

The benefits of an animal-assisted intervention service to patients and staff at a children's hospital

Lyndsey S Uglow

An animal-assisted intervention (AAI) Service was established at a UK children's university teaching hospital in 2012. This article reports the results of recent surveys of parents and staff conducted over a 12-month period.

Formal AAI has been established in the USA and Europe over the past 50 years and, more recently, the UK. There is published data noting the therapeutic benefits to children of animals in health care (Goddard and Gilmer, 2015). Interaction with animals promotes relaxation and has been shown to reduce anxiety. The presence of a friendly dog was shown to be effective at reducing the blood pressure (BP) and heart rates of children aged 2 to 6 years of age undergoing simulations of routine examinations (Nagengast et al, 1997; Wu et al, 2002). Hospitalised children exhibited greater lowering of diastolic BP after interacting with a dog sitting beside them on their bed or chair than after a comparison activity of doing puzzles (Tsai et al, 2010).

The UK has experienced volunteer-led pets visiting as animal-assisted activity (AAA) in a variety of healthcare settings including nursing homes and some hospitals. This involves a dog with its handler visiting patients, the presence of the animal aiding the initial introduction, described as the 'social lubricant' (Fine, 2006) between the patient and volunteer dog handler who are initially strangers.

Animal-assisted therapy (AAT) consists of goal-centred activities undertaken with nurses, physiotherapists, occupational therapists, play therapists and other health professionals where dog interaction aids patient care. This includes assisting with walking, distraction while waiting for procedures and radiology examinations, and with direct procedures such as having blood taken and administering anaesthesia.

The service

A service covering all areas of AAI was established by the author at a major UK children's hospital to augment the AAA service already available to the hospital. This service has expanded to three volunteer handlers and five dogs. The dogs are golden retrievers who have been specifically tested to ensure that they enjoy interaction with children. Visits involve walking around the children's wards providing casual AAA, as well as more specific interventions. Areas visited include surgical, medical, high dependency, intensive care and the day ward.

ABSTRACT

An online survey of parents and staff was conducted to assess the effect of an animal-assisted intervention (AAI) service at a UK children's university teaching hospital. Three volunteer handlers with five golden retriever dogs provided AAIs across all eight paediatric wards including day, medical, surgical, oncology and intensive care. Interventions ranged from 'meet and greet' to assisting nursing care, physiotherapy and occupational therapy, as well as providing distraction during blood taking and other tests including radiology examinations. Two hundred surveys were completed and there was an overwhelmingly positive response to the service. No concerns were recorded with respect to the presence, cleanliness and behaviour of the dogs. There was a 100% recommendation that similar services should be supported across the UK.

Key words: Animal-assisted activity ■ Animal-assisted intervention ■ Therapy dogs ■ Children's hospital

Strict adherence to guidelines is mandatory for the wellbeing and safety of both patients and dogs, particularly to minimise infection risk. Examples include ensuring that the dog is not placed directly on the patient's bed and that protection from a plastic-backed sheet or similar barrier prevents the dog from coming into contact with the bedding. The use of antiseptic hand gel after contact with a dog is enforced. The author helped develop the Pets in Health protocol published by the Royal College of Nursing (RCN) (2018) and therefore adheres to its policies to ensure best practice.

The dog therapy team continues to provide a wide range of services that support the medical teams and allied professions caring for children. The initial service was established to provide AAA and subsequently developed to support other services such as blood taking and physiotherapy, in response to direct feedback.

Examples of written parental comments have included:

'We love this dog, though he's so much more than a dog. I will never forget seeing you whilst

Lyndsey S Uglow, Lead Therapy Dog Handler, Southampton Children's Hospital, and Animal Assisted Intervention Advisor to the Royal College of Nursing Pets in Health Protocol, schtherapydogs@icloud.com

Accepted for publication: February 2019

my little one was poorly and the difference you made to her recovery.'

'Love the therapy dogs. Distracted my normally nervous daughter whilst she was having her video telemetry.'

'Thank you for helping with [A] yesterday. I don't think we would of made it to theatre without [the dog]. You help her lots. I don't think she would of done it without you and [the dog].'

'Lovely to meet you and thanks again for the (large) part in getting her through it (MRI) without sedation or anaesthesia.'

