



DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Notice of Extension and Modification of Temporary Suspension of Dogs Entering the United States from High-Risk Rabies Countries

AGENCY: Centers for Disease Control and Prevention (CDC),
Department of Health and Human Services (HHS).

ACTION: Notice.

SUMMARY: The Centers for Disease Control and Prevention (CDC), within the Department of Health and Human Services (HHS), announces an extension and modification of the current temporary suspension of the importation into the United States of dogs from high-risk rabies-enzootic countries (high-risk countries). This suspension includes dogs that have been in any high-risk countries during the previous six months.

DATES: The extension and modification of the temporary suspension of the importation of dogs into the United States from high-risk rabies countries will be implemented on June 10, 2022 and will remain in effect through January 31, 2023.

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Disease Control and Prevention, 1600 Clifton Road NE, MS V-18-2, Atlanta, GA 30329. Telephone: 1-800-232-4636.

SUPPLEMENTARY INFORMATION:

While CDC is modifying the terms of the suspension to allow more dog importations, a suspension remains necessary to protect the public's health against the reintroduction of the canine rabies virus variant (CRVV) into the United States. This extension and modification is based on various factors, including: the threat that unvaccinated or inadequately vaccinated dogs from high-risk countries continue to pose; insufficient veterinary controls in place in high-risk countries to prevent the export of inadequately vaccinated dogs; and ongoing limited availability of public health resources at the Federal, State, and local levels, particularly in the global context of the coronavirus disease 2019 (COVID-19) pandemic. CDC anticipates that these factors are likely to continue into 2023.

I. Background and Authority

Rabies, one of the deadliest zoonotic diseases, accounts for an estimated 59,000 human deaths globally each year.¹ This equates to one human death every nine minutes.² CRVV is responsible for 98 percent of these deaths.² The rabies virus can infect any mammal, and once clinical signs appear, the disease

¹World Health Organization (2018). *WHO Expert Consultation on Rabies* (WHO Technical Report Series 1012). Retrieved from <https://www.who.int/publications/i/item/WHO-TRS-1012>.

²World Health Organization (2018). *WHO Expert Consultation on Rabies* (WHO Technical Report Series 1012). Retrieved from <https://www.who.int/publications/i/item/WHO-TRS-1012>.

is almost always fatal.³ In September 2007, at the Inaugural World Rabies Day Symposium, CDC declared the United States to be free of CRVV.⁴ However, this rabies virus variant is still a serious public health threat in the more than 100 countries where CRVV remains enzootic. Preventing the entry of animals infected with CRVV into the United States is a public health priority.

CDC subject matter experts review publicly available data and conduct an annual assessment to determine high-risk countries. This assessment considers the following factors: presence or prevalence of domestically acquired cases of CRVV in humans and animals; efforts towards control of CRVV in dogs (such as dog vaccination coverage, dog population management, and existence and enforcement of legal codes to limit rabies transmission in dogs); and the quality of rabies surveillance systems and laboratory capacity. If data are not available, the most conservative determination is applied, and the country is not considered to have a robust control program. If a country has provided additional substantial data to support a CRVV-free status, CDC can review that information and re-assess the country's status.

Under section 361 of the Public Health Service Act (PHS Act) (42 U.S.C. 264), the Secretary of Health and Human Services

³Fooks, A. R., Banyard, A.C., Horton, D.L., Johnson, N., McElhinney, L.M., and Jackson, A.C. (2014) Current status of rabies and prospects for elimination. *Lancet*, 384(9951), 1389-1399. doi: 10.1016/S0140-6736(13)62707-5.

⁴Velasco-Villa, A., Mauldin, M., Shi, M., Escobar, L., Gallardo-Romero, N., Damon, I., Emerson, G. (2017) The history of rabies in the Western Hemisphere. *Antiviral Res*, 146, 221-232. doi:10.1016/j.antiviral.2017.03.013.

may make and enforce such regulations as in the Secretary's judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the United States and from one state or possession into any other state or possession.⁵ Such regulations may provide for inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be sources of dangerous infection to human beings, and other measures. Under section 362 of the PHS Act (42 U.S.C. 265), the Secretary, and by delegation the Director of CDC (CDC Director),⁶ may prohibit entries and imports from foreign countries into the United States "in whole or in part" if there is a serious risk of introducing communicable disease and when required in the interest of public health.

Under 42 CFR 71.51, all dogs admitted into the United States must be accompanied by a valid rabies vaccination certificate,⁷ unless the dogs' owner or importer submits satisfactory evidence that dogs under six months of age have not been in a high-risk country or dogs older than six months have not been in a high-risk country for the six months before

⁵Although the statute assigns authority to the Surgeon General, all statutory powers and functions of the Surgeon General were transferred to the Secretary of HHS in 1966, 31 Fed. Reg. 8855, 80 Stat. 1610 (June 25, 1966), see also Pub. L. No. 96-88, § 509(b), October 17, 1979, 93 Stat. 695 (codified at 20 U.S.C. 3508(b)). The Secretary has retained these authorities despite the reestablishment of the Office of the Surgeon General in 1987.

⁶See 42 CFR 71.51(e), 71.63.

⁷Centers for Disease Control and Prevention (2022). What is a valid rabies vaccination certificate? Retrieved from <https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/vaccine-certificate.html>.

arrival.⁸ CDC maintains a publicly available list of high-risk countries⁹ and provides guidance for dog entry requirements based on the dog's country of import.

Under 42 CFR 71.51(e), dogs may be subject to "additional requirements as may be deemed necessary" or "to exclusion if coming from areas which the [CDC] Director has determined to have high rates of rabies." Based on the previously described criteria, CDC determined that high-risk countries constitute areas that have high rates of rabies and dogs imported from these countries are thus subject to additional requirements and/or exclusion.

Under 42 CFR 71.63, CDC may also temporarily suspend the entry of animals, articles, or things from designated foreign countries and places into the United States when it determines there exists in a foreign country a communicable disease that threatens the public health of the United States and the entry of imports from that country increases the risk that the communicable disease may be introduced. When such a suspension is issued, CDC designates the period of time or conditions under which imports into the United States are suspended. CDC likewise determined that CRVV exists in high-risk countries and that, if

⁸Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84, 724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

⁹Centers for Disease Control and Prevention (2022). What is a valid rabies vaccination certificate? Retrieved from <https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/rabies-vaccine.html>.

reintroduced into the United States, CRVV would threaten the public health of the United States.

Based on these legal authorities and determinations, on June 16, 2021,¹⁰ CDC announced a temporary suspension of the importation of dogs from high-risk countries into the United States (86 FR 32041) (the temporary suspension). The temporary suspension went into effect on July 14, 2021. CDC issued the temporary suspension to protect the public health against the reintroduction of CRVV into the United States at a time when resources were being diverted to the agency-wide response to the COVID-19 pandemic.

At the time the temporary suspension was issued, CDC noted an increase in importers circumventing dog import regulations. Between January 1 and July 14, 2021, CDC documented more than 560 dogs arriving from high-risk countries with incomplete, inadequate, or fraudulent rabies vaccination certificates, resulting in the denial of entry for the dogs and subsequent return to their country of departure. This represented a 33 percent increase compared to all of 2020. Despite a decrease in international travel volumes due to the global COVID-19 pandemic, there was a 52 percent increase in dogs ineligible for entry in 2020 as compared to 2018 and 2019. Additionally, four rabid dogs were imported into the United States between 2015 and 2021.

¹⁰Temporary Suspension of Dogs Entering the United States from High-Risk Rabies Countries. *Federal Register*, 86 FR 32041, June 16, 2021.

The limited availability of public health resources due to the unprecedented global response to the COVID-19 pandemic resulted in reduced capacity at the Federal, State, and local levels to address the increased risk of the reintroduction of CRVV. For these reasons, CDC implemented a temporary suspension prohibiting the importation of dogs from high-risk countries for rabies in July 2021.

CDC implemented a *CDC Dog Import Permit*¹¹ [(OMB Control Number 0920-0134 Foreign Quarantine Regulations (exp. 06/30/2022), or as revised] during the temporary suspension to verify the documentation of imported dogs before they are flown to the United States. Eligibility to import dogs during the temporary suspension was limited to people relocating to the United States with their personal pets, service dog owners, United States Government or foreign Government employees traveling on official orders with their personal pets, and importers of dogs for science, education, exhibition, or bona fide law enforcement purposes.

Since the temporary suspension went into effect in July 2021, CDC has used its enforcement discretion to reduce the burden on eligible importers. Per the *Federal Register* notice announcing the temporary suspension, importers are required to enter the United States at a port of entry with a live animal facility with a Facilities Information and Resource Management System (FIRMS) code issued by U.S. Customs and Border Protection

¹¹ <https://www.cdc.gov/dogpermit>.

(CBP). At the time the *Federal Register* notice was published, there was one animal facility. However, from the beginning of the temporary suspension, CDC used its enforcement discretion to expand the list of the approved ports of entry to include 18 airports with a CDC quarantine station. CDC planned to narrow the list of approved ports of entry to only those with an animal facility on October 31, 2021, which would have been three ports of entry at that time. However, after considering the reduction in the number of dogs abandoned by their importers and the number of dogs arriving sick or dead at the 18 airports between the time the temporary suspension went into effect (July 14, 2021) and December 1, 2021, CDC determined that the 18 airports could continue serving as approved ports of entry through the remainder of the suspension.

On December 1, 2021, following an evaluation of the latest scientific information on rabies serologic titer test results, CDC reduced the waiting period requirement, which is the number of days between when a dog's sample is taken for a serologic titer test and when the dog can be imported into the United States, from 90 days to 45 days.

Lastly, effective December 1, 2021, CDC has allowed importers whose dog is at least six months old, has a microchip, and a valid U.S.-issued rabies vaccination certificate to enter the United States without a *CDC Dog Import Permit* at one of the 18 airports with a CDC quarantine station provided the dog appears healthy upon arrival. CDC made this change because of

the reliability of the United States' rabies vaccine supply and to ease the burden on these importers.

At this time, CDC is extending and modifying the temporary suspension due to the continued risk for the reintroduction of CRVV into the United States and the ongoing need to commit public health resources towards the COVID-19 pandemic. Based on improvements in CDC's ability to track and monitor dog imports from high-risk countries, and the significant decrease in the dog importation issues that existed prior to the suspension, CDC is modifying the terms of the temporary suspension to allow for more dog imports from a wider range of importers.

