

International Comparison of Animal Shelter Oversight and Policies

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Introduction

Animal shelters are places where companion animals without a family are housed until they can be rehomed (Figure 1). Shelters are of public concern because people are interested in animals and their welfare. Communities and individuals encounter shelters when they adopt a pet, surrender a pet, find a stray, use spay/neuter services, or volunteer. Some shelters collect metrics (such as intake and output) to evaluate performance and improve procedures and policies.



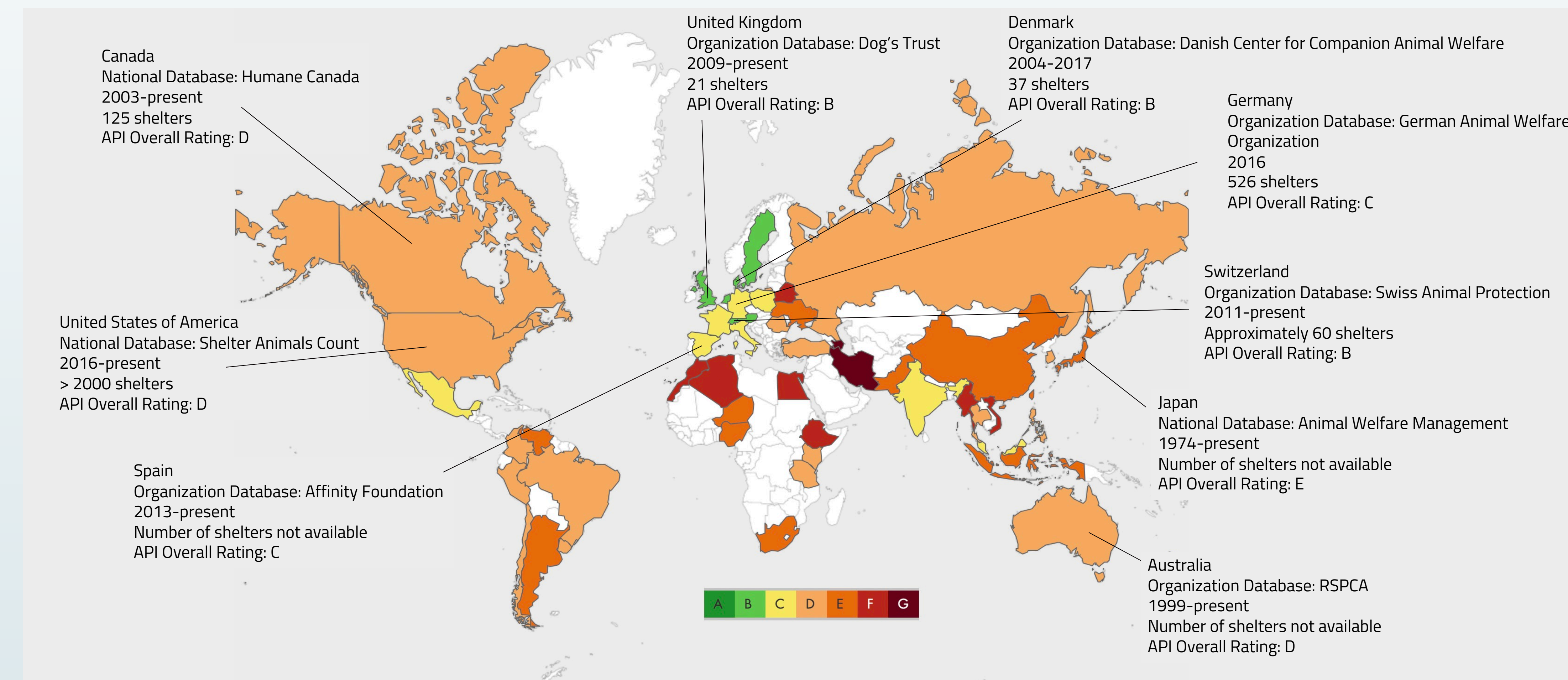
Figure 1. More than 3 million dogs enter U.S. shelters each year and about half of them are adopted.

We focused on whether countries compile information from shelters into national databases. We also examined whether countries with a shelter database differed from those without a database with respect to: 1) GDP per capita PPP; 2) Human Development Index (HDI); and 3) Overall rating from the Animal Protection Index (API) by World Animal Protection. API rates 50 countries on issues related to animal welfare. It assigns grades of A (best score) through G (worst score) to rank each country on indicators, including recognition of animal sentience, prevention of animal suffering, and presence of animal welfare legislation and supporting government bodies. Other studies have examined relationships between economics, social factors, and API (e.g., Holst & Martens, 2016; Richardson, 2019); none has examined them with respect to databases with animal shelter statistics.