These comments show the depth of appreciation some families feel towards therapy dogs for supporting their children when undergoing investigations or treatment. The ability to undergo an investigation such as an MRI or telemetry without anaesthesia or going to the operating theatre without prior sedation has significant implications in decreasing the need for medication. This could reduce the potential for side effects and provide cost savings for the hospital. These positive responses were received before the survey and stimulated its set up to provide a more formal evaluation of the service.

Methods

The survey

Two separate online surveys were conducted involving parents and staff. These were a service evaluation of the therapy service and there was neither pressure nor any inducement to complete the survey. The parents, relatives or carers of those children receiving any form of therapy dog visit were given a card with a url link to access the survey after discharge from hospital if they wished to contribute. Staff were invited to contribute to their survey via posters displayed on the wards and both survey links were published on the hospital and therapy dog social media pages.

Permission was obtained from the children's hospital matron, formal ethics approval is not required for service evaluations. The surveys were filled in anonymously with no patient identifiable data requested and the completed surveys were stored by the commercial website. The total number of therapy visits conducted during the study period was not recorded and it is not possible to identify the proportion of those visited who completed a survey. Similarly, the number of staff involved in caring for the children and who were in some way aware of or involved in the visits was not possible to record.

The questions are listed in *Table 1* and *Table 2* and these cover the location and frequency of visits, the appearance of the dogs and the benefit to the children being visited. The questions were drawn up following focus group discussion and expert consultation. No pilot study was conducted and the questions have not been formally validated. Access to the survey was with a bespoke code to ensure that only those who have been in contact with the therapy dogs at the study institution gained

access. A question on the dog type was included to ensure that the survey answers were restricted to the children's service as a different breed of dog visits the adult wards.

Results

Two hundred surveys were completed by 118 parents, relatives or carers and 82 staff over 12 months ending in April 2018. The mean age of children was 9.7 years (range 2 months to 19 years). The questions about length of stay were left blank on 2 questionnaires. All of the children's wards were involved in the visits; oncology was the most frequently visited, with 25 (21%) visits. The full distribution of wards visited is shown in *Table 3*. There were 59 nurses (71%) and 9 doctors (11%) and 15 other staff from a wide range of allied professions, as shown in *Table 4*.

The length of stay was recorded and 2 surveys left the response blank—responses are shown in *Figure 1*. The number of separate times that patients were visited by a dog during their stay was as shown in *Figure 2*.

Visits that involved seeing and stroking a dog were recorded 111 times and visits where the dog was seen but not touched were recorded 13 times from the 118 responses. Six questionnaires responded to both questions and it is assumed that this relates to separate occasions where those children have seen the dog on one occasion and on another they have seen and touched the dog. Overall, therefore, 94% of visits involved contact with the dog. In addition, any other interaction experienced was recorded and 56 separate events were identified. These are shown in *Table 5*. Fifty of the staff responded directly about the interventions in which they were involved: 42 (84%) recorded that 'There was great benefit' and 8 (16%) responded that 'There was quite a lot of benefit'. There were no responses for the options of 'Some benefit', 'A little benefit' or 'No benefit'.

The responses to how much enjoyment the children felt when having a therapy dog visit were based on a rating of one to five stars with accompanying text (*Figure 3*).

The perception of any benefit is included in *Figure 4*.

Part of the survey aimed to establish the children's prior experience of dogs and whether interaction with the therapy dogs changed their perception of dogs in any way. Sixty-five (55%) had a pet dog at home, 53 (45%) did not. Parents/carers were asked whether their children were nervous with dogs outside hospital; the responses are shown in *Figure 5*. The questionnaire asked if children had changed their views about dogs after interacting with a therapy dog. One survey was left blank and the remaining responses are shown in *Figure 6*.

Both surveys asked if there were any concerns about seeing therapy dogs on hospital wards. Of the parents, relatives or carers five (4%) reported being slightly concerned, with 113 (96%) having no concerns. No respondents recorded being concerned, very concerned or extremely concerned. None of the staff reported having any concerns. The staff were asked if the dogs were felt to be in the way or causing disruption to the member of staff and 78 (95%) replied 'None' and 4 (5%) replied as 'Hardly at all'. The staff survey also asked if any negative responses were received from the parents, families or children to the member of staff. Seventy-one (87%) recorded 'None',