II. Public Health Rationale

A. Dog Importation into the United States

The United States was declared CRVV-free in 2007. Importing dogs from high-risk countries involves a significant public health risk. The importation of just one dog infected with CRVV risks re-introduction of the virus into the United States, resulting in a potential public health risk with consequent monetary cost and potential loss of human and animal life.^{12,13,14} CRVV has been highly successful at adapting to new host species,

¹²World Bank (2012). People, Pathogens and Our Planet: The Economics of One Health. Retrieved from <https://openknowledge.worldbank.org/handle/10986/11892>.

¹³Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C., Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *Morbidity and Mortality Weekly Report*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

¹⁴Jeon, S., Cleaton, J., Meltzer, M., Kahn, E., Pieracci, E., Blanton, J., Wallace, R. (2019). Determining the post-elimination level of vaccination needed to prevent re-establishment of dog rabies. *PLoS Neglected Tropical Diseases*, 13(12). <https://doi.org/10.1371/journal.pntd.0007869>.

particularly wildlife.¹⁵ One CRVV-infected dog could result in transmission to humans, domestic pets, or wildlife. In 2019, the importation of a single dog with rabies cost more than \$400,000 for the public health investigations and rabies post-exposure prophylaxis (PEP) of exposed persons.^{16,17} To mitigate the risk of importing dogs with CRVV, CDC requires compliance with its public health entry requirements.

Although the U.S. Government does not track the total number of dogs imported each year, it is estimated that approximately 1 million dogs are imported into the United States annually, of which 100,000 dogs are from high-risk countries.¹⁸ This estimate was based on information provided by airlines, the Department of Homeland Security's Customs and Border Protection (CBP) staff, and a study conducted at a U.S.-Mexico land border crossing.¹⁹

CBP does record, by country, the number of dogs imported with formal entry under Harmonized Tariff Schedule (HTS) code

¹⁵Velasco-Villa, A., Mauldin, M., Shi, M., Escobar, L., Gallardo-Romero, N., Damon, I., Emerson, G. (2017). The history of rabies in the Western Hemisphere. *Antiviral Research*, 146, 221-232. doi:10.1016/j.antiviral.2017.03.013.

¹⁶Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C., Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *Morbidity and Mortality Weekly Report*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

¹⁷Centers for Disease Control and Prevention (2022). Rabies Postexposure Prophylaxis. Retrieved from https://www.cdc.gov/rabies/medical_care/index.html.

¹⁸Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

¹⁹McQuiston, J.H., Wilson, T., Harris, S., Bacon, R.M., Shapiro, S., Trevino, J., Marano, N. (2008.) Importation of dogs into the United States: risks from rabies and other zoonotic diseases. *Zoonoses Public Health*, 55(8-10), 421-6. doi:10.1111/j.1863-2378.2008.01117.

0106199120 and HTS description: Other live animals, other, dogs. The total number of dogs imported into the United States from all countries under this HTS category varied from 25,232 in 2018 to 58,540 in 2020. The number of dogs from high-risk countries under this HTS category averaged 16,390 per year and varied from 9,966 to 24,031 over this three-year period. The number of dogs reported under this HTS category does not include dogs imported as checked baggage, hand-carried in airplane cabins, or crossing at land borders without formal entry. Thus, the number underestimates the true number of dogs imported into the United States.

Since 2015, there have been four known rabid dogs imported into the United States. All four dogs were imported by rescue organizations for the purposes of adoption. These four cases, discussed below, highlight the immense public health resources required to investigate, respond to, and mitigate the public health threat posed by the importation.

In 2015, a rabid dog was part of a group of eight dogs and 27 cats imported from Egypt by a rescue group. The dog had an unhealed leg fracture and began showing signs of rabies four days after arrival. Following the rabies diagnosis, the rescue workers in Egypt admitted that the dog's rabies vaccination certificate had been intentionally falsified to evade CDC entry requirements.²⁰ Eighteen people were recommended to receive

²⁰Sinclair J., Wallace, R., Gruszynski K., Bibbs Freeman, M., Campbell, C., Semple, S., Murphy, J. (2015). Rabies in a dog imported from Egypt with a

rabies PEP, seven dogs underwent a six-month quarantine, and eight additional dogs housed in the same home as the rabid dog had to receive rabies booster vaccinations and undergo a 45-day monitoring period.

In 2017, a “flight parent” (a person typically solicited through social media, often not affiliated with the rescue organization, and usually compensated with an airline ticket) imported four dogs on behalf of a rescue organization. One of the dogs appeared agitated at the airport and bit the flight parent prior to the flight. A U.S. veterinarian examined the dog one day after its arrival and then euthanized and tested the dog for rabies. A post-mortem rabies test showed that the dog was positive for the virus. Public health officials recommended that at least four people receive rabies PEP, and the remaining three dogs underwent quarantine periods ranging from 30 days to six months. An investigation revealed the possibility of falsified rabies vaccination documentation presented on entry to the United States.²¹

In 2019, a rescue group imported 26 dogs, all of which had rabies vaccination certificates and serologic documentation, indicating the development of rabies antibodies (in response to immunization), based on results from an Egyptian Government-affiliated rabies laboratory. However, one dog developed signs

falsified rabies vaccination certificate—Virginia. *Morbidity and Mortality Weekly Report*, 64, 1359–62. doi:10.15585/mmwr.mm6449a2.

²¹Hercules, Y., Bryant, N., Wallace, R., Nelson, R., Palumbo, G., Williams, J., Brown, C. (2018). Rabies in a dog imported from Egypt—Connecticut, 2017. *Morbidity and Mortality Weekly Report* 67, 1388–91. doi:10.15585/mmwr.mm6750a3.

of rabies three weeks after arrival and had to be euthanized. The dog tested positive for rabies. Forty-four people received PEP, and the 25 dogs imported on the same flight underwent re-vaccination and quarantines of four to six months. An additional 12 dogs had contact with the rabid dog and had to be re-vaccinated and undergo quarantine periods ranging from 45 days to six months based on their previous vaccination status.²²

On June 10, 2021, shortly before CDC published the temporary suspension, 33 dogs were imported into the United States from Azerbaijan by a rescue organization. All dogs had rabies vaccination certificates that appeared valid upon arrival in the United States. One dog developed signs of rabies three days after arrival and was euthanized. CDC confirmed the dog was infected with a variant of CRVV known to circulate in the Caucasus Mountain region of Azerbaijan. The remaining rescue animals exposed to the rabid dog during travel were dispersed across nine states, leading to what is believed to be the largest, multi-state, imported rabid dog investigation in U.S. history.²³

Eighteen people received PEP to prevent rabies as a result of exposure to this one rabid dog. Post serologic monitoring and the public health investigation revealed that improper vaccination practices by the veterinarian in Azerbaijan likely contributed to the inadequate vaccination response documented in

²²Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C., Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *Morbidity and Mortality Weekly Report*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

²³Whitehill F, Bonaparte S, Hartloge C, et al. Rabies in a Dog Imported from Azerbaijan- Pennsylvania, 2021. *MMWR Morb Mortal Wkly Rep* 2022; 71: 686-689.

48 percent of the imported animals, including the rabid dog.²⁴ The 33 exposed animals were placed in quarantines ranging from 45 days to six months based on individual serologic titer test results and local jurisdictional requirements.²⁵

CDC estimates costs for public health investigations and subsequent cost of care for people exposed to rabid dogs range from \$220,897 to \$521,828 per importation event, as summarized in the Appendix found at the end of this notice.^{26,27} This cost estimate does not account for the worst-case outcomes, which include: 1) transmission of rabies to a person who dies from the disease and 2) ongoing transmission to other domestic and wildlife species in the United States. A previous campaign to eliminate domestic dog-coyote rabies virus variant jointly with gray fox (Texas fox) rabies virus variant in Texas over the period from 1995 through 2003 cost \$34 million,^{28,29} or \$48

²⁴Centers for Disease Control and Prevention (2021). CDC responds to a case of rabies in an imported dog. Retrieved from <https://www.cdc.gov/worldrabiesday/disease-detectives/rabies-imported-dog.html>.

²⁵Whitehill F, Bonaparte S, Hartloge C, et al. Rabies in a Dog Imported from Azerbaijan- Pennsylvania, 2021. *MMWR Morb Mortal Wkly Rep* 2022; 71: 686-689.

²⁶Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C., Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *MMWR Morb Mort Wkly Rep*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>

²⁷Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

²⁸Thomas, S., Wilson, P., Moore, G., Oertli, E., Hicks, B., Rohde, R., Johnston, D. (2005). Evaluation of oral rabies vaccination programs for control of rabies epizootics in coyotes and gray foxes: 1995-2003. *Journal of the American Veterinary Medicine Association*, 227(5),785-92. doi: 10.2460/javma.2005.227.785.

²⁹Sterner, R., Meltzer, M., Shwiff, S., Slate, D. (2009). Tactics and Economics of Wildlife Oral Rabies Vaccination, Canada and the United States. *Emerging Infectious Diseases*, 15(8), 1176-1184. doi: 10.3201/eid1508.081061

million in 2020 U.S. dollars. Re-establishment of CRVV into the United States could result in costly efforts over several years to again eliminate the virus.

B. COVID-19 Response Activities

Since January 2020, public health resources globally have been dedicated to responding to COVID-19 response activities. This context caused a lapse in canine rabies vaccination efforts in high-risk countries.^{30,31} In the United States, the public health response to combatting the emergence of SARS-CoV-2 variants such as Delta and Omicron have required sustained Federal, State, and local public health resources.

The importation of a rabid dog on June 10, 2021, diverted public health resources from CDC, the U.S. Department of Agriculture (USDA), and nine states away from critical COVID-19 response activities. Any increase in the number of dogs with inadequate or falsified rabies vaccination certificates arriving in the United States increases the likelihood of a CRVV-importation event and threatens the diversion of critical public health resources.³²

³⁰Kunkel, A., Jeon, S., Joseph, H., Dilius, P., Crowdis, K., Meltzer, M., Wallace, R. (2021). The urgency of resuming disrupted dog rabies vaccination campaigns: a modeling and cost-effectiveness analysis. *Scientific Reports*, 11, 12476. doi:10.1038/s41598-021-92067-5.

³¹Raynor, B., Díaz, E., Shinnick, J., Zegarra, E., Monroy, Y., Mena, C.,... Castillo-Neyra, R. (2021). The impact of the COVID-19 pandemic on rabies reemergence in Latin America: The case of Arequipa, Peru. *PLoS Neglected Tropical Diseases*, 15(5), e0009414. doi:10.1371/journal.pntd.0009414.

³²Pieracci, E., Williams, C., Wallace, R., Kalapura, C., Brown, C. U.S. dog importations during the COVID-19 pandemic: Do we have an erupting problem? *PLoS ONE*, 16(9), e0254287. doi: 10.1371/journal.pone.0254287.

