

Working Dogs and Disaster Preparedness: Identifying Gaps in the Literature

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OBJECTIVES

In one study, 19 articles discussing pet owner preparedness were discovered (Day, 2017). In another article, Travers and colleagues (2017) found 38 articles discussing this topic (Travers et al., 2017). Taking this information into account, individual preparedness remains extremely important for all pet owners, service dog users, and those with service dogs in training (DeYoung et al., 2020). In the seminal work on the ways in which service animal handlers or raisers engage in disaster preparedness, DeYoung and colleagues (2020) state that less attention has been given to these individuals than pet owners (DeYoung et al., 2020). This hypothesis is worth testing with the evidence gap in the literature, if any, acting as the measure. Therefore, in this research, we are interested in determining this evidence gap in the literature by searching five common databases with the same search terms.

SIGNIFICANCE OF THE RESEARCH

The significance of this topic for emergency managers is the importance of including working dogs and their handlers/raisers in emergency preparedness plans.

It is estimated that nearly 80 million American households include pets and over half of the global population has at least one pet (Day, 2017). Day (2017) notes that "estimates approximate this figure to surpass 75% of American households, which exceeds the number of households with children" (Day, 2017). In fact, 20 to 30 percent of all human evacuation failures can be attributed to pet ownership (Heath & Linnabary, 2015).

Preparedness activities include determining risk, planning for an emergency, and assembling supplies and resources (Engelke, 2009). Due to the thousands of lost or abandoned pets during Hurricane Katrina, the United States Congress passed the Pets Evacuation and Transportation Standards (PETS) Act of 2006 (Austin, 2013; Engelke, 2009). The PETS Act requires that state and local emergency plans take the needs of individuals with household pets and service animals into account (Austin, 2013; Engelke, 2009). What does the literature say about how individuals who own pets or service animal handlers prepare for disasters?

Although specific plans are not discussed, some of what has been written describes how pet and service animal owners/handlers react to evacuation mandates. Many evacuate with their pets or service dogs (Day, 2017; DeYoung et al., 2020; Farmer et al., 2016; Travers et al., 2017). Others decide to either evacuate without their pets, or to stay in place with their pets (Austin, 2013; Brackenridge et al., 2012; Chadwin, 2017; Day, 2017; Engelke, 2009; Farmer et al., 2016; Heath et al., 2001; Heath & Linnabary, 2015; Hunt et al., 2012; Travers et al., 2017). This emphasizes the need for pet owners to have emergency preparedness plans for their pets (Travers et al., 2017).

Many pet owners initially plan to evacuate with or make arrangements for their pets during disasters (Brown et al., 2012; Day, 2017). However, these plans are not always executed in the event of a disaster (Day, 2017). In fact, a lack of proper resources related to transporting pets is a major obstacle to pet owners evacuating their own pets (Hunt et al., 2012; Sherman-Morris et al., 2010; Thompson, 2013). In addition, Sherman-Morris and colleagues (2010) note that failure to evacuate pets increased for households that did not have evacuation plans (Sherman-Morris et al., 2010).

There are at least six types of research gaps including: (1) evidence gap; (2) knowledge gap; (3) practical-knowledge conflict gap; (4) methodological gap; (5) empirical gap; and (6) theoretical gap (Miles, 2017; Müller-Bloch & Kranz, 2015).

An evidence gap arises when a new research finding contradicts widely accepted conclusions (Miles, 2017; Müller-Bloch & Kranz, 2015). Since the evidence gap does not readily stand out, the results must be analyzed carefully in order to identify subtle discrepancies (Müller-Bloch & Kranz, 2015).

How are these research gaps studied? There are still no standard methods for identifying, prioritizing, or reporting research gaps (Nyanchoka et al., 2019; Robinson et al., 2011).

METHODS

To measure the evidence gap in the literature, we identified and counted applicable papers published on our topic, the activities performed by working dog handlers or raisers to prepare their animals for disasters. Articles were included that described either: (1) the implementation of preparedness activities by handlers/raisers, or (2) recommendations of preparedness actions that can be taken by working dog handlers/raisers. We decided not to use any date restrictions, as this may falsely influence the existence of results.

We searched the following databases: EBSCO Academic Search Complete, Google Scholar, JSTOR, PubMed and Web of Science. The following search was performed: (handlers or raisers) and disasters.

RESULTS

Database	Total # Results	Total # Results Reviewed	Implementation Activities	Recommendation Actions
EBSCO Academic Search Complete	59	59	1	2
Google Scholar	1110	111	1	0
JSTOR	15	15	0	0
PubMed	47	47	1	10
Web of Science	76	76	1	8

INTERPRETATION OF RESULTS

A total of 11 unique articles fit these criteria. Only one article describes preparedness activities performed by guide dog puppy raisers (DeYoung et al., 2020). Eight of the 11 articles briefly discuss preparedness activities that can be performed by handlers of working dogs (Perry, 2021; Gordon & Ho, 2020; Gordon, 2015; Gordon, 2012; Powell, 2019; Corse, 2016; Chatfield, 2015; Duhaime 1998). The remaining two articles mention preparedness steps that can be taken by handlers of search-and-rescue dogs (Gordon, 2018; Wismer, 2003).

The results from PubMed contained all 11 of the unique articles. The results from the remaining 4 databases were all subsets of the PubMed results. Ergo, those 4 databases did not return any unique results that were not in the PubMed results.

Database	Total # Results/Reviewed	Total # Results Determined Relevant	% Relevant
Ebsco Academic Search Complete	59	3	5.09%
Google Scholar	110	1	0.90%
JStor	15	0	0.00%
PubMed/MEDLINE	47	11	23.40%
World of Science	76	9	11.84%

CONCLUSIONS

The results seem to indicate that there is an evidence gap in the literature. This means that more research is needed to determine the activities in which working dog handlers/raisers engage in order to prepare for disasters. In addition, emergency managers may need to set up educational

CONCLUSIONS (cont'd)

or training programs in the community for those with working dogs, such as the blind and visually impaired, teaching them about disaster preparedness for their working dogs.

DIRECTIONS FOR FUTURE RESEARCH

There are at least three considerations for future research: (1) customizing searches to each individual database; (2) using an external taxonomy to customize searches; and (3) consideration of the scope of the databases used. Customization of searches to each particular database is important. Although Ebsco searches PubMed, it does it differently than doing the search directly in PubMed itself. Due to this fact, the search results from Ebsco searching PubMed will be different than the results from directly searching PubMed. Thus, future work will include customization of the search strategy for each database used.

Parenti and colleagues (2013) developed a taxonomy representing animals in society (Parenti et al., 2013). For example, some of the categories include service animals and public service or military animals (Parenti et al., 2013). Thus, using this taxonomy may help to customize searches.

Finally, it is important to keep in mind that each database has a different scope. For example, some databases focus on the biological literature. In the future, it would be helpful to choose databases that contain veterinary and emergency management journals and literature.

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