Table 1. Parental questionnaire

What is your child's age in years?	Overall, do you consider having a therapy dog visiting the hospital as worthwhile? <input type="checkbox"/> Not really <input type="checkbox"/> I don't care either way <input type="checkbox"/> I think they are quite worthwhile <input type="checkbox"/> I think they are very worthwhile
How long was your child in hospital?	
What type of dog did you encounter on the visit?	
How many times did your child see a therapy dog during their stay? <input type="checkbox"/> Once only <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6-10 times <input type="checkbox"/> More than 10 times	Do you have dogs as pets in your immediate family?
On which ward did your child first meet the therapy dogs? Now please tick all wards that your child stayed in where they met the therapy dogs See <i>Table 3</i> for the wards that were involved in the survey	How is your child with dogs outside the hospital environment? <input type="checkbox"/> My child is not at all nervous with dogs <input type="checkbox"/> My child is slightly nervous with dogs <input type="checkbox"/> My child is nervous with dogs <input type="checkbox"/> My child is very nervous with dogs <input type="checkbox"/> My child is extremely nervous with dogs
How did your child interact with the therapy dog? <input type="checkbox"/> A visit that involved seeing but not stroking the dog <input type="checkbox"/> A visit that involved seeing and stroking the dog	Do you feel your child changed their views about dogs as a result of interacting with the therapy dogs in hospital? <input type="checkbox"/> Much more accepting of dogs <input type="checkbox"/> A little more accepting of dogs <input type="checkbox"/> No change <input type="checkbox"/> A little less accepting of dogs <input type="checkbox"/> Much less accepting of dogs
During the admission how did your child interact with the therapy dog? Please tick all which apply: <input type="checkbox"/> Therapy dog attended my child but they did not stroke the dog <input type="checkbox"/> Therapy dog attended my child and they stroked the dog <input type="checkbox"/> Therapy dog attended my child during clinical examination as a distraction <input type="checkbox"/> Therapy dog attended my child while they were having a blood test taken <input type="checkbox"/> Therapy dog attended my child while they were having medication given <input type="checkbox"/> Therapy dog attended my child while they were having a physiotherapy session <input type="checkbox"/> Therapy dog attended my child while they were having an occupational therapy session <input type="checkbox"/> Therapy dog attended my child while they were having a speech therapy session <input type="checkbox"/> Therapy dog in attendance during unconscious period in paediatric intensive care or high dependency unit	Did you as the parent/carer have concerns about seeing therapy dogs on the hospital wards? <input type="checkbox"/> No concerns <input type="checkbox"/> Slightly concerned <input type="checkbox"/> Concerned <input type="checkbox"/> Very concerned <input type="checkbox"/> Extremely concerned
Please indicate the level of enjoyment that your child felt as a result of the therapy dog visiting (ie would you rate it 1, 2, 3, 4 or 5 stars?) <input type="checkbox"/> 1★ Not enjoyable at all <input type="checkbox"/> 2★ Not very enjoyable <input type="checkbox"/> 3★ Quite enjoyable <input type="checkbox"/> 4★ Very enjoyable <input type="checkbox"/> 5★ Loved it	Did you have any concerns about the cleanliness and presentation of the dog? <input type="checkbox"/> Dogs appeared clean and well presented <input type="checkbox"/> Dogs appeared quite clean and quite well presented <input type="checkbox"/> Dogs appeared unclean and not well presented
As the parent/carer what was your impression of any benefit of your child interacting with the dog? <input type="checkbox"/> I do not think there was any benefit <input type="checkbox"/> It was OK but there was not much benefit <input type="checkbox"/> It was moderately beneficial <input type="checkbox"/> There was lots of benefit <input type="checkbox"/> He/she loved it and we saw a huge benefit	Did you have any concerns about the welfare and handling of the dog during the visit? <input type="checkbox"/> No concerns <input type="checkbox"/> Slightly concerned <input type="checkbox"/> Very concerned
	Would you encourage other UK hospitals to have therapy dogs as part of their team? <input type="checkbox"/> Yes I would encourage other hospitals to have therapy dog teams <input type="checkbox"/> I would neither encourage nor discourage other hospitals to have therapy dog teams <input type="checkbox"/> No I would not encourage other hospitals to have therapy dog teams

10 (12%) answered as 'Hardly at all' and one (1%) responded 'A lot'. None responded as 'A little' or 'Quite a lot'.