C. Insufficient Veterinary Controls in High-Risk Countries to Prevent the Export of Inadequately Vaccinated Dogs

Historically, approximately 60 to 70 percent of CDC's dog entry denials (or about 200 cases annually) have been based on fraudulent, incomplete, or inaccurate paperwork.³³ This number is less than one percent of dog importations. However, between January and December 2020 (i.e., during the COVID-19 pandemic), CDC documented more than 450 instances of incomplete, inadequate, or fraudulent rabies vaccination certificates for dogs arriving from high-risk countries. This number increased for the first six months of 2021, during which time CDC documented more than 550 instances of incomplete, inadequate, or fraudulent rabies vaccination certificates for dogs arriving from high-risk countries.³⁴ These cases resulted in dogs being denied entry into the United States and ultimately returned to their country of origin. Additionally, because of fewer international flights worldwide, several dogs were denied entry and subsequently placed in conditions later found to be unsafe.

During the COVID-19 pandemic, canine rabies vaccination campaigns were suspended in many high-risk countries, which

³³Centers for Disease Control and Prevention (2021). Quarantine Activity Reporting System (version 4.9.8.8.2.2A). Dog Importation data, 2010-2019. Accessed 15 February 2021.

³⁴Pieracci, E., Williams, C., Wallace, R., Kalapura, C., Brown, C. U.S. dog importations during the COVID-19 pandemic: Do we have an erupting problem? *PLoS ONE*, 16(9), e0254287. doi: 10.1371/journal.pone.0254287.

resulted in an increase in canine and human rabies cases.^{35,36} The pause in canine vaccination campaigns, combined with insufficient veterinary controls in place to prevent the exportation of inadequately vaccinated dogs with fraudulent rabies vaccination certificates, presents a significant public health risk.

D. Potentially Unsafe Conditions for Dogs Arriving from High-Risk Countries Without Appropriate Rabies Vaccination Certificates

Prior to the implementation of the suspension, dogs arriving from high-risk countries without appropriate rabies vaccination certificates were denied entry and returned to the country of origin on the next available flight.³⁷ Airlines were required to house dogs awaiting return to their country of origin at a facility, preferably a live animal care facility with an active custodial bond and a Facilities Information and Resource Management System (FIRMS) code issued by CBP, which meets the USDA's Animal Welfare Act standards. If a live animal care facility with a CBP-issued FIRMS code was not available,

³⁵The urgency of resuming disrupted dog rabies vaccination campaigns: a modeling and cost-effectiveness analysis. *Scientific Reports*, 11, 12476. doi:10.1038/s41598-021-92067-5.

³⁶The urgency of resuming disrupted dog rabies vaccination campaigns: a modeling and cost-effectiveness analysis. *Scientific Reports*, 11, 12476. doi:10.1038/s41598-021-92067-5.

³⁷Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84, 724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

the airline was required, at a minimum, to provide accommodation meeting the USDA's Animal Welfare Act standards.³⁸

Some airlines housed dogs in cargo warehouses that created an unsafe environment for dogs due to the prolonged periods of time between flights, inadequate cooling and heating, poor cleaning and sanitization of crates, and inability to physically separate the animals from areas of the warehouse where other equipment, machinery, and goods are used and stored. Cargo warehouse staff who are not trained to house, clean, and care for live animals with appropriate personal protective equipment were at risk of bites, scratches, and exposures to potentially infectious bodily fluids from dogs left in cargo warehouses.

During 2020, due to the COVID-19 pandemic, there were fewer international flights worldwide,^{39,40} resulting in delayed returns for dogs denied entry. While international flights in 2021-2022 increased compared to 2020, the number of flights remain below pre-pandemic levels with uncertainty regarding how quickly international passenger traffic will recover.⁴¹ In August 2020, a

³⁸U.S. Department of Agriculture (2020). Animal Welfare Regulations; Part 3, Subpart A: Transportation Standards. Sections 3.14-3.20. Retrieved from https://www.aphis.usda.gov/animal_welfare/downloads/AC_BlueBook_AWA_508_comp_version.pdf.

³⁹Josephs, L. (2020). American Airlines cutting international summer schedule by 60% as coronavirus drives down demand. *CNBC*. Retrieved from <https://www.cnbc.com/2020/04/02/coronavirus-update-american-airlines-cuts-summer-international-flights-by-60percent-as-demand-suffers.html>.

⁴⁰American Airlines (2020). American Airlines announces additional schedule changes in response to customer demand related to COVID-19. *American Airlines Newsroom*. Retrieved from <https://news.aa.com/news/news-details/2020/American-Airlines-Announces-Additional-Schedule-Changes-in-Response-to-Customer-Demand-Related-to-COVID-19-031420-OPS-DIS-03/default.aspx>.

⁴¹International Civil Aviation Organization (2022). Effects of novel coronavirus (COVID-19) on civil aviation: economic impact analysis. Retrieved from https://www.icao.int/sustainability/Documents/Covid-19/ICAO_coronavirus_Econ_Impact.pdf.

dog denied entry based on falsified rabies vaccination certificates later died while in the custody of an airline at Chicago O'Hare International Airport. Despite CDC's request to find appropriate housing at a local kennel or veterinary clinic, the airline left the dog, along with 17 other dogs, in a cargo warehouse without food and water for more than 48 hours.⁴²

While airlines are ultimately responsible for finding appropriate housing for dogs denied entry (and paying the cost of housing if importers abandon the animal), the inconsistent number of flights and frequent changes to flight schedules due to the emergence of SARS-CoV-2 variants in 2021 created significant administrative and financial burden for Federal, State, and local Governments. Uncertainty regarding the number of available international passenger flights is likely to continue through 2022, and possibly into 2023. The challenge of housing dogs denied entry pending their return to their country of origin is complicated by the limited numbers of animal care facilities with a CBP-issued FIRMS code for holding animals at ports of entry. In such cases, the Government may be required to find and pay the costs for individualized solutions to ensure appropriate accommodations for prolonged periods of time for these animals.

⁴²CBS Broadcasting (2020). Dog dies at O'Hare Airport warehouse, 17 others saved after being left without food or water for 3 days. *CBS Chicago*. Retrieved from <https://www.cbsnews.com/chicago/news/dog-dies-at-ohare-airport-warehouse-17-others-saved-after-being-left-without-food-or-water-for-3-days>.

During 2020, CDC observed a 52 percent increase in the number of dogs ineligible for entry compared to 2018 and 2019.⁴³ The trend continued in the first half of 2021 when there was an 18 percent increase in the number of dogs ineligible for entry compared to full-year 2020.⁴⁴ From January 1, 2021, to July 13, 2021, prior to CDC's suspension taking effect, there were 16 sick dogs and 18 dead dogs reported to CDC upon arrival in the United States. From July 14, 2021, to December 31, 2021, since the suspension was implemented, CDC has denied entry to 72 dogs, and only one sick dog and nine deaths have been reported to CDC. This significant decrease in the number of dogs denied entry since the implementation of the suspension and decrease in the number of sick and dead dogs arriving in the United States has resulted in an estimated \$55,000 to \$190,000 in cost savings to importers and \$3,400 to \$170,000 in cost savings to Federal and State partners when comparing the two periods.

During the timeframe of the current suspension, the number of dogs denied entry and the number of sick dogs has significantly decreased. Lifting the suspension at this time would likely result in a return to pre-suspension levels of dogs denied entry along with an associated large increase of sick, dead, or inadequately vaccinated dogs arriving in the United States that would quickly overwhelm an already strained public

⁴³Pieracci, E., Williams, C., Wallace, R., Kalapura, C., Brown, C. U.S. dog importations during the COVID-19 pandemic: Do we have an erupting problem? *PLoS ONE*, 16(9), e0254287. doi: 10.1371/journal.pone.0254287.

⁴⁴Centers for Disease Control and Prevention. Quarantine Activity Reporting System (version 4.9.8.8.2.2A). Dog Importation data, January 1, 2021- July 14, 2021. Accessed: 04 January 2022.

health system. Remedying this situation may involve more live-animal care facilities to house dogs safely, and the ability and commitment by airline carriers to return dogs to the country of departure within one to two days of denial of entry.

While costs associated with housing, caring for dogs, and returning dogs are the responsibility of the importer (or airline if the importer abandons the dog), some importers and airlines are reluctant to pay these costs, requiring the Federal Government to find appropriate interim housing facilities and veterinary care. The cost for housing, care, and returning improperly vaccinated dogs ranges between \$1,000 and \$4,000 per dog, depending on the location and time required until the next available return flight. Because there is no reimbursement system in place, and seeking reimbursement is administratively challenging, the Federal Government is left to bear these costs when airlines and importers do not.

The increasing demand to vaccinate and quarantine dogs that have been denied entry presents an increased burden to Federal, State, and local public health agencies still engaged in response activities related to the COVID-19 pandemic. The increased inspections, medical care, and appropriate quarantine of dogs inadequately vaccinated against rabies has financially burdened Federal and State public health agencies.

From May through December 2020, CDC spent more than 3,000 personnel-hours at an estimated cost of \$270,000 to respond to the attempted importation of unvaccinated or inadequately

vaccinated dogs from high-risk countries during these eight months. The time spent represented a substantial increase from previous years due to: 1) the increase in dogs with inadequate documentation; and 2) the additional time spent identifying interim accommodations for the dogs because of the reduced outbound international flight schedules due to the pandemic.

Although the burden of U.S. COVID-19 cases, hospitalizations, and deaths decreased during the first four months of 2022, resources continue to be required for COVID-19 response efforts. The COVID-19 response remains a priority for HHS/CDC and state, tribal, local, and territorial authorities, and CDC foresees the need to continue COVID-19 public health response efforts into 2023. Because mitigating the current COVID-19 pandemic remains CDC's paramount objective and responding to imports of potentially rabid dogs would divert resources and personnel from CDC and other Federal, State, and local public health partners, completely lifting the suspension would be unwarranted at this time.

Instead, CDC is modifying the temporary suspension to allow for a wider range of importers to import dogs into the United States from high-risk countries. Given that the conditions for dog importations under the suspension have decreased the number of issues that existed prior to the suspension (suspected fraudulent documentation, dogs abandoned by importers, sick and dead dogs arriving in the United States), increasing importer eligibility should not result in the diversion of public health

resources from the COVID-19 pandemic response to dog importation issues. Additionally, because there are more flights now than during earlier stages of the pandemic, dogs denied entry can be returned more quickly to their country of departure, if needed.

