



Training Playbook: Reducing Infectious Disease in Transport Programs

Introduction

For many shelters, animal transport is vital to their current lifesaving efforts. While we know that sustained transport should not be the long-term solution, in the short term, it provides a much-needed release valve for overcrowded, high-intake shelters so that they have the time and space to develop longer-term strategies for their communities. Many of these high-intake shelters, though, are in areas where infectious disease is a constant threat and may be endemic in the community or region. This playbook addresses strategies that both sending and receiving shelters can employ to reduce the risk of infectious disease spread during animal relocation.

Before transport

During transport planning, careful selection of the animals for transport can reduce the risk of disease spread. When possible, animals on a single transport vehicle should originate from a single source shelter. While economically they may have a higher cost-per-animal, smaller transports with fewer animals will reduce the risk of disease spread by reducing the potential exposure if an animal on the transport is contagious. The economic benefit of larger transports must be weighed against the risk of treating higher numbers of animals for potential exposure to infectious disease.

For shelters with high incidence of infectious disease, the riskiest place that an animal can be is in the actual shelter. For this reason, we do not routinely recommend intake quarantines. The same idea applies when we're looking at strategies to reduce disease during transport. One notable exception would be quarantine prior to transport that takes place in foster care, outside of the high-risk shelter setting. Receiving groups can request a foster quarantine prior to transport. This period will allow any animals who have been previously exposed to disease the opportunity to demonstrate clinical signs, and then they can be held back from the transport.

The quarantine period will depend on the infectious disease(s) of concern and should match the common incubation period (the period of time from exposure until an animal starts showing clinical signs). For distemper, this period is usually 14 days. For parvo, it is commonly seven days or less, but it can be as long as 14 days. Based on this, a 14-day foster quarantine is the most common choice if this strategy is implemented in high-risk shelters.

Additional strategies to reduce the disease risk on transport are aligned with general strategies to reduce disease in the shelter. Those strategies include:

- Vaccination using a modified live vaccine immediately upon intake and stringently followed by a booster vaccine two weeks later gives the greatest opportunity for individual animals to develop immunity.
- Fast-tracking the most vulnerable animals out of the shelter environment (through adoption or fostering) will reduce their risk of disease. Even after

multiple vaccines, puppies and kittens have variable immunity, due to the presence of maternal antibodies that can interfere with vaccination, and so we cannot consider them reliably protected until after 4-5 months of age.

- Reducing animal movement in the shelter will reduce potential disease exposure and reduce stress, which can also increase the risk of disease.
- The use of personal protective equipment (PPE) in the shelter is necessary to reduce in-shelter transmission of disease. For high-risk environments, this means using extensive PPE (gown or coveralls, shoe covers, gloves) with every animal. In lower-risk settings, the use of PPE is still recommended for higher-risk individuals (puppies and kittens, nursing moms).

For more information, see the Best Friends operational playbook called [Disease Control: The Role of Sanitation](#).

On the transport vehicle

Generally accepted standard practices during transport and continuing basic biosecurity while on transport will reduce disease spread. Using hard-sided airline crates (rather than wire kennels) will reduce airborne spread of disease and will contain any urine or feces. Covering kennels with cloth sheets may also reduce airborne spread of disease, but adequate ventilation must be ensured.

During loading, transport, walking and unloading, stringent PPE protocols are recommended, particularly if animals from multiple shelters are on a single transport. At a minimum, PPE and biosecurity must be used for high-risk animals (young animals). After walks or overnight stays, animals should be put back into the same kennel, or kennels can be thoroughly cleaned and disinfected before loading a new animal.

After arrival

It is imperative that receiving organizations have been educated about the risk of infectious disease and about which infectious diseases are of concern for a particular sending shelter. Generally, the common diseases encountered in southern shelters are canine parvo, canine distemper, canine upper respiratory disease (“kennel cough”) and feline panleukopenia.

If animals were not quarantined in foster care prior to transport, it is prudent for the receiving organization to consider quarantine in foster care after arrival. If it is possible to avoid having animals even enter the building (by scheduling foster pick-up directly from the transport vehicle), that is preferred, to avoid exposing the entire shelter to the new, potentially infected animals.