There were no reports of the dogs being unclean and not well presented, 2 parents/carers (2%) reported they were 'Clean and quite well presented', with 116 (98%) reporting that the dogs were 'Clean and well presented'. All staff responded that the dogs were 'Clean and well presented'. All responses stated

that there were no concerns about the welfare or handling of the dogs during the visits. The survey gave the respondents the opportunity to record free text and one wrote that it was not so much concern about seeing a dog on the ward but surprise. They went on to state how positive the experience was for their child.

When asked if therapy dogs were considered worthwhile,

Table 2. Staff questionnaire

What is your role at the hospital?	As the hospital employee/volunteer what was your impression of any benefit of the child interacting with the dog? <ul style="list-style-type: none"> ■ I did not think there was any benefit ■ It was OK but there was not much benefit ■ It was moderately beneficial ■ There was lots of benefit ■ There was a huge benefit
What type of dog did you encounter on the visit?	
On which wards have you witnessed therapy dogs at work?	Have you ever felt that the therapy dog team were in the way or causing disruption while in attendance? <ul style="list-style-type: none"> ■ None ■ Hardly at all ■ A little ■ Quite a lot ■ A lot
From your general observation of therapy dogs visiting the patients, do you think the child enjoyed the visit? <ul style="list-style-type: none"> ■ None ■ Hardly at all ■ A little ■ Quite a lot ■ A lot 	Overall, do you consider having therapy dogs visiting the hospital is worthwhile? <ul style="list-style-type: none"> ■ Not really ■ I don't care either way ■ I think they are quite worthwhile ■ I think they are very worthwhile
From your general observation of therapy dogs visiting the patients, do you believe it improved the patients' experience of hospital? <ul style="list-style-type: none"> ■ None ■ Hardly at all ■ A little ■ Quite a lot ■ A lot 	Do you have concerns about seeing therapy dogs on the hospital wards? <ul style="list-style-type: none"> ■ No concerns ■ Slightly concerned ■ Concerned ■ Very concerned ■ Extremely concerned
Have you encountered/observed any negative responses from the patients or their families? <ul style="list-style-type: none"> ■ None ■ Hardly at all ■ A little ■ Quite a lot ■ A lot 	Did you have any concerns about the cleanliness and presentation of the dogs visiting Southampton Children's Hospital? <ul style="list-style-type: none"> ■ Dog appeared clean and well presented ■ Dog seemed quite clean and quite well presented ■ Dog appeared unclean and not well presented
Have you participated in a direct animal-assisted intervention (AAI), eg where a dog has been with a patient during the taking of blood, giving medicines, motivating a patient or directly participating in a physio/occupational/speech therapy session or other healthcare activity?	Did you have any concerns about the welfare and handling of the dogs during the visit? <ul style="list-style-type: none"> ■ No concerns ■ Slightly concerned ■ Very concerned
If you have participated in AAI do you believe that it was beneficial having a therapy dog in attendance at that time? <ul style="list-style-type: none"> ■ There was no benefit ■ There was a little benefit ■ There was some benefit ■ There was quite a lot of benefit ■ There was great benefit ■ I have not directly participated so am unable to comment 	Would you encourage other UK hospitals to have therapy dogs as part of their team? <ul style="list-style-type: none"> ■ Yes I would encourage other hospitals to have therapy dog teams ■ I would neither encourage nor discourage other hospitals to have therapy dog teams ■ No I would not encourage other hospitals to have therapy dog teams

from the parents' survey 2 (2%) replied 'Quite worthwhile' and 116 (98%) considered them 'Very worthwhile', while all of the staff indicated that the dogs were considered 'Very worthwhile'. All 200 (100%) respondents replied that they considered other hospitals should be encouraged to have a therapy dog service.

Discussion

The survey results are overwhelmingly positive in support of therapy dogs as part of the services of a UK children's university teaching hospital. The survey is a sample of the activity and not a comprehensive analysis of the service, but provides valuable

feedback for the UK setting. The results show that a wide age range of patients in almost all settings in the children's hospital were surveyed, as well as many different staff who were involved in treating them, giving the survey legitimacy.

One-third of children were recorded as having some degree of nervousness in the presence of dogs before meeting the therapy dogs in hospital and 51 parents/carers (34%) of the survey responded that their children were more accepting of dogs than they were before the contact with the hospital therapy dog. This response is encouraging and highlights one of the benefits of bringing well behaved dogs into this environment

and introducing the positive effects of the human–animal bond for these children. Some of those children who had previously had a negative encounter with dogs will have gained from this experience in the hospital environment, which may have longer term effects on general animal welfare in a caring society.