III. Conditions for Dog Importation Under the Temporary Suspension

During the temporary suspension, eligible importers, including owners of service dogs, U.S. and foreign-government personnel, and persons permanently relocating to the United States, could apply to import their personally owned pet dogs. People were also permitted to import dogs for science, education, or exhibition purposes. To receive a permit, eligible importers had to provide a rabies vaccination certificate prior to the dog's arriving in the United States that meets the criteria outlined below, as well as rabies serologic titers from an approved laboratory if the dog was vaccinated outside the United States. Dogs were also required to be at least six months of age and have a microchip implanted prior to arrival in the United States.

For dogs arriving from high-risk countries, the rabies vaccination certificates had to include the following information to be considered complete and accurate:

- Name and address of owner;
- Breed, sex, date of birth (approximate age if date of birth unknown), color, markings, and other identifying information for the dog;
- Microchip number;

- Date of rabies vaccination and vaccine product information
- Date the vaccination expires; and
- Name, license number, address, and signature of veterinarian who administered the vaccination.

For a rabies vaccine to be effective, the dog must be at least 12 weeks (84 days) of age at the time of administration. A dog's initial vaccine must also be administered at least four weeks (28 days) before arrival in the United States.

A. Modifications to Conditions for Dog Importation Under the Temporary Suspension

CDC has been exercising its enforcement discretion to allow dogs six months of age or older that are microchipped and accompanied by valid U.S. rabies vaccination certificates to re-enter the United States without a CDC *Dog Import Permit*. Because these dogs had been previously vaccinated in the United States, CDC determined that allowing them to enter without a CDC *Dog Import Permit* would be unlikely to endanger the public's health. For dogs vaccinated outside the United States, consistent with public health standards of practice, CDC also expanded the number of approved rabies titer labs⁴⁵ from five to 60 labs and reduced the timeframe between when a sample is collected and when a dog is eligible to enter the United States from 90 days to 45 days for foreign-vaccinated dogs.

⁴⁵Centers for Disease Control and Prevention (2022). Approved Rabies Serology Laboratories for Testing Dogs. Retrieved from <https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/approved-labs.html>.

Additionally, CDC has allowed imported dogs to enter through any of the 18 CDC-staffed ports of entry listed below during the temporary suspension period, as opposed to only the four ports (and only one port in July 2021 when the suspension was first implemented) of entry with live animal care facilities. This decision was based on CDC's review of dog importation data during the temporary suspension period that noted a significant decrease in the arrival of ill dogs or dogs denied entry, reducing the need for dogs to only enter through ports with a live animal care facility. CDC intends to continue to allow travelers importing two or fewer personally owned pet dogs from high-risk countries to enter the United States through any of the 18 ports of entry with CDC-staffed Quarantine Stations for the remainder of the suspension in accordance with sections IV and V of this *Federal Register* notice. The approved ports of entry include Anchorage (ANC), Atlanta (ATL), Boston (BOS), Chicago (ORD), Dallas (DFW), Detroit (DTW), Honolulu (HNL), Houston (IAH), Los Angeles (LAX), Miami (MIA), Minneapolis (MSP), New York (JFK), Newark (EWR), Philadelphia (PHL), San Francisco (SFO), San Juan (SJU), Seattle (SEA), and Washington DC (IAD).

Table 1 compares the requirements in the June 2021 *Federal Register* notice with the current practice that has been in effect since December 1, 2021.

Table 1. Import requirements for dogs outlined in the June 2021 *Federal Register* notice and current practices during the suspension.

June 2021 Suspension	Current practice (since December 1, 2021)
Only eligible* importers may apply for a permit	Only eligible* importers may apply for a permit
Six-month age requirement	Six-month age requirement
Microchip	Microchip
U.S. or foreign-issued rabies vaccination certificate	U.S.** or foreign-issued rabies vaccination certificate
Titer from approved lab (five labs) drawn 90 days before planned entry	Titer from approved lab (60 labs) drawn at least 45 days before planned entry for dogs with a foreign-issued rabies vaccination certificate
Entry only through approved port of entry with a live animal care facility (one port of entry)	Entry only through approved port of entry (18 ports of entry)

* Eligible importers include: U.S. citizens and lawful residents relocating to the United States (including U.S. and foreign government personnel); owners of service animals; and importers who wish to import dogs for purposes related to science, education, exhibition, or law enforcement.

** Dogs returning to the United States from high-risk countries with a valid U.S.-issued rabies vaccination certificate are allowed to enter the United States without a *CDC Dog Import Permit* provided that all requirements in Section IV were met.

IV. Conditions for Entry of U.S.-Vaccinated Dogs During the Extension

Through this notice, CDC is modifying the conditions for entry of U.S.-vaccinated dogs to reduce the burden on importers. Dogs returning to the United States from high-risk countries with a valid U.S.-issued rabies vaccination certificate will be allowed to enter the United States without a *CDC Dog Import Permit*, if the dog:

- Is six-months of age or older;
- Has a microchip;
- Arrives at one of 18 CDC-approved ports of entry with CDC quarantine stations; and
- Has a valid U.S. rabies vaccination certificate documenting that the dog was vaccinated against rabies by a U.S.-licensed veterinarian in the United States on or after the date the dog was 12 weeks of age. The rabies vaccination certificate must include:
 - Name and address of owner;
 - Breed, sex, date of birth (approximate age if date of birth unknown), color, markings, and other identifying information for the dog;
 - Microchip number;
 - Date of rabies vaccination and date next vaccine is due (i.e., date the vaccination expires);

- o Vaccine manufacturer, product name, lot number and product expiration date; and
- o Name, license number, address, and signature of veterinarian who administered the vaccination.

This is consistent with CDC's practices as of December 1, 2021, and is a modification to the terms of the original temporary suspension announced in the June 2021 *Federal Register* notice (86 FR 32041, June 16, 2021).

V. Conditions for Entry of Foreign-Vaccinated Dogs with a CDC Dog Import Permit During the Extension

CDC is further modifying the terms of the original temporary suspension published in the June 2021 *Federal Register* notice (86 FR 32041, June 16, 2021). All importers are now eligible to import dogs; therefore, there are no longer eligibility criteria as to who may import dogs. Under the temporary suspension, importers who met the eligibility criteria could make a one-time request to import up to three dogs as part of a single importation. CDC is herein modifying the terms of the temporary suspension to allow importers of personal pet dogs the opportunity to receive up to two *CDC Dog Import Permits* (i.e., permits for two dogs) during the suspension. Further, under the modified temporary extension, personal pet owners no longer need to provide documentary proof of their eligibility (e.g., employment relocation letter or official orders). Commercial importers and personal pet owners who do not have a

serologic titer result for their dog also now have an alternate pathway for importation.

All importers of personal pet dogs (defined for the purpose of this notice as owners or importers attempting to import fewer than three dogs during the suspension) from high-risk countries are now eligible to apply for a *CDC Dog Import Permit*.

Commercial dog importers (defined for the purpose of this notice as importing three or more dogs during the suspension) are not eligible for a *CDC Dog Import Permit* and must meet the requirements for entry outlined in Section VI below. In summary, CDC has removed the requirement to submit documentary proof of eligibility for personal pet owners to be able to receive permits and reduced the number of personal pets that can receive permits during the temporary suspension from three to two. Additionally, CDC is allowing importers of personal pets without serologic titer results and commercial importers to import dogs during the extension, as set forth in Section VI.

Foreign-vaccinated dogs arriving from high-risk countries with a valid *CDC Dog Import Permit* will be allowed to enter the United States if the dogs:

- Are six-months of age or older (photographs of the dog's teeth are required for age verification);
- Have a microchip;
- Have a valid rabies vaccination certificate from a non-U.S.-licensed veterinarian. The certificate must state that the vaccine was administered on or after the date the dog

was 12 weeks (84 days) of age and at least 28 days prior to entry, if it was the dog's initial vaccine. The certificate must be in English or accompanied by a certified English translation;

- Have serologic evidence of rabies vaccination (titer) from an approved rabies serology laboratory⁴⁶ (serologic titer results ≥ 0.5 IU/mL are required) with the sample collected at least 45 days prior to entry and no greater than 365 days before entry; and
- Arrive at one of the 18 CDC-approved ports of entry with CDC-staffed quarantine stations.

To apply for a *CDC Dog Import Permit*, importers whose dogs meet the entry requirements listed above must submit the *Application for Special Exemption for a Permitted Dog Import*, [approved under OMB Control Number 0920-0134 Foreign Quarantine Regulations (exp. 06/30/2022), or as revised]. The permit application is available online at www.cdc.gov/dogpermit.

The importer's request, with all supporting documentation, must be submitted at least 30 business days before the date on which the dog will enter the United States. Importers may submit an application electronically at www.cdc.gov/dogpermit. Applicants should submit all required materials with their permit application at least 30 business days prior to their planned arrival date in the United States. A request cannot be

⁴⁶Centers for Disease Control and Prevention (2022). Approved Rabies Serology Laboratories for Testing Dogs. Retrieved from <https://www.cdc.gov/importation/bringing-an-animal-into-the-united-states/approved-labs.html>.

made at the port of entry upon the dogs' arrival in the United States; dogs that arrive without a *CDC Dog Import Permit* will be returned to their country of origin on the next available flight or quarantined at the importer's expense at a CDC-approved animal facility (see Section VI).

Consistent with CDC's current policies but representing a modification of the terms of the original temporary suspension published in the June 2021 *Federal Register* notice (86 FR 32041, June 16, 2021), dogs arriving from a high-risk country with a valid *CDC Dog Import Permit* must enter the United States at one of 18 CDC-approved ports of entry. This revision eases the burden on importers compared to the temporary suspension, which limited entry to one approved port of entry at the time the *Federal Register* notice was published.

Within 10 days of arrival, foreign-vaccinated dogs with a *CDC Dog Import Permit* must receive a USDA-licensed rabies booster vaccination by a U.S. veterinarian.

VI. Conditions for Entry of Foreign-Vaccinated Dogs without a *CDC Dog Import Permit* During the Extension

CDC is also modifying the terms of the temporary suspension published in the June 2021 *Federal Register* notice (86 FR 32041, June 16, 2021) to reduce the burden and provide a pathway for commercial dog importers to import dogs. While importers of commercial shipments of dogs cannot apply for a *CDC Dog Import Permit*, a separate entry process, as outlined below, has been

established. All commercial dog importers from high-risk countries may now import dogs provided that the dogs, upon entering the United States, are examined, revaccinated, and have proof of an adequate titer from a CDC-approved laboratory upon arrival or are held in quarantine at a CDC-approved animal facility until they meet CDC entry requirements. Importers of personally owned pets may also choose to use this pathway in lieu of obtaining a *CDC Dog Import Permit*.