If foster quarantine is not possible, new arrivals should be housed together and as separate as possible from the general population (in a separate building or in a

designated section). While these animals should be available for public viewing and an adoption or rescue outcome, continued use of general biosecurity measures (PPE, limiting movement) is recommended. Staff should be educated specifically on the risk of infectious disease and what clinical signs to monitor for.

What to do if you identify disease

If infectious disease is identified, a series of steps can limit further transmission within the shelter population. The specific approach will depend on the resources and facilities available to the organization. If disease is identified, it is prudent to reach out to experts for assistance and specific guidance. Here are some resources:

- You can reach out to your Best Friends [regional strategist, regional director](#), or the national shelter support team at team2025@bestfriends.org.
- [This webpage from Maddie's Shelter Medicine Program](#) contains links to a variety of documents, including information on outbreak management, and a link to request a consultation for a specific outbreak.
- The [School of Veterinary Medicine at the University of Wisconsin–Madison](#) offers assistance to agencies facing a potential disease outbreak.
- General strategies to address a potential outbreak are discussed in detail in this resource from the University of Florida: [Management of Disease Outbreaks in Shelters](#).

It is important to communicate to all affected parties that disease was identified; this includes the sending shelter and any other organizations involved in the transport. This ensures that other receiving partners who accepted animals from the transport (animals who were potentially exposed during transport) are aware of the risk of disease and can stay vigilant and protect their population.

Program examples

Partnership for vaccination on intake

For one shelter in the South (which we'll call Shelter A), intake vaccination was a struggle, and for many reasons. The shelter budget was limited and increases were difficult due to the required approval process. While shelter leadership understood the value of vaccinating on intake, acquiring the approval for those resources was difficult. And, as in many shelters, the number of staff was limited.

Shelter B is located much farther north and had occasionally taken transports from Shelter A and other similar shelters. However, after experiencing a distemper outbreak that originated from one of these transports, Shelter B had become reluctant to receive

dogs. Shelter B does recognize that transports are vital for lifesaving and wants to continue to help, though not at the risk of its own population.

So, Shelter B looked at intake data for Shelter A and determined how much it would cost to purchase vaccines so that all of Shelter A's dogs and cats could be vaccinated on intake. Shelter B agreed to provide these vaccines for an initial six-month period. Shelter B's staff also provided mentorship and resources and helped to train and educate Shelter A staff on both the why and how of vaccinating on intake. In addition, Shelter B provided support to ensure that Shelter A had a system in place to give timely booster vaccinations.

As a result of this vaccine partnership, the general health of the animals at Shelter A improved and less infectious disease occurred in the shelter population. Not only did transports from Shelter A to Shelter B continue, but other transport partners agreed to receive animals, now that the risk of infectious disease was lower.

Distemper mitigation

Canine distemper is endemic in Shelter C's community. The shelter has improved internal operations dramatically and reduced in-shelter transmission to negligible amounts, but that doesn't stop isolated cases from coming in from the community. Eventually, targeted community vaccination campaigns will aim to stop the disease at its source, but for now the shelter must focus on its own population. Transport is vital for finding live outcomes for dogs.

Shelter C uses many strategies to prevent disease spread in the shelter and disease on transport. For risk-averse partners, dogs are quarantined in foster care for two weeks prior to transport. In some instances, when the receiving partner agrees to cover the cost, Shelter C will run distemper testing on dogs before transport; a negative test result is needed prior to loading. The logistics and staff time needed to facilitate this are not insignificant, and in large transports, it's a barrier. However, for receiving organizations that lack resources to deal with infectious disease, this is the only strategy that allows them to take dogs. For the moment, the extra labor required is worth it for Shelter C to be able to take advantage of those transfer outcomes.

This strategy, though, doesn't completely eliminate the risk because distemper can have a long incubation period and a test is done at a single point in time. If a dog was exposed while visiting the shelter for the testing appointment, that test would come back negative, but that dog would still be contagious 10-14 days later. As with all mitigation strategies, however, implementation of each additional measure serves to decrease the risk. While transport (and all of animal sheltering) will never be free of disease risk, we can work to mitigate risk as much as possible in our efforts to save more lives.