There was a single negative response from among staff members that they had observed ‘A lot’ of negative feedback from patients or parents. No comments were recordable for this question, so it is not possible to further explain this single observation, but the preceding two questions concerning the child’s enjoyment and improving patient experience were answered as ‘A lot’ and the respondent answered that they thought the visit provided huge benefit and was very worthwhile. They reported no concerns and stated that they would support therapy dogs in other UK hospitals. It may be that the question was misinterpreted because it is not in keeping with the other responses given by that person. This was also the only negative response in the staff survey and would seem that this outlier is more likely to be an error.

The literature contains much evidence in support of AAT and AAI, which was first recorded by Levinson (1965). It is no surprise from the positive reports that the development of an AAI model in the UK has been successful, but evidence is necessary to test this and for it to be reported. To the author’s knowledge, the study reported is the first to survey the provision of an AAI programme at a UK hospital. The findings of the staff are strongly positive and concur with the findings of a similar assessment performed in Australia (Moody et al, 2002). After initiation of a dog visitation programme, a questionnaire survey strongly endorsed the expectations that children were distracted from their illness and were more relaxed, and that the ward was a happier place, the work environment was more interesting and that nurses accepted the dogs. After implementation staff were less concerned about the possibility of dog bites and dogs doing damage to equipment. The results presented in this article show overwhelmingly that the service is supported and considered to be of great benefit (Moody et al, 2002).

The evidence to support increasing animal roles in healthcare provision is growing and extends to pain relief (Braun et al, 2009; Barker et al, 2015), postoperative management (Calcaterra et al, 2015) and on the intensive care unit (McDowell, 2005). Calcaterra et al (2015) reported that therapy dogs offer a novel and useful complementary therapy for children undergoing surgical procedures. AAT facilitates rapid recovery of vigilance and activity after anaesthesia, modifies pain perception and induces an emotional prefrontal response. An adaptive cardiovascular response was also observed.

Oncology patients who chose to have chemotherapy in a room with dogs present had significantly more improvement in oxygen saturation than those who did not have dogs present and the saturation actually decreased in the latter group. Furthermore, a noticeable reduction in depression was observed in those who had received AAI compared with those who had not, whose levels of depression remained unchanged (Orlandi et al, 2007).

As a result of the positive feedback received from the survey results published here, there are plans to further expand the AAI programme to cover other modalities. Supporting anxious

Table 3. Distribution of wards in which AAI occurred

	%	n=118
Children’s oncology	21	25
Children’s trauma and orthopaedics	19	22
Children’s neuro	16	19
Paediatric intensive care unit	11	13
Children’s day ward	7	9
Children’s medical unit	6	7
Children’s surgery	4	5
Children’s high dependency unit	3	4
Children’s nephro-urology	3	4
Other	3	4
Paediatric admission unit	2	3
Children’s cardiac ward	2	2
Children’s haemodialysis	1	1

Table 4. Hospital role of staff respondents

	%	n=83
Nursing	71	59
Doctor	11	9
Play therapist	5	4
Administrative	4	3
Radiographer	2	2
Pharmacist/technician	2	2
Psychologist	1	1
Physiotherapist	1	1
Management	1	1
Volunteer	1	1

Table 5. Other interactions with the therapy dog besides visits to wards

	%	n=56
During a clinical examination	20	11
Having a blood test	9	5
Receiving medication	21	12
During physiotherapy	12	7
During occupational therapy	11	6
During speech therapy	2	1
Attendance on intensive care	25	14

patients in the anaesthetic room prior to surgery has already occurred with positive results, but has not been recorded by this survey. Patients who have had previous negative experiences in this environment have shown much improved experiences in the presence of the therapy dogs and this is an area that will be studied further in the future. Additional work in the paediatric intensive care unit is to be developed in response to observations of beneficial changes in vital signs for patients, as well as studies indicating changes in cortisol levels (Calcaterra et al, 2015).

