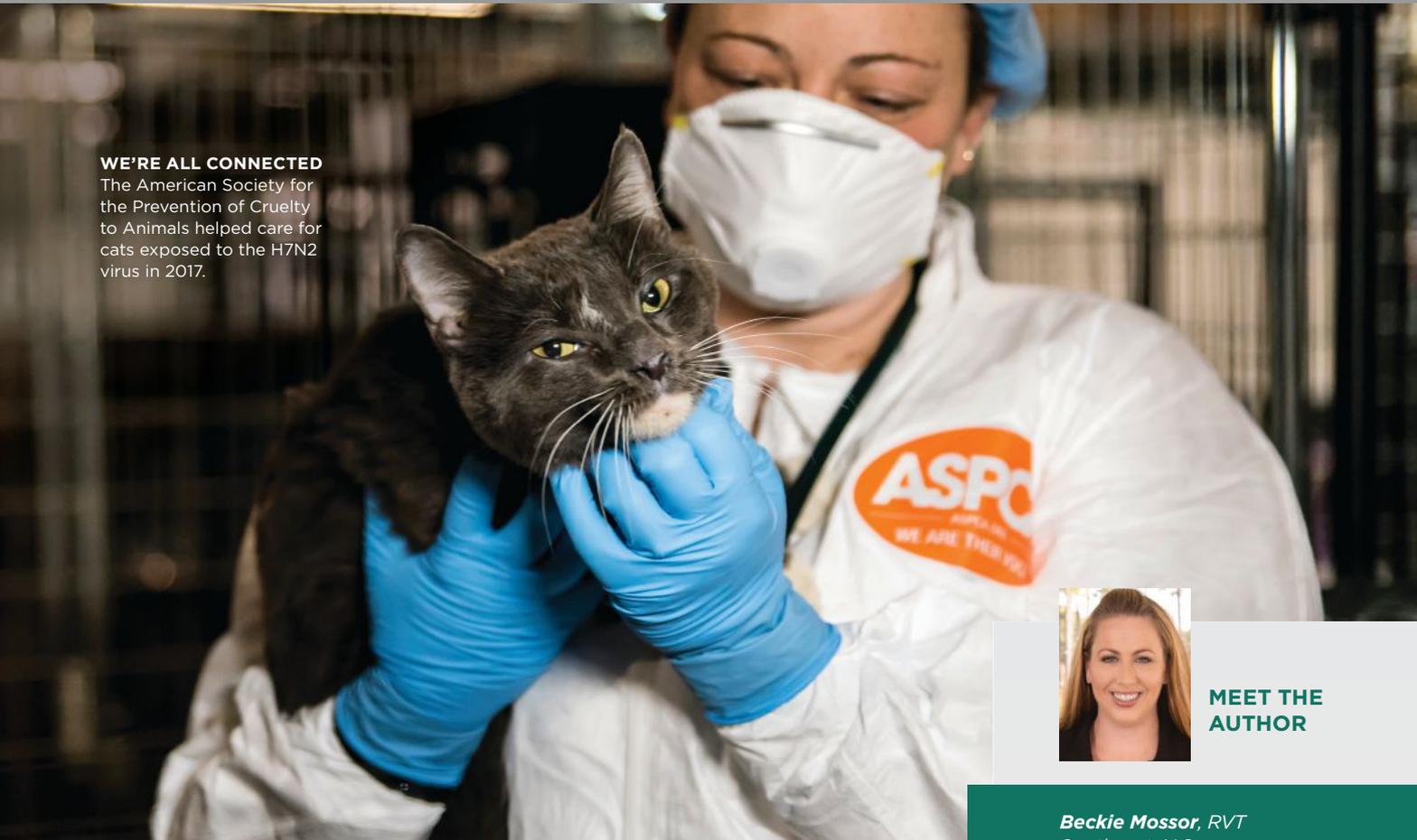




**WE'RE ALL CONNECTED**

The American Society for the Prevention of Cruelty to Animals helped care for cats exposed to the H7N2 virus in 2017.