Foreign-vaccinated dogs without a valid *CDC Dog Import Permit* must meet all other entry requirements (sections VI-VII) prior to arrival and also meet the following requirements:

- Dogs must enter at a port of entry with a CDC-approved animal facility.⁴⁷
- Dogs must be six months of age or older at the time of entry.
- *Prior* to arrival in the United States, importers must arrange for an examination date and time and reserve space with a CDC-approved animal facility.
- Importers must arrange for transportation by a CBP-bonded transporter (i.e., provided by the airline carrier or a CDC-approved animal facility) to a CDC-approved animal facility immediately upon arrival.

⁴⁷Centers for Disease Control and Prevention (2022). Bringing a dog into the United States. Retrieved from www.cdc.gov/dogtravel.

- Dogs must undergo veterinary examination and revaccination against rabies at a CDC-approved animal facility upon arrival at the importer's expense.

Dogs must also be held at the CDC-approved animal facility until the following entry requirements are completed:

- Veterinary health examination by a USDA-accredited veterinarian for signs of zoonotic or foreign disease. Suspected or confirmed zoonotic or foreign animal diseases must be reported to CDC, USDA, the state or territorial public health veterinarian. The state or territorial veterinarian and the CDC-approved animal facility must not release the dog without the written approval of CDC.
- Vaccination against rabies with a USDA-licensed rabies vaccine and administered by a USDA-accredited veterinarian.
- Confirmation of microchip number.
- Confirmation of age through dental examination by a USDA-accredited veterinarian.
- Verification of adequate rabies titer from an approved lab. Serologic titer results of ≥ 0.5 IU/mL are required from a CDC-approved laboratory, with the sample collected at least 45 days prior to entry and no greater than 365 days before entry. Dogs that arrive without documentation of an adequate rabies titer from an approved lab must be housed at the CDC-approved animal facility for a 28-day quarantine at the expense of the importer following administration of the U.S. rabies vaccine in addition to meeting the criteria

listed above. Dogs cannot be released from quarantine unless all requirements have been met.

Importers are responsible for all fees associated with the importation of dogs into the United States, including transportation, examination, vaccination, and quarantine fees.

Foreign-vaccinated dogs arriving without a *CDC Dog Import Permit* must enter the United States through a CDC-approved port of entry with a CDC-approved animal facility. As of May 2022, these facilities are located at: Atlanta Hartsfield-Jackson International Airport, John F. Kennedy International Airport (New York), Los Angeles International Airport, and Miami International Airport. Importers are responsible for reserving examination times and space at the CDC-approved animal facility prior to arrival in the United States. Dogs that arrive at unapproved ports of entry or without reservations at the animal facility will be denied entry and returned to the country of departure.

VII. Continued Conditions for All Dogs from High-Risk Countries During the Extension

Consistent with the terms of the original temporary suspension published in the June 2021 *Federal Register* notice (86 FR 32041, June 16, 2021), all dogs arriving from high-risk countries must be microchipped prior to arrival in the United States. The microchip can be administered in any country and

does not need to be a U.S.-issued microchip. The microchip number must be listed on the rabies vaccination certificate.

Any dog from a high-risk country will be excluded from entering the United States and returned to its country of origin on the next available flight, regardless of carrier or route, if the dog arrives under the following circumstances:

- A dog arrives in the United States and does not meet the minimum pre-arrival requirements (i.e., age greater than six months, microchip, valid rabies vaccination certificate).
- A dog presented does not match the description of the animal listed on the permit (if required) or rabies vaccination certificate.
- A dog arrives at an unapproved port of entry.
- A dog arrives at an airport with a CDC-approved animal facility without a reservation (if required) and no space at the facility is available.
- Importer refuses transportation to, or receipt of or payment for services at, a CDC-approved animal facility (if required).

The importer shall be financially responsible for all housing, care, and return costs. If an importer abandons a dog while it is at a CDC-approved animal facility, the carrier shall become responsible for all costs associated with the care, housing, and return of the dog to the country of departure. In keeping with current practice, importers should continue to

check with Federal, State, and local Government officials regarding additional requirements of the final destination prior to entry or re-entry into the United States.

VIII. Additional Determinations Relating to this Notice

Pursuant to the terms of this notice, CDC is modifying the temporary suspension for the importation of dogs from high-risk rabies-enzootic countries. This suspension includes dogs originating in CRVV low-risk or CRVV-free countries that have been in a high-risk country in the previous six months (not including animals transiting through high-risk countries).

To enter the United States, dogs must meet certain entry requirements as described in Sections IV through VII of this notice, including, as applicable: having a valid U.S. rabies vaccination certificate; having a *CDC Dog Import Permit*; and being examined, vaccinated, and subject to quarantine at a CDC-approved animal facility.

Importers wishing to import foreign-vaccinated dogs that are their personally owned pets from high-risk countries must:

1. Submit a request for advanced written permission (i.e., *Application for Special Exemption for a Permitted Dog Import*, [approved under OMB Control Number 0920-0134 Foreign Quarantine Regulations (exp. 06/30/2022, or as revised)] at least 30 business days prior to planned importation in the United States at www.cdc.gov/dogpermit.

2. Submit all documentation listed above in Section V

Application for Special Exemption for a Permitted Dog Import.

The *Application for Special Exemption for a Permitted Dog Import* must include proof of the dog's identity, including pictures of the dog's teeth, other descriptive details, proof of rabies vaccination, serologic titer results, and microchip information. Dogs arriving from high-risk countries must enter the United States at a CDC-approved port of entry or a port of entry with a CDC-approved animal facility if they do not possess a valid U.S.-issued rabies vaccination certificate or *CDC Dog Import Permit*.

Pursuant to the terms of this notice, CDC is not requiring U.S.-vaccinated dogs returning to the United States from a high-risk country for dog rabies to apply for a *CDC Dog Import Permit* provided the dog meets the criteria outlined in Section IV. Additionally, CDC does not require a *CDC Dog Import Permit* for commercial dogs because they must be examined, vaccinated, and are subject to quarantine at a CDC-approved animal facility upon arrival as outlined in Section VI.

Table 2. Entry conditions for dogs under modified suspension guidelines.

Dogs with valid U.S. rabies vaccination	Dogs with valid foreign RVC (fewer than three dogs being	Dogs with valid foreign RVC (fewer than three dogs being	Dogs with valid foreign RVC (three or more dogs being	Dogs with valid foreign RVC (three or more dogs being
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certificat e (RVC)	imported) with titer	imported) without titer	imported) with titer	imported) without titer
At least six months of age	At least six months of age	At least six months of age	At least six months of age	At least six months of age
Microchip	Microchip	Microchip	Microchip	Microchip
Entry allowed at 18 ports of entry with CDC quarantine station	Entry allowed at 18 ports of entry with CDC quarantine station with valid <i>CDC Dog Import Permit</i> issued prior to arrival	Entry allowed at four ports of entry with CDC- approved animal facility	Entry allowed at four ports of entry with CDC- approved animal facility	Entry allowed at four ports of entry with CDC-approved animal facility
Titer not needed	Serologic titer (≥ 0.5 IU/mL) from a CDC- approved laboratory Titer drawn at least 45 days before entry and not more than 365 days before entry	Not applicable*	Serologic titer (≥ 0.5 IU/mL) from a CDC- approved laboratory Titer drawn at least 45 days before entry and not more than 365 days before entry	Not applicable*
No quarantine	No quarantine	28-day quarantine at CDC- approved animal facility	No quarantine	28-day quarantine at CDC-approved animal facility
Veterinary exam, booster vaccinatio	Veterinary exam or quarantine not	Veterinary examination , booster vaccination	Veterinary examinatio n, booster vaccinatio	Veterinary examination, booster vaccination,

n or quarantine not required unless the animal appears ill upon arrival	required with valid <i>CDC Dog Import Permit</i> unless the animal appears ill upon arrival Booster vaccination is required within 10 days of arrival by U.S. veterinarian.	, and paperwork verification at CDC-approved animal facility required upon arrival	n, and paperwork verification at CDC-approved animal facility required upon arrival	and paperwork verification at CDC-approved animal facility required upon arrival
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*This is an alternate pathway for importation in the event documentation of an adequate titer is not available upon arrival.

The suspension will continue to reduce the risk of importation of CRVV, ensure public health safeguards are in place for the importation of dogs from high-risk countries, and preserve public health resources needed for the COVID-19 response. The terms of the suspension allow for sufficient safeguards to mitigate the public health risk. The suspension will also allow CDC to continue to work with Federal and State partners, airlines, and other affected parties to consider options for a more streamlined and efficient dog importation process that will be safer for pets. It will allow all importers, including commercial importers, a pathway to import dogs. Most importantly, it will ensure that U.S. public health remains protected.

Therefore, pursuant to 42 CFR 71.51(e) and 42 CFR 71.63, CDC hereby excludes the entry and suspends (subject to the terms, conditions, and modifications outlined in this notice) the importation of dogs from high-risk countries, including dogs from CRVV low-risk and CRVV-free countries if the dogs have been present in a high-risk country in the previous six months.

Additionally, under 42 CFR 71.63, CDC continues to find that CRVV exists in countries designated as high-risk countries and that, if reintroduced into the United States, CRVV would threaten the public health of the United States. The continued entry of dogs from high-risk countries in the context of the current limited CDC resources and personnel dedicated to COVID-19 response activities and the insufficient safeguards in place to prevent the exportation of inadequately vaccinated dogs from high-risk countries further increases the risk that CRVV may be introduced, transmitted, or spread into the United States. CDC has coordinated in advance with other Federal agencies as necessary to implement and enforce this notice.

This notice is not a legislative rule within the meaning of the Administrative Procedure Act (APA), but rather a notice of an exclusion and temporary suspension taken under the existing authority of 42 CFR 71.51(e) and 42 CFR 71.63, which were previously promulgated with full notice and comment. If this notice qualifies as a legislative rule under the APA, notice and comment and a delay in effective date are not required because there is good cause to dispense with prior public notice and the

opportunity to comment on this notice. Considering the public health emergency caused by the virus associated with COVID-19, the insufficient safeguards in place to prevent the exportation of inadequately vaccinated dogs from high-risk countries, the ongoing diversion of global public health resources and personnel to respond to the pandemic, and the risk of reintroduction of CRVV from dogs being imported from high-risk countries, it would be impractical and contrary to the public's health, and by extension the public's interest, to delay the issuance and effective date of this notice. Notwithstanding, CDC is publishing this notice in advance of its effective date, to allow potential dog importers and other interested parties sufficient time to adjust their practices in accordance with the terms of this modified suspension.

This temporary suspension will enter into effect on June 10, 2022, and remain in effect through January 31, 2023, unless modified or rescinded by the CDC Director based on public health or other considerations.

Dated: May 26, 2022.

Sherri Berger,

Chief of Staff,

Centers for Disease Control and Prevention.