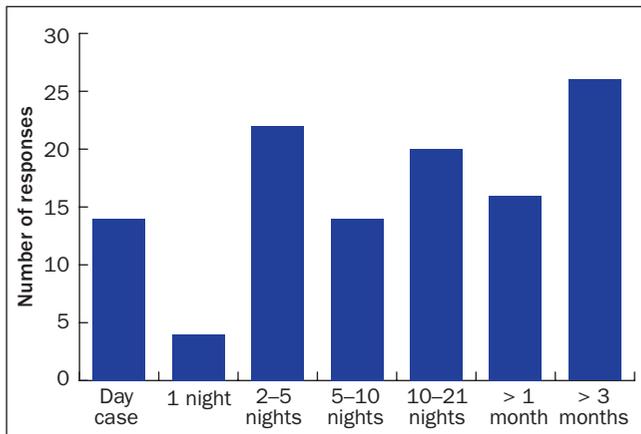


Figure 1. Length of stay (n=116)

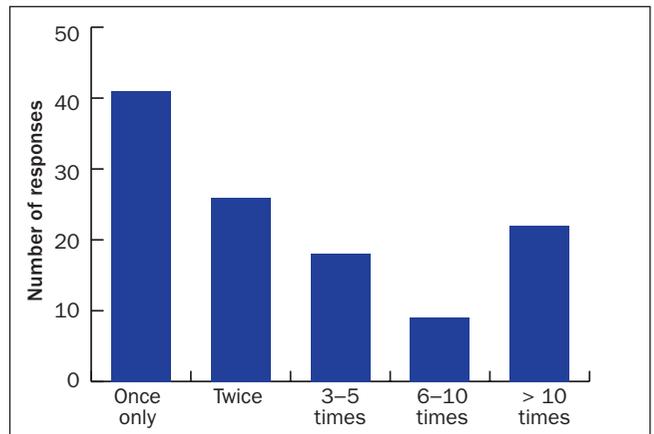


Figure 2. Number of times child visited by a therapy dog during stay (n=116)