**MEET THE AUTHOR**

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# One Health: Many Roles, Shared Goals

**If** you're a fan of the 1997 film *Men in Black*, you probably recall this line, memorably delivered by Tommy Lee Jones (Agent K) to Will Smith (Agent J): "There's always an Arquillian Battle Cruiser, or a Corillian Death Ray, or an intergalactic plague that is about to wipe out all life on this miserable little planet, and the only way these people can get on with their happy lives is that they *do not know about it!*"

Beckie graduated from Central Carolina Community College in 2007 with her AAS in veterinary medical technology and graduated from the University of North Carolina Pembroke with a bachelor's in non-profit and public administration in 2019. Beckie has enjoyed a diverse career in small animal, large animal, and mixed practices; academia; and management and consulting. Beckie co-founded Veterinary Advancement, is a professional medical responder with the ASPCA Field Investigations Response (FIR) Team, is the Volunteer Director of Operations 3K9 Working Dogs, and co-hosts the podcast *Veterinary Viewfinder*.

Courtesy ASPCA



While diseases of varying virulence affecting humans and animals may not be intergalactic plagues, they are global in scope. Like the *Men in Black* agents, health professionals around the globe are tracking and battling these diseases every day, in every corner of the world. The One Health Initiative seeks to “promote and improve” the collaboration of practitioners across all disciplines to “improve the lives of all species—human and animal—through the integration of human medicine, veterinary medicine, and environmental science.”<sup>1</sup>

In 2016, a strain of avian flu was passed from a cat in a New York City shelter to a human who was in close contact with the cat for a prolonged period.<sup>2</sup> This individual was the third to be reported to be infected with this strain of avian influenza—H7N2—in the United States. In response to this infection, over 500 shelter cats across New York were quarantined until confirmed clear of any infection. Patient Zero, a kitten named Alfred, ultimately passed from his infection.<sup>3</sup> Alfred serves as an important reminder of the role the veterinary industry plays in the One Health Initiative.

This case was unprecedented for many. The idea of such a large depopulation caused outcry for help and there were resources available to aid in saving the lives of these cats. However, amid the outbreak of COVID-19 in early 2020, the world experienced fear, slaughterhouse depopulations,<sup>4</sup> and animal abandonment in astonishing numbers across the globe.<sup>5</sup>

Scientists estimate that three-quarters of emerging infectious diseases are zoonotic, primarily of viral origin.<sup>6</sup> Though the study is dated, a 1999 survey of 327 veterinarians and 322 human physicians concluded that veterinarians encounter zoonotic diseases in their practices or discuss them with their clients more frequently than physicians.<sup>7</sup> Veterinary professionals are uniquely qualified contributors to the One Health Initiative due to their extensive experience, knowledge, and understanding of zoonotic diseases.

## THE HUMAN-ANIMAL BOND AND ONE HEALTH

At first, the One Health movement was focused solely on preventing the spread of zoonotic diseases like the H7N2 virus that claimed Alfred’s life. But by 2010, the World Small Animal Veterinary Association (WSAVA) created a One Health committee that expanded WSAVA’s mission to include

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the human-animal bond (HAB) and the health benefits people receive from companion animals.<sup>8</sup> On a personal level, no one better understands this bond better than veterinary professionals.

On a daily basis, we see the behaviors that put all of us at risk for exposure to zoonotic disease. We share sleeping spaces, food, snuggles, and kisses with our pets and patients. Clients tell us about the behaviors and practices that put them and their pets at risk for infection or transmission of disease.

We patiently explain and provide documentation against the concern for pinworm transmission from small animals when children are diagnosed in our clients’ homes, or the risk of salmonella infection from the family’s new turtle. After a pet is diagnosed with ringworm, scabies, or lice and a client points to a child’s rash, redness, or itchy skin and asks, “Could this be that, too?,” we gently recommend seeking appropriate medical care.

Many of us have experienced—either in ourselves or our colleagues—the contraction of zoonotic disease, which contributes to our understanding of the zoonotic risk on a professional level. We understand the difficulty in getting a diagnosis when infected with a zoonotic disease. In researching for this article, the individuals that were interviewed had disclosed their exposure risk to a healthcare professional—sometimes more than one—in seeking a diagnosis. All were falsely diagnosed repeatedly before getting appropriate diagnoses and treatments for their conditions.

Despite these risks, veterinary professionals possess a foundational understanding of the importance of the HAB. For as long as the profession has existed, we have witnessed the intensely therapeutic effect of humans



and their pets. All medical professionals witness loss and grief when a family member loses a loved one. But the veterinary team, pet owner, and pet are uniquely intertwined. Many veterinary professionals care for animals throughout their lifetime. Most human-care facilities are specialized in such a way that birth and death are rarely at the hands of the same individuals, but that is the experience for many veterinary professionals.