APPENDIX

Economic Impact of this Temporary Suspension

Executive Orders 12866: "Regulatory Planning and Review" and 13563: "Improving Regulation and Regulatory Review" direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, reducing costs, harmonizing rules, and promoting flexibility.

Although the extension of the temporary suspension of dogs from countries at high-risk for CRVV is expected to reduce the number of dogs imported into the United States, importers or dogs with valid rabies vaccination certificates administered in the United States should not be affected by the suspension. In addition, for dogs vaccinated outside the United States, eligible importers of dogs from high-risk countries will be able to apply for a *CDC Dog Import Permit* at least 30 business days prior to planned importation in the United States for two or fewer dogs. In addition, any importer can bring in dogs that are appropriately followed up in the United States at a CDC-approved facility. Appropriate follow up will depend on whether importers have obtained serologic evidence of rabies immunity from titer testing prior to arrival in the United States. For dogs with

serologic evidence of immunity, such dogs will need to be transported to a CDC-approved facility, re-vaccinated, and undergo a veterinary examination. For dogs lacking serologic evidence, such dogs would need to be examined, re-vaccinated, and quarantined for 28 days. Thus, all importers will be able to import dogs from high-risk countries if they are willing to take appropriate precautions to protect public health. However, CDC assumes that the additional costs to comply with these requirements will reduce the number of dogs vaccinated outside the United States and imported from high-risk countries by 20 percent.

CDC has previously estimated that between 87,000 and 116,000 dogs are imported from high-risk countries each year.⁴⁸ This estimate is significantly greater than the numbers recorded by CBP for formal entry under HTS code 0106199120 and HTS Description: Other live animals, other, dogs, which averaged 16,390 and varied from 9,966 to 24,031 over the 3-year period from 2018 through 2020.

The number of dogs reported under this HTS category does not include hand-carried dogs traveling in airplane cabins or crossing at land borders without formal entry and, thus, are not inclusive of all dog imports. To account for the uncertainty in the number of dogs imported to the United States from high-risk

⁴⁸Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

countries without formal entry, CDC used the following assumptions in the analysis of this action: 1) Most likely estimate: three times the average number of dogs with formal entry from reported in 2020 was 60,696 dogs per year, 2) Lower bound: two times the average number of dogs with formal entry from 2020 (32,781), and 3) Upper bound: five times the number of dogs arriving in the highest year (2019) (120,155). These baseline estimates are used throughout the analysis (Table A1).

The suspension will impact importers differently depending on whether their dogs were vaccinated in the United States or outside the United States. For dogs vaccinated in the United States, CDC assumed the extension of the suspension would have a negligible impact on the number of dogs imported. During the first four and a half months of the temporary suspension, dogs with valid U.S. RVCs were required to apply for permits. During this period, about 61 percent of dogs had U.S. RVCs among those for which permits were requested; however, the temporary suspension limited the categories of importers eligible to receive permits. Thus, these data have limited generalizability to a scenario in which all importers would be eligible for permits. Given this uncertainty, CDC assumed that about 50 percent of imported dogs have U.S. RVCs, while the other 50 percent would have RVCs from other countries. To account for uncertainty, CDC also considered a range of 35 to 60 percent of imported dogs from high-risk countries would have U.S. RVCs.

CDC assumed that the temporary suspension would reduce the number of dogs imported from high-risk countries with non-U.S. RVCs by 20 percent and considered a range of 10-40 percent to calculate lower and upper bound estimates. This would result in estimates of 54,626 (range: 27,536 to 112,345 dogs) dogs imported per year with the suspension in place. The temporary suspension would reduce the estimated numbers of dogs imported per year by 6,070 (range: 5,245 to 7,810 dogs). Among imported dogs, CDC estimated that about 12,139 dogs (range: 3,934 to 35,145 dogs) would have import permits. Another 11,896 dogs (range: 3,855 to 34,442 dogs) would arrive with titers, but without permits. Finally, about 243 dogs (range: 79 to 703 dogs) would arrive without titers and would require a 28-day quarantine period.

CDC also estimated the numbers of dogs denied entry under the baseline and with the temporary suspension in effect (see Table A1 below). An estimated 500 dogs (range: 300 to 750 dogs) would be denied entry under the baseline based on data from 2020 and previous years. The temporary suspension and CDC permit process are expected to reduce the number of dogs denied entry by 90 percent (range: 85 to 100 percent) such that only 50 (range: 0 to 50) dogs would be denied entry with this temporary suspension. During the first six and a half months of the previous temporary suspension, about 72 dogs were denied entry, corresponding to about 133 dogs over a full year. However, dogs would be allowed to undergo a 28-day quarantine at a CDC-

approved facility in lieu of being returned to their countries of origin, provided space was available at the CDC-approved facility.

Table A1. Estimated numbers of dogs from high-risk countries imported or denied entry under the baseline and with the temporary suspension.

	Most likely estimate	Lower bound	Upper bound
Estimated number of dogs imported from high-risk countries at baseline (A)	60,696	32,781	120,155
Estimated percent with U.S. rabies vaccination certificates (RVCs) (B)	50%	60%*	35%
Number of dogs with U.S. RVCs at baseline and with temporary suspension (C)=(A) x (B)	30,348	19,669	42,054
Number of dogs with non-U.S. RVCs at baseline (D)=(A) - (C)	30,348	13,112	78,101
Assumed percent of dogs with non-U.S. RVCs that would not be imported due to additional requirements under the temporary suspension (E)	20%	40%*	10%
Assumed percent of dogs with non-U.S. RVCs that would be imported with CDC permits under the temporary suspension (F)	40%	30%	45%
Assumed percent of dogs imported with an adequate rabies titer and requiring follow-up at CDC-approved facility under the temporary suspension (G)	39%	29%	44%
Assumed percent of dogs imported without titer and requiring 28-day quarantine at CDC-approved facility under the temporary suspension (H)	0.8%	0.6%	0.9%
Estimated number of dogs Arriving with CDC permit (I)=(D) x (F)	12,139	3,934	35,145

Estimated number of dogs imported with titer, but no CDC permit (J)=(D)x(G)	11,896	3,855	34,442
Estimated number of dogs without titer and requiring 28-day quarantine (K)=(D)x(H)	243	79	703
Total imported dogs with non-U.S. RVCs (L)=(I)+(J)+(K)	24,278	7,867	70,291
Estimated number of dogs imported from high-risk countries with temporary suspension (M)=(C)+(L)	54,626	27,536	112,345
Change in number of dogs imported from high-risk countries (N)=(A)-(M)	6,070	5,245	7,810
Number of dogs denied entry			
Estimated number of dogs denied entry from high-risk countries at baseline (O)	500	300	750
Estimated % reduction in dogs denied entry with temporary suspension (P)	90%	85%	100%
Estimated number of dogs denied entry with temporary suspension (Q)=(O)x(1-(P))	50	45	-
Change in numbers of dogs denied entry with temporary suspension (R)=(O)-(Q)	450	255	750

* Although not a lower bound estimate for this parameter, the larger

percentage results in smaller total cost estimates. As the percentage reduction in the number of dogs imported from high-risk countries increases, the estimated cost of the temporary suspension decreases. This results, in part, from the unknown cost per dog imported from a high-risk country that would otherwise not be imported due to the suspension. The revised suspension allows all dogs to enter if the importer complies with the entry requirements. Therefore, importers could determine whether the additional costs are greater than the value of importing dogs from high-risk countries. This would vary by importer depending on their own operating costs and CDC cannot estimate these costs.

The estimated costs and benefits (in 2020 U.S. dollars) associated with the temporary suspension of dogs from countries

at high-risk for CRVV are summarized in Table A2. CDC estimates that importers, CDC, and DHS/CBP will incur a total of about \$22 million in costs (range: \$4.6 to \$88 million) over a one-year period with the suspension. The large difference between the lower and upper bound is due to both uncertainty in the number of dogs imported from high-risk countries under the baseline as well as uncertainty in many of the costs associated with the suspension. Although the one-year costs are presented in the table, the expected costs (and benefits) of the extension will depend on the duration in which the extension is in effect. If the suspension ends on January 31, 2023 (approximately 0.64 years), the estimated total costs of the extension would be prorated to about \$14 million (range: \$3.0 to \$56 million).

Most of the costs will be incurred by importers (most likely one-year estimate of \$21 million, or 93 percent of the total cost estimate), among whom most of the costs will be incurred by importers of dogs vaccinated outside the United States, who will have to: 1) spend time completing the application for a *CDC Dog Import Permit* or incur costs for veterinary examination and revaccination after arrival at a CDC-approved facility; 2) pay for serologic testing; and 3) incur the potential economic costs of being unable to import a dog from a high-risk country (either the inability to travel with a pet from a high-risk country or the need to substitute the importation of a dog from CRVV-free or low-risk country instead of a dog from a high-risk country). In addition, all importers

of dogs from high-risk countries will be required to have microchips implanted in their dogs⁴⁹. Finally, some importers will need to re-route travel to a port of entry with a CDC quarantine station (if they have a CDC permit or U.S. RVC) or to a smaller number of airports with a CDC-approved animal facility (if they do not have a CDC permit).

In addition, airlines will incur about 3.1 percent of the most likely total cost estimate (reported in Table A2) to spend additional time reviewing documentation of importers and due to the reduction in number of dogs transported. CDC will incur about 3.9 percent of the most likely total cost estimate, primarily for review of permit applications.

The one-year benefits (averted costs) from the temporary suspension are estimated to be \$1.2 million (range: \$0.47 to \$2.9 million). If the suspension extension ends on January 31, 2023, the estimated benefits over 0.64 years would be \$740,000 (range: \$300,000 to \$1.9 million). About 31 percent of the benefits of the temporary suspension accrue to CBP due to the reduction in: the number of dogs imported from high-risk countries that require time for screening and review of RVCs; the number of dogs denied entry; and the time to review a *CDC Dog Import Permit* instead of the time required to review documentation under the baseline. Importers, CDC, and airlines also benefit from the costs averted by the reduction in the number of dogs denied entry with the suspension relative to

⁴⁹In the cost estimate, CDC assumed that the majority of dogs (90%) would be implanted with microchips with or without this requirement.

baseline. The net cost of the temporary suspension is calculated as the difference between the annual costs and the annual benefits resulting in a net estimate cost of \$21 million (range: \$4.2 to \$85 million).