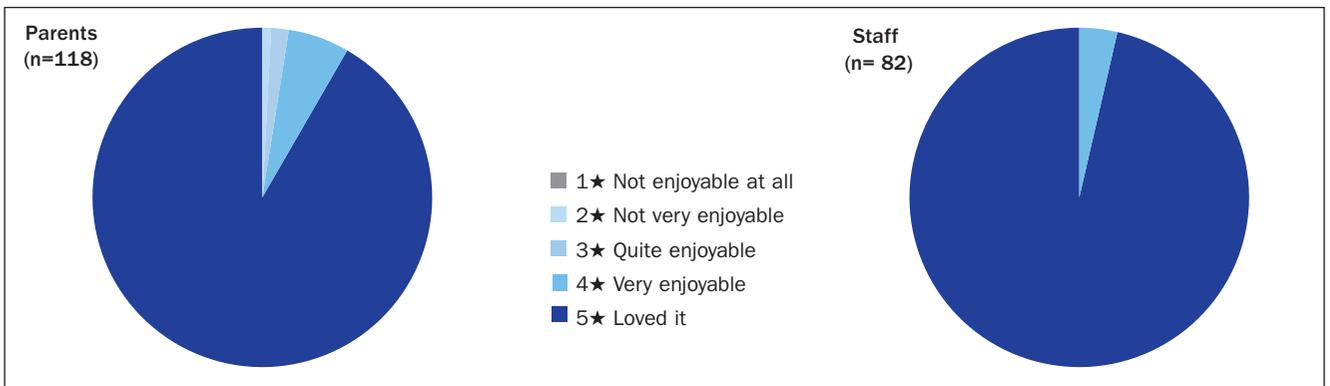


Figure 3. Child's perceived enjoyment of interaction with a therapy dog

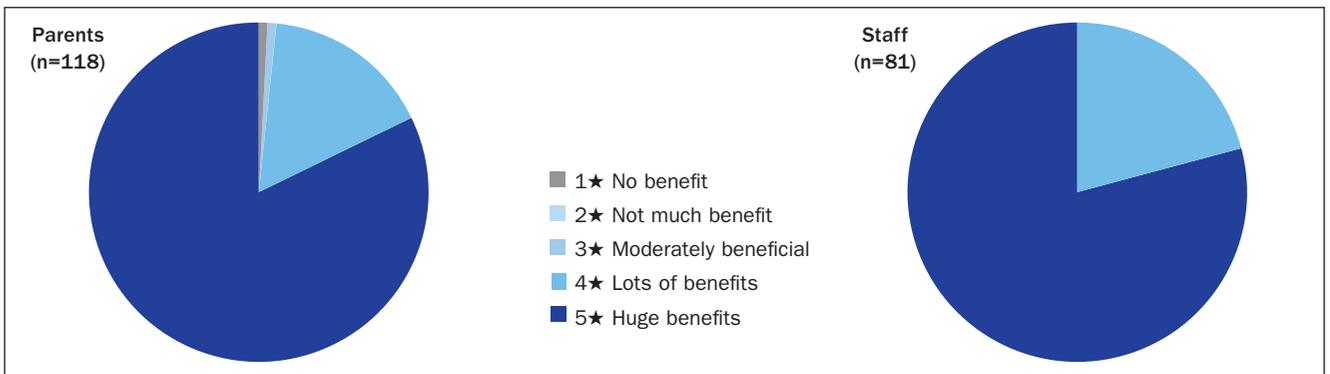


Figure 4. Perceived benefit of child's interaction with a therapy dog

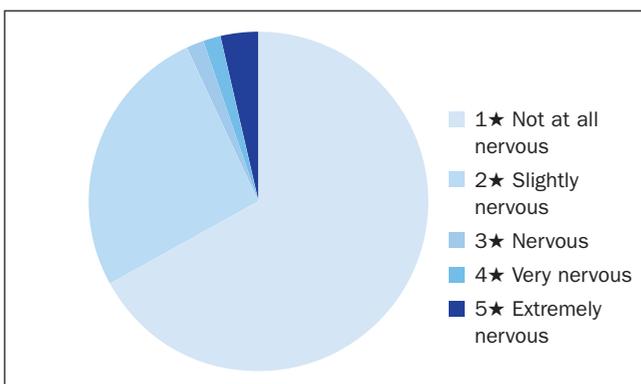


Figure 5. 'How is your child with dogs outside the hospital environment?'

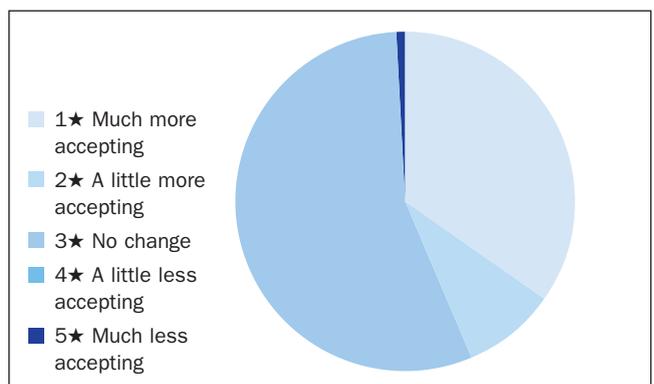


Figure 6. 'Do you feel your child changed their views about dogs as a result of interacting with the therapy dogs?'

With increasing success and the desire to expand animal-assisted programmes it is imperative to ensure that standards are set and maintained to ensure safety, reliability and reproducibility. No negative responses were recorded in this survey from 200 respondents but, in order for this to be maintained, the standards by which the visits are conducted should be defined to aid reproducibility in establishing services in other facilities. The Society for Healthcare Epidemiology of America has published expert guidance (Murthy et al, 2015) and a working party of the RCN has also published guidance for the UK (RCN, 2018). The nonprofit organisation Animal Assisted Intervention International (2019) has produced a comprehensive *Standards of Practice* document, which is regularly updated.

Conclusion

The results of this survey have confirmed that the initiation of a formal therapy dog service in an acute UK children's hospital environment has been overwhelmingly positive and supported by parents and staff. The development of this and other services nationally will need to follow a well-researched and considered protocol to ensure uniformity and, most of all, safety for all concerned, including the dogs.

The concern surrounding the potential transmission of infection, for example, needs to be taken seriously to ensure that standards are met to prevent any such problems from occurring. To date, no cases of transmission of infection from animals to humans have been recorded at this institution. Preparation and training of the dogs and handlers is paramount for safety as well as animal wellbeing to ensure the successful development of AAI provision. **BJN**

Declaration of interest: none

Funding: the Humanimal Trust funded the survey to promote the development of the human-animal bond in healthcare

Acknowledgements: the author would like to thank Matron Kate Pye and the staff of the Southampton Children's Hospital, and Amanda Cheesley, Royal College of Nursing, for their support

Animal Assisted Intervention International. Standards of practice. 2019. <https://aai-int.org/aai/standards-of-practice> (accessed 11 April 2019)
Barker SB, Knisely JS, Schubert CM, Green JD, Ameringer S. The effect of an animal-assisted intervention on anxiety and pain in hospitalized children.