The veterinary team plays an important role in facilitating the HAB. Through our daily role in preventive care and education, veterinary professionals increase the time families have with their pets. The time taken to educate on behavior aspects can decrease instances of pet surrender and increase the pet's quality of life. Nutritional consultations can aid in healthy weight and may help prevent obesity in our patients. Studies have shown that pets increase the likeliness of individuals to exercise, reduce stress, and contribute to improvements in health marker indicators such as triglycerides and cholesterol.<sup>9</sup> When we facilitate long and healthy lives in pets, we are indirectly contributing to longer, happier, and healthier lives for the pets' families as well.

As animals are more widely used in comforting individuals in times of grief ([therapydogs.com/therapy-dogs-offer-comfort-funeral-services](https://www.therapydogs.com/therapy-dogs-offer-comfort-funeral-services)), crisis ([hopeaacr.org](https://www.hopeaacr.org)), and disasters ([rover.com/blog/service-dogs-disaster-relief](https://www.rover.com/blog/service-dogs-disaster-relief)), more human medical professionals are supporting the use of animals in a therapeutic capacity for human health. Veterinary professionals and human health professionals will require further collaboration for the benefit of health sustainability.

## THE IMPORTANCE OF EDUCATION AND COMPLIANCE

According to the American Veterinary Medical Association, an estimated 75% of emerging and re-emerging diseases “are either zoonotic (spread between humans and animals) or vector-borne (carried from infected animals to others through insects).”<sup>10</sup> A study examining serology of veterinary professionals in the United States revealed DNA from one or more species of *Bartonella* in 28% of individuals tested.<sup>11</sup> With the prevalence of disease connection to human-animal interactions and vector-borne diseases, the veterinary industry not only carries intimate knowledge and experience but they also hold a personal investment

in the prevention of disease transmission. They also know the importance of prevention, recognition, diagnosis, and treatment of these conditions in humans.

Educating our clients and placing an emphasis on compliance with parasite prevention must be a vital part of the One Health Initiative. Each member of the veterinary team has a role in client education and compliance with parasite prevention for pets under their care in the clinic and at home. Consistent clinic messaging is essential to preventing confusion for clients and detracting from the importance of prevention compliance. Given the severity of infections and the life-long presence of many vector-borne conditions, parasite prevention is one of the most crucial contributions made by the veterinary industry in sustaining public health.

## ENVIRONMENTAL CONSIDERATIONS

Veterinary professionals may not immediately recognize their role in environmental health through their work in the veterinary industry, but as is the case with all elements of the One Health Initiative, there is an important contribution from every health and science discipline. For every environmental issue we face as a human race, veterinary professionals can find a connection to animals.

There are multiple examples. While the human-health industry battles nicotine addiction, the veterinary industry works to alert clients to the dangers of exposing pets to secondhand smoke.<sup>12</sup> As recreational marijuana use increases, the concerns for companion animal consumption increases as well.<sup>13</sup> A recently released book, *The Clean Pet Food Revolution: How Better Pet Food Will Change the World*, explores alternate sources of protein for pets in response to the significant consumption of animal proteins by pets in the United States and the related environmental impacts.<sup>14</sup>

Veterinary professionals likely participate in more education related to environmental hazards and concerns than they realize. Veterinary professionals educate owners about potential environmental hazards such as disease transmission in water runoff, communicate disaster preparedness guidelines to owners to ensure their pets will be safe, and serve an ever-increasing role in meeting the needs of injured wildlife and domestic animals affected by natural disasters.

When all scientific and medical disciplines communicate, share knowledge, and exchange concerns, we expand our ability to prevent and treat infections. Most medical professionals, for all species and of all disciplines, would agree that prevention, then early detection and treatment, is the best-case scenario for any disease or illness.

Like the *Men in Black* agents monitoring and policing alien activity on planet Earth, veterinary professionals are on the front lines of the battle to protect against zoonotic diseases and to strengthen the bond between animals and their human owners. Every vaccine given, preventive dispensed, moment of care given to pets, and hug given to clients is part of the growing One Health movement toward the recognized importance and preservation of every species on the planet. **TVN**

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