Table A2: Summary Table of Benefits and Costs, in 2020 U.S. dollars, over a one-year time horizon.*

Category	Most Likely Estimate	Lower bound	Upper bound
Benefits			
Annual monetized benefits to importers of dogs from high-risk countries	\$481,281	\$254,614	\$2,173,957
Annual monetized benefits to airlines	\$108,000	\$20,400	\$450,000
Annual monetized benefits to DHS/CBP	\$360,084	\$160,309	\$854,518
Annual monetized benefits to CDC	\$204,399	\$84,960	\$548,100
Total annualized monetized benefits	\$1,153,764	\$471,045	\$2,878,428
Quantified, but unmonetized, benefits	The estimated costs associated with a public health response to a dog imported while infected with canine rabies virus variant (CRVV) are \$323,742, range: \$220,897 to \$521,828. The permit requirement for high-risk countries should reduce the risk of importation of dogs infected with CRVV.		
Qualitative benefits	Any importation of a dog with CRVV will require the reallocation of limited public health resources to support a response to mitigate the risk of transmission of CRVV. This could reduce the resources available for COVID-19 response activities and vaccination programs. In addition, these competing		

	priorities may increase the risk of unlikely, but very costly outcomes associated with an importation of a dog with CRVV such as 1) the potential risk of death in a person who may be unaware of his/her exposure to a dog with CRVV and 2) the risk of re-introduction of CRVV in the United States.		
Costs			
Category	Most Likely Estimate	Lower bound	Upper bound
Annualized monetized costs to importers of dogs from high-risk countries	\$20,525,815	\$4,050,735	\$83,458,642
Annual monetized costs to airlines	\$673,604	\$262,817	\$2,000,407
Annualized monetized costs to DHS/CBP	\$0	\$0	\$0
Annual monetized costs to CDC	\$853,956	\$320,538	\$2,270,323
Total annualized monetized costs	\$22,053,375	\$4,634,090	\$87,729,371

* Although the one-year costs are presented in the table, the expected costs and benefits of the extension will depend on the duration in which the extension is in effect. If the suspension ends on January 31, 2023 (approximately 0.64 years), the estimated total costs of the extension would be pro-rated to about \$14 million (range: \$3.0 to \$57 million). The expected benefits would be similarly pro-rated to \$740,000 (range: \$300,000 to \$1.9 million).

The primary public health benefit of the temporary suspension is the reduced risk that a dog with CRVV will be imported from a high-risk country into the United States. Based on experience with previous importations, CDC estimated the cost per imported dog with CRVV to be \$323,742 (range: \$220,897 to

\$521,828).^{50,51} This cost estimate includes health department staff time for the public health response, payments for post-exposure prophylaxis for exposed persons,^{52,53} and the costs associated with quarantining or euthanizing exposed animals.

The most likely estimates of the net cost (\$21 million) and the most likely estimate of the potential benefits of averting the importation of a dog with CRVV from a high-risk country (\$324,000) can be used to calculate how many dogs with CRVV would need to be imported under the baseline for the benefits to equal costs. The net cost (\$21 million) divided by the cost per importation (\$324,000) suggests that at least 65 dogs with CRVV would need to be imported under the baseline for benefits to exceed costs. This would require an increase in the number of dogs imported into the United States while infected with CRVV, which could occur because of failures of rabies control programs in multiple high-risk countries.

The above estimate of the cost of an importation of a dog with CRVV does not account for the worst-case outcomes, which

⁵⁰Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C. Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *Morbidity and Mortality Weekly Report*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

⁵¹Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

⁵²Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C. Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *Morbidity and Mortality Weekly Report*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

⁵³Centers for Disease Control and Prevention (2022). Rabies Postexposure Prophylaxis. Retrieved from https://www.cdc.gov/rabies/medical_care/index.html.

include 1) transmission of rabies to a person who dies from the disease or 2) ongoing transmission to other domestic and wildlife species in the United States. While the risk of re-establishing CRVV into the United States is low, it would result in costly efforts over several years to re-eliminate the virus.

The cost of re-introduction could be especially high if CRVV spreads to other species of U.S. wildlife. Both worst-case outcomes may be more likely to occur during the COVID-19 pandemic because public health resources in countries where CRVV is endemic are likely to have been diverted to COVID-19 response activities and vaccination programs. These countries would already have limited resources available to mitigate CRVV and the prevalence of CRVV in dogs may increase relative to the pre-COVID-19 period in those countries.

Human deaths from rabies continue to occur in the United States after exposures to wild animals. However, no U.S. resident has died after exposure to an imported dog with CRVV in at least 20 years. CDC uses the value of statistical life (VSL) to assign a value to interventions that can result in mortality risk reductions. For 2020, the estimated VSL is \$11.6 million, with a range of \$5.5 to \$17.7 million.⁵⁴ CDC is unable to estimate the potential magnitude of the mortality risk reduction associated with the temporary suspension. If three deaths were

⁵⁴U.S. Department of Health and Human Services (2016). Guidelines for Regulatory Impact Analysis. *Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services*. Retrieved from https://aspe.hhs.gov/system/files/pdf/242926/HHS_RIAGuidance.pdf.

averted because of the suspension extension, the potential benefits would exceed costs.

Re-establishment of CRVV into the United States would also result in costly efforts over several years to re-eliminate the virus. A previous campaign to eliminate domestic dog-coyote rabies virus variant jointly with gray fox (Texas fox) rabies virus variant in Texas over the period from 1995 through 2003 cost \$34 million,^{55,56} or \$48 million, in 2020 U.S. dollars. The costs to contain any reintroduction would depend on the time period before the reintroduction was realized, the wildlife species in which CRVV was transmitted, and the geographic area over which reintroduction occurs. The above estimate is limited to the cost of rabies vaccination programs for targeted wildlife and does not include the costs to administer post-exposure prophylaxis to any persons exposed after the reintroduction has been identified.

Relative to the previously published *Federal Register* notice announcing the temporary suspension,⁵⁷ this version allows more dogs to be imported. If importers are willing to absorb the additional costs for pre-arrival titers and for the other

⁵⁵Thomas, S., Wilson, P., Moore, G., Oertli, E., Hicks, B., Rohde, R., Johnston, D. (2005). Evaluation of oral rabies vaccination programs for control of rabies epizootics in coyotes and gray foxes: 1995-2003. *Journal of the American Veterinary Medicine Association*, 227(5),785-92. doi: 10.2460/javma.2005.227.785.

⁵⁶Sterner, R., Meltzer, M., Shwiff, S., Slate, D. (2009). Tactics and Economics of Wildlife Oral Rabies Vaccination, Canada and the United States. *Emerging Infectious Diseases*, 15(8), 1176-1184. doi: 10.3201/eid1508.081061.

⁵⁷Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

requirements to obtain a CDC permit or to pay for the post-arrival costs for veterinary examination and revaccination at a CDC-approved facility (in lieu of obtaining a CDC permit), there may not be a large reduction in the number of imported dogs. In the previous analysis, CDC estimated that only about 15,174 dogs would be imported over one year with the suspension in effect. With this suspension extension, CDC estimated that 54,626 dogs may be imported over a one-year period.

A significant source of uncertainty in the analysis for the previous suspension was due to assigning a value to the reduction in the number of imported dogs. CDC lacked data to estimate this value, which was likely to vary considerably depending on the relationships between importers and imported dogs. CDC assumed a marginal cost of \$100 per dog.

The estimated annual costs for this extension of the suspension (\$21 million) have increased relative to the annual estimate for the previous suspension (\$12 million) because CDC assumed that a most non-U.S.-vaccinated dogs (80 percent) would be imported with the provisions of this suspension extension in place. In general, the original requirements to import dogs from high-risk countries in the temporary suspension were stricter than what is proposed in this notice announcing the extension. Specifically, dogs with U.S. RVCs will be allowed to be imported without permits. This change will greatly increase the number of dogs eligible to enter the United States without a CDC permit or the need for post-arrival follow-up at a CDC-approved facility.

In addition, the original *Federal Register* notice indicated that all dogs would have to arrive ports of entry with a live animal care facility with a CBP-issued FIRMS code (currently only available at four airports). However, this requirement was relaxed to allow dogs from high-risk countries to arrive at the 18 airports with CDC quarantine stations if the importer has a CDC permit. The additional costs result primarily from the increased number of dogs imported with non-U.S. RVCs, about half of which were assumed to require post-arrival follow-up at a CDC-approved facility and a smaller fraction would require a 28-day quarantine period.

The expected benefits to CBP associated with a reduction in the number of dog imports and the time spent on screening dogs with U.S. RVCs are reduced relative to the previous analysis for the 2021 suspension. This is because CDC assumed more dogs would be imported into the United States during the extension and because CDC assumed it would require more CBP time per dog to review U.S. RVCs and for dogs transported to a CDC-approved facility than to review information in *CDC Dog Import Permits*. The estimated benefits to CBP are reduced by about 76 percent. There is also an increased risk that a dog infected with CRVV may be imported because of the increase in the number of dog imports and because CDC would not review documentation for dogs with U.S. RVCs prior to arrival.

Assumptions used to estimate costs and benefits

CDC estimated costs and benefits to importers, CDC, CBP, and airlines under the baseline and with the extension in place. All cost estimates were converted to 2020 U.S. dollars. The costs to importers with the extension were calculated using the following assumptions:

- The opportunity costs for importer time were estimated at \$37.09 (range: \$27.07 to \$47.10) per hour based on the average U.S. wage rate and a Department of Transportation estimate specific to international travelers.^{58,59}
- Importers seeking advance written permission (*CDC Dog Import Permits*) for 12,139 (range: 3,934 to 35,145) dogs.
 - An assumption of 1 hour (range 0.5 to 2 hours) to submit advance written approval for a *CDC Dog Import Permit* and fulfill the informational and testing requirements for a permit.

⁵⁸Bureau of Labor Statistics (2020). May 2020 National Occupational Employment and Wage Estimates: United States. Retrieved from https://www.bls.gov/oes/current/oes_nat.htm.

⁵⁹U.S. Department of Transportation, Office of Transportation Policy (2016). The Value of Travel Time Savings: Departmental Guidance for Conducting Economic Evaluations Revision 2 (2016 Update), "Table 4 (Revision 2 - 2016 Update): Recommended Hourly Values of Travel Time Savings." Retrieved from <https://www.transportation.gov/sites/dot.gov/files/docs/2016%20Revised%20Value%20of%20Travel%20Time%20Guidance.pdf>.

- o Estimated costs of \$80 per dog (range: \$60 to \$100) for a rabies titer test at an approved rabies serology laboratory.^{60,61,62,63,64,65,66,67,68,69,70}
- o Assumed cost of \$150 per dog shipment (range: \$100 to \$200) for a veterinarian to draw blood samples and ship them to an approved rabies serology laboratory.^{71,72,73}

⁶⁰Kansas State University (2021). RFFIT test cost. Retrieved from <https://vetview2.vet.k-state.edu/LabPortal/catalog/list?CatalogSearch=RFF>. Accessed November 2021.