KEY POINTS

- Animal-assisted interventions (AAIs) involving therapy dogs were received positively by a survey of staff, parents and carers in one children's hospital
- The presence of therapy dogs reduces anxiety in children when waiting for tests and investigations, and helps them when undergoing medical investigations such as radiology examinations and having blood taken
- Children who were previously nervous in the presence of dogs reported being less nervous around dogs as a result of hospital therapy dog visits
- There is support for a programme of AAI to be further developed across more UK hospitals

- Anthrozoos. 2015;28(1):101–112. <https://doi.org/10.2752/089279315X14129350722091>
- Braun C, Stangler T, Narveson J, Pettingell S. Animal-assisted therapy as a pain relief intervention for children. *Complement Ther Clin Pract*. 2009; 15(2):105–109. <https://doi.org/10.1016/j.ctcp.2009.02.008>
- Calcaterra V, Veggiotti P, Palestini C et al. Post-operative benefits of animal-assisted therapy in pediatric surgery: a randomised study. *PLoS One*. 2015;10(6):e0125813. <https://doi.org/10.1371/journal.pone.0125813>
- Fine AH (ed). *Handbook on animal assisted therapy: theoretical foundations and guidelines for practice*. 2nd edn. San Diego (CA): Elsevier; 2006
- Goddard AT, Gilmer MJ. The role and impact of animals with pediatric patients. *Pediatr Nurs*. 2015; 41(2):65–71
- Levinson BM. Pet psychotherapy: use of household pets in the treatment of behavior disorder in childhood. *Psychol Rep*. 1965; 17(3):695–698. <https://doi.org/10.2466/pr0.1965.17.3.695>
- McDowell BM. Nontraditional therapies for the PICU—part 2. *J Spec Pediatr Nurs*. 2005; 10(2):81–85. <https://doi.org/10.1111/j.1744-6155.2005.00009.x>
- Moody WJ, King R, O'Rourke S. Attitudes of paediatric medical ward staff to a dog visitation programme. *J Clin Nurs*. 2002; 11(4):537–544
- Murthy R, Bearman G, Brown S et al. Animals in healthcare facilities: recommendations to minimize potential risks. *Infect Control Hosp Epidemiol*. 2015; 36(5):495–516. <https://doi.org/10.1017/ice.2015.15>
- Nagengast SL, Baun MM, Megel M, Leibowitz JM. The effects of the presence of a companion animal on physiological arousal and behavioral distress in children during a physical examination. *J Pediatr Nurs*. 1997; 12(6):323–330
- Orlandi M, Trangeled K, Mambrini A, Tagliani M, Ferrarini A, Zanetti L et al. Pet therapy effects on oncological day hospital patients undergoing chemotherapy treatment. *Anticancer Res*. 2007; 27(6C):4301–4303
- Royal College of Nursing. Working with dogs in health care settings: a protocol to support organisations considering working with dogs in health care settings and allied health environments. 2018. <http://tinyurl.com/y456rh9t> (accessed 11 April 2019)
- Tsai CC, Friedmann E, Thomas SA. The effect of animal-assisted therapy on stress responses in hospitalized children. *Anthrozoos*. 2010; 23:245–258. <https://doi.org/10.2752/175303710X12750451258977>
- Wu AS, Niedra R, Pendergast L, McCrindle BW. Acceptability and impact of pet visitation on a pediatric cardiology inpatient unit. *J Pediatr Nurs*. 2002; 17(5):354–362

CPD reflective questions

- Do you think that the unit you work in would benefit from the addition of animal-assisted intervention (AAI)?
- What barriers exist to the introduction of an effective AAI in your work environment?
- Which areas of clinical practice in your organisation might be suitable for a research project in relation to AAI?

Have an idea for BJN?

020 7738 5454

bjn@markallengroup.com



@BJNursing

Copyright of British Journal of Nursing is the property of Mark Allen Publishing Ltd and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.