Article:

Ratschen, Elena orcid.org/0000-0003-4128-9608 and Sheldon, Trevor Andrew
orcid.org/0000-0002-7479-5913 (2019) Elephant in the room:animal assisted interventions.
BMJ. ISSN 1756-1833

EDITORIALS

CHRISTMAS 2019: ALL IN A DAY'S WORK

Elephant in the room: animal assisted interventions

A growing industry that urgently needs better supporting evidence

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Healthcare settings as diverse as acute inpatient wards, rehabilitation and psychiatric units, hospices, and dementia care homes open their doors to animals and their handlers every day, aiming to improve patient wellbeing. Most of the animals are dogs, although cats, rabbits, guinea pigs, and other species can also be encountered. Most handlers are pet owners volunteering for charities, but some NHS trusts now employ their own "dog therapy teams."[1 2] Health and social care generally uses an evidence based approach to interventions. Animal assisted interventions are a notable and, arguably puzzling, exception.

The idea that interactions and relationships between animals and humans can affect health and wellbeing as part of the human-animal bond is ancient.[3] Sigmund Freud used his dog Jofi in therapy sessions to improve rapport and reduce patient anxiety.[4] However, the emergence of using animals therapeutically is usually linked to the work of US child psychologist Boris Levinson and his dog Jingles, in the 1960s.[5]

From dogs to dolphins

Animal assisted interventions "intentionally include or incorporate animals as part of a therapeutic or ameliorative process or milieu."[4] Two main types are used in healthcare. In animal assisted therapy, a specifically trained animal is incorporated systematically in a treatment plan delivered by a healthcare professional trained in animal assisted interventions (dog assisted psychotherapy, for example). By contrast, animal assisted activity is often facilitated by volunteers and focuses more broadly on the presence of an animal (dog visits to hospital wards, for example), offering opportunities for patients to engage with the animal spontaneously.[6] Dogs and horses are by far the most commonly used species in animal assisted interventions, followed by small pet species, farm animals, and, in some places, dolphins (table 1).

Scientific studies have shown proof of concept for animal assisted interventions and reported promising findings for a range of psychosocial, emotional, and physiological outcomes across the life span.[7-10] One randomised pilot study, for example, tested a cognitive behavioural intervention teaching dog training

skills ("how to be a good dog trainer") to children with attention deficit/hyperactivity disorder. Participants taught with certified therapy dogs had greater improvements in problem behaviour and social skills than controls taught with therapeutic dog puppets instead.[11] Other evidence suggests that weekly animal assisted activities with dogs—such as stroking, playing with, and talking to or about the dog—can have positive effects on the behavioural and psychological symptoms of dementia.[9]

However, concerns exist about much of the evidence in this field. Most studies are observational or quasi-experimental, and many of the pilot or full randomised trials are methodologically weak, lacking statistical power, standardised and reproducible interventions, or well designed control conditions.[6-10] Control conditions could, for example, include robotic animals rather than "usual care" in some situations.[12]

Interspecies interactions

Many of the mechanisms underlying animal assisted interventions have not been investigated in detail. Nevertheless, it is widely accepted that animals can have calming or motivating effects and catalyse the development of rapport and skills. The therapy animal acts as an "effect modifier," enabling a level of patient engagement that clinicians might struggle to achieve on their own.[13] Arguably, animal assisted interventions are inherently complex, involving highly individualised interactions between the recipient, the animal, health and social care professionals, and potentially the animal handler, often in busy clinical contexts. These complexities are not fully understood and not readily explored by existing research frameworks, including those designed to evaluate "complex interventions."

A more thorough understanding of the conditions within which animal assisted interventions can be provided most safely, effectively, cost effectively, and ethically is required along with identification of the contexts in which virtual reality[14] or robotic pet interventions[12] offer potential alternatives. The suitability of different animal species, how to select individual animals

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within species (for example, based on character traits), and training requirements for different contexts should also be explored, along with optimal monitoring of animal welfare and related risk. Although valid tools to measure or monitor welfare and risk in interventions with dogs are now emerging,[15-18] further work across species is needed urgently. Introducing these interventions will also require further investigation of the role and training of animal handlers and clinical staff.

For now, the use of animal assisted interventions in healthcare relies on little more than (promising) potential. Given the relative lack of evidence based protocols and standards, we are unlikely to be maximising therapeutic benefit, minimising harm, or upholding ethical standards for both humans and animals.

Use of animal interventions in health and social care is growing rapidly and is largely unregulated, at least in the UK. We must now overcome some of the biomedical prejudice and establish programmes of rigorous research supported by mainstream research funders. The human-animal bond is powerful—generating robust evidence on how best to harness it could result in substantial gains for patients and health services. Conversely, failure to advance the evidence base is likely to result in waste of scarce resources and poor, potentially unethical, and harmful practice.

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Table

Table 1| Examples of animal assisted interventions in healthcare*

Intervention	Potential outcome
Horse riding for children with autism spectrum disorder	Improved engagement, interaction, sensory input, self-esteem, self-awareness
Therapeutic sessions with farm animals for children with trauma and post-traumatic stress disorder	Improvement of psychological symptoms (eg, anxiety) and indicators of secure attachment
Structured sessions with therapy dogs to aid inpatient neurorehabilitation	Improvements in depression, anxiety, motivation, and progress with physiotherapy
Open engagement sessions with dogs or small animals (eg, rabbits) in psychiatric units	Improved engagement, mood, and social interaction
Animal visits (various species) in hospitals, hospices, and care homes	Improved engagement, mood, motivation, social interaction; decreased anxiety and pain
Swimming with dolphins for patients with psychiatric disorders (virtual reality intervention)	Reduced stress, anxiety, tension, and sleeping problems

* Relationships and interactions with guide dogs, service or assistance dogs, emotional support dogs, and companion animals (pets) are not considered to be interventions.[6]