Materials and Methods

We selected the same 50 countries chosen by World Animal Protection to search for databases with animal shelter statistics. For each country we searched online for databases and for many, we contacted government agencies listed on the API site as in charge of companion animal welfare. Our searches and contacts

Figure 2. Nine countries with databases are indicated along with basic data from each database.



yielded nine countries with databases and 41 countries without such databases. We collected basic information on each database; we also compared HDI, GDP per capita PPP, and the Animal Protection Index overall rating between countries with and without a shelter database using t-tests (software JMP Pro, version 15.0.0). For the overall ratings from API, we converted letter ratings to numbers: G, the lowest rating, received a score of 1 and A, the highest rating, a score of 7.

Results

Countries with databases with animal shelter statistics are shown in Figure 2. Animal shelter databases were either national (e.g., Shelter Animals Count for the U.S.) or from an organization within a country (e.g., Dog's Trust for the U.K.). We found extensive variation in number of years of data available in each database: whereas Germany's database included 1 year of data, Japan's had more than 46 years. Number of shelters contributing

Table 1. Metrics included in the nine databases

Country	Total intake	Outcomes ¹	Sources ²	Length of stay ³	Number neutered	Euthanasia reason
Canada	Y	Y	Y	Y	N	N
U.S.	Y	Y	Y	N	N	N
U.K.	Y	Y	Y	N	Y	N
Australia	Y	Y	N	N	N	Y
Japan	Y	Y	N	N	N	N
Switzerland	Y	Y	N	N	N	N
Spain	Y	Y	N	Y	N	N
Denmark	Y	Y	Y	N	N	N
Germany	Y	N	Y	N	N	N

¹Outcomes: adopted, returned to owner, transferred to a rescue organization, or euthanized.
²Sources: owner surrender, stray, transfer from another shelter, or seized.
³Length of stay: time spent at the shelter.

to databases also varied, ranging from 21 in the U.K. to more than 2,000 in the U.S. None of the nine countries with animal shelter databases received an overall API rating of A: ratings ranged from B (U.K., Switzerland, and Denmark) to E (Japan).

Canine metrics included in databases are shown in Table 1. Whereas all nine databases included total intake of dogs, eight provided outcomes, and seven included sources of dogs. Databases typically did not include length of stay, number neutered, or reason for euthanasia.

Table 2 includes descriptive statistics for the Human Development Index, GDP per capita PPP, and the Animal Protection Index overall rating for countries with and without shelter databases. Countries with a shelter database had higher values for HDI, GDP per capita PPP, and overall API rating when compared with countries without a shelter database (HDI, $t=8.49$; $df=44.45$; $P<0.0001$; GDP, $t=7.81$; $df=17.73$; $P<0.0001$; API, $t=2.80$; $df=13.49$; $P<0.02$).

Table 2. Comparison of countries with and without a database for animal shelter statistics. Descriptive statistics are mean \pm SD (range).

Variables	Countries with a shelter database (n = 9)	Countries without a shelter database (n = 41)
Human Development Index (HDI)	0.93 \pm 0.02 (0.90-0.96)	0.75 \pm 0.13 (0.39 - 0.94)
GDP, per capita, PPP	54,487 \pm 10,353 (42,185 - 73,114)	21,167 \pm 16,085 (1,277 - 59,469)
Animal Protection Index (API) ¹	4.78 \pm 1.09 (3 - 6)	3.61 \pm 1.30 (1 - 6)

¹API overall ratings possible ranged from G (score of 1, lowest rating) to A (score of 7; highest rating); no country received an A rating.

Discussion and Conclusions

We found that relatively few of the 50 countries examined maintain a shelter database, and databases were more typically organizational than national in nature. Additionally, databases varied widely in number of contributing shelters, length of time in existence, and metrics provided. Those countries with a shelter database have higher values for GDP per capita PPP and HDI, and a higher overall API rating than countries without a shelter database. These findings suggest that if the GDP per capita PPP and HDI of countries were to improve, animal welfare and the shelters within these countries would likely improve as more resources become available.

Based on our results, we suggest that animal shelters and shelter databases work to standardize metrics to allow broad international comparisons. Future studies could possibly expand on this research by collecting enough samples from even more countries by contacting specific shelters instead of searching for national databases. Although exploratory in nature, these data are believed to be the first to examine whether presence of a shelter database is linked to degree of development, economic measures, and an international animal protection rating. We encourage ongoing interest and support for more research on this topic.

Acknowledgements

I would like to thank Dr. Betty McGuire for working with me throughout this project and encouraging me to step out of my comfort zone. I would like to thank Kristin Ramsay and the Laidlaw Research and Leadership Scholars Program at Cornell University for giving me opportunities to pursue a research experience and learn about leadership. I would like to thank Dr. Sarah Giroux for your guidance in helping me understand measurements of human development and economics. I would also like to thank the shelter staff, government employees, and individual people who helped provide me with information on their shelters and practices.

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