe the role that facility dogs play in the daily lives of the pediatric healthcare professionals who handle them, as well as the role that facility dogs play in the child patient and family hospitalization experience. Results indicate that facility dogs benefited both staff and unit wellbeing while promoting positive patient and family outcomes. Despite the identified challenges to handling a facility dog, experiences of facility dog handlers were largely positive in terms of improving their own stress, social interactions, and patient/family rapport while providing a calming and positive resource for patients and their families in the hospital environment. Overall, facility dog programs were found to be a promising complementary intervention to improve both staff and patient outcomes. As facility dog programs continue to be a recent addition to children's healthcare environments, continued research is necessary to further describe the multi-faceted benefits of facility dogs in pediatric healthcare settings and to delineate how these programs may complement the benefits brought by pet visitation programs.

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**Table 1**

## Participant demographics.

	<b>M (SD) or N (%)</b>
Years as a facility dog handler, M (SD)	2.32 (1.56)
Age, M (SD)	38.30 (11.35)
Gender identity, N (%)	
Female	65 (89%)
Male	8 (11%)
Relationship status, N (%)	
Married	45 (62%)
Single, never married	20 (27%)
Living with partner	5 (7%)
Separated	0 (0%)
Divorced	3 (4%)
Widowed	0 (0%)
Race/Ethnicity, N (%) <sup>a</sup>	
White	73 (100%)
Hispanic or Latino	0 (0%)
Black or African American	0 (0%)
Asian Indian	0 (0%)
American Indian or Alaska Native	1 (1%)
Years in job position, M (SD)	5.37 (5.11)
Job position category, N (%)	
Administrative Position (Director, Manager, or Coordinator)	26 (36%)
Child Life Specialist	25 (34%)
Physician, Physician Assistant, or Nurse	6 (8%)
Social Worker	6 (8%)
Chaplain	3 (4%)
Therapist or Psychologist	3 (4%)
Other	4 (6%)

<sup>a</sup>Participants were asked to “check all that apply”, resulting in percentages over 100%.