⁶¹Kansas State University Veterinary Diagnostic Lab (2021). FAVN test cost. Retrieved from <https://vetview2.vet.k-state.edu/LabPortal/catalog/list?CatalogSearch=favn&lab=§ion=>.

⁶² Auburn University Bacteriology and Mycology Lab (2021) RFFIT test cost, Retrieved from <https://www.vetmed.auburn.edu/academic-departments/dept-of-pathobiology/diagnostic-services/serology-virology/>. Accessed November 2021.

⁶³ Auburn University Bacteriology and Mycology Lab (2021) FAVN test cost, Retrieved from <https://www.vetmed.auburn.edu/academic-departments/dept-of-pathobiology/diagnostic-services/serology-virology/>. Accessed November 2021.

⁶⁴Instituto de Salud Publica de Chile, Laboratorio de Rabia (2021). RFFIT test cost. Retrieved from <https://www.ispch.cl/biomedico/enfermedades-transmisibles/virus/rabia/>

⁶⁵Pasteur Institute of Cambodia (2021). FAVN test cost. Retrieved from <https://www.pasteur-kh.org/rabies-prevention-centers/rabies-serology-for-pets/>.

⁶⁶Sciensano (2021) RFFIT test cost, Retrieved from <https://www.sciensano.be/en>. Accessed November 2021.

⁶⁷INOVALYS Le Mans (2021) FAVN test cost, Retrieved from <https://analyses.inovalys.fr/en/rage-rabies/21-je-souhaite-verifier-que-mon-animal-est-protege-contre-la-rage.html>. Accessed November 2021.

⁶⁸Australian Animal Health Laboratory (2021). FAVN test cost. Retrieved from https://aahllabservices.csiro.au/info/companion_and_equine_testing.aspx

⁶⁹Xe.com (2021) Xe Currency Converter. Retrieved from

⁷⁰Bureau of Labor Statistics (2022) CPI inflation calculator. https://www.bls.gov/data/inflation_calculator.htm. Accessed Feb 5, 2022.

⁷¹Pieracci, E. (2021). Personal communication, December 2, 2021.

⁷²Fedex (2021). Cold Shipping Solutions. Retrieved on <https://orderboxesnow.com/>.

⁷³Fedex (2021). Packaging UN 3373 Shipments. Retrieved from https://www.fedex.com/content/dam/fedex/us-united-states/services/UN3373_fxcom.pdf#:~:text=If%20you%20use%20any%20of%20the%20following%20clinical,Large%20Cold%20Box%20%282%E2%80%9338%C2%B0%29%20Extended%20Duration%20%2896%20Hours%29.

- o Estimated cost of \$35 (range: \$20 to \$50) to implant a microchip.^{74,75,76,77,78,79,80}
 - Assumed that 10 percent of imported dogs would receive a microchip solely due to the requirements included in the temporary suspension.⁸¹
- o An assumption that 50 percent (range: 35 to 60 percent) of importers will already have a valid rabies vaccination certificate issued by a U.S.-licensed veterinarian and will not need permits or testing from an approved rabies serology laboratory.
- o An assumption that there would be a 20 percent reduction in the number of imported dogs with non-U.S. RVCs due to the additional cost of obtaining a CDC permit or for post-arrival follow-up by a veterinarian at a CDC-approved facility.

⁷⁴Spend on Pet (2021). How Much Does it Cost to Microchip a Dog? Retrieved from <https://spendonpet.com/cost-to-microchip-a-dog/>.

⁷⁵Hanson, M. (2022). Cost of Microchipping a Pet. *Spots.com*. Retrieve.

⁷⁶Invest Foresight (019) Pet microchipping to be compulsory in Russia. Retrieved from <https://investforesight.com/pet-microchipping-to-be-compulsory-in-russia/>.

⁷⁷Xia, H. (2021) Turkey's dog owners rush to microchip pets after approval of new animal rights law. *XinhuaNet*. Retrieved from http://www.news.cn/english/2021-11/16/c_1310314878.htm.

⁷⁸K. (2012). Fit a microchip, identify your lost pet pooch. *DNA India*. Retrieved from <https://www.dnaindia.com/pune/report-fit-a-microchip-identify-your-lost-pet-pooch-1690440>.

⁷⁹Internal Revenue Service (2022). Yearly Average Currency Exchange Rates. Retrieved from <https://www.irs.gov/individuals/international-taxpayers/yearly-average-currency-exchange-rates>.

⁸⁰World Bank (2022). Consumer price index (2010 = 100). Retrieved from <https://data.worldbank.org/indicator/FP.CPI.TOTL?end=2020&start=1960>.

⁸¹Pieracci, E. (2021). Personal communication, December 2, 2021.

- o An assumption that 40 percent (range: 30 to 45 percent) of non-U.S. vaccinated dogs would arrive with a CDC permit.
 - An assumption that 39 percent (range: 29 to 44 percent) of non-U.S. vaccinated dogs would arrive without a CDC permit but would receive a serologic test for rabies immunity prior to arrival. These dogs would require transportation to a CDC-approved facility, revaccination, and a veterinary exam at an estimated cost of \$500 per dog (range: \$300 to \$600). It was also estimated to require about 17 minutes of importer time (range: 14 to 20 minutes) to make a reservation with the facility.
 - In addition, there may be additional delays for importers to wait for their dogs to be seen by a veterinarian at a CDC-approved animal facility. However, CDC was unable to predict how likely this would be to occur.
- o An assumption that 0.8 percent (range: 0.6 to 0.9 percent) of non-U.S. vaccinated dogs would arrive without a CDC permit or serologic test result and would require quarantine.
 - These dogs would require transportation to a CDC-approved facility, revaccination, a

veterinary exam, and would need to be quarantined for 28 days at an estimated cost of \$4,700 per dog (range: \$3,100 to \$5,500). It was also estimated to require about 51 minutes of importer time (range: 41 to 61 minutes) to make a reservation with the facility and to make arrangements during the quarantine.

- o An assumption that 35 percent of importers of dogs from high-risk countries would need to re-route travel to a port of entry with a CDC quarantine station, which would incur an increased ticket cost of \$200 and 4 additional hours of travel time.
- Importers who are unable to import a dog from a high-risk country because of the temporary suspension (6,070, range: 5,425 to 7,810 dogs) would incur an assumed cost of \$100 (range: \$50 to \$150) per dog because owners would be unable to bring their dog(s) to a country at high risk for CRVV or if importers incurred increased costs associated with substitution of imported dog(s) from CRVV-free or low-risk countries.

The costs for CDC were estimated based on:

- An assumed staff time cost of 20 minutes (range: 15 to 30 minutes) per permit issued by a GS-13, step 5 reviewer.
- Oversight of the permit process by two GS-13, step 5 veterinarians to support communications, policy, and decision-making during the suspension.
- CDC staffing costs are estimated using the GS pay scale for the Atlanta area and multiplying by two to account for non-wage benefits and overhead.

CBP has reported the fully loaded wage rate for CBP officers at the GS-12, step 3 average wage level (\$57.85 in 2020 USD) as part of their analysis of the costs associated with reviewing import information for formal entry.⁸² CDC assumed that this fully loaded wage rate included non-wage benefits but did not include agency overhead. In the absence of other information, CDC assumed that overhead may add another 33 percent to the average hourly cost for CBP officer time. This would result in a total cost to CBP of \$76.94 per hour for CBP staff engaged in screening dogs at ports of entry.

CDC assumed that airlines would incur additional costs for this temporary suspension associated with the time required to review documentation for dogs imported from high-risk countries. This would require 10 minutes (range: 7 to 15) of airline staff time. CDC assumed that this additional time would be spent by

⁸²U.S. Customs and Border Protection (2021). Supporting Statement: Application to Use Automated Commercial Environment (ACE) 1651-0105. Retrieved from https://www.reginfo.gov/public/do/PRAViewDocument?ref_nbr=202106-1651-002.

aircraft cargo handling supervisors whose average hourly wage was reported to be \$28.66 on average.⁸³ To account for non-wage benefits and overhead, CDC multiplied this wage rate by 2.⁸⁴ There may be some reduction in cargo fees revenue associated with the reduction in dogs imported from countries at high risk for CRVV (range: 5,425 to 7,810 dogs), which was assumed to result in lost revenue of \$25 per dog transported since CDC does not have any data on the profit to airlines for transporting dogs.

The expected annual benefits (averted costs) were estimated for importers, CDC, CBP, and airlines based on the reduced numbers of dogs delayed entry and the reduced time spent by CBP officers to screen dogs from high-risk countries.

The estimated benefits (averted costs) for importers were estimated based on:

- An estimated reduction in time spent by CBP to review documentation for dogs from high-risk countries arriving with CDC permits (i.e., dogs that were vaccinated outside the United States) assuming an estimate of 17 minutes (range: 13.6 to 20.4 minutes) per dog to review documentation under the baseline⁸⁵ to

⁸³Bureau of Labor Statistics (2020). May 2020 National Occupational Employment and Wage Estimates, Job category 53-1041. Retrieved from https://www.bls.gov/oes/current/oes_nat.htm.

⁸⁴U.S. Department of Health and Human Services (2016). Guidelines for Regulatory Impact Analysis. *Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services*. Retrieved from https://aspe.hhs.gov/system/files/pdf/242926/HHS_RIAGuidance.pdf.

⁸⁵Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from

five minutes (range: 3 to 8 minutes) per dog to review permits during the suspension.

- An estimated two hours per dog denied entry (estimated at 450 fewer dogs denied entry, range: 255 to 750) with the suspension relative to baseline.
- CDC assumed that 60 percent of dogs denied entry would be re-imported to the United States at a round-trip cost of \$1,200 per dog to the importer.⁸⁶
- CDC assumed that 40 percent of dogs denied entry would be abandoned by importers at a cost of \$600 per dog to the importer.

The estimated benefits (averted costs) to CDC were estimated based on:

- An estimated four hours of CDC staff time per dog denied entry at an average GS-level 13, step 5 at CDC Headquarters and an average of 30 minutes of CDC quarantine station staff time per dog denied entry at an average GS-level 11, step 5. The actual mix of staff at CDC Headquarters who need to support denials of entry would vary from GS-11 through Senior

<https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

⁸⁶Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84, 724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

Executive Staff and varies depending on time spent on appeals and finding shelter for abandoned dogs.

The estimated benefits (averted costs) to CBP were estimated based on:

- An estimated reduction in the number of dogs imported from high-risk countries due to the temporary suspension: 6,070 (range: 5,245 to 7,810) relative to baseline.
- Under the baseline, CDC estimated that each dog imported from a high-risk country requires 17 minutes (range: 13.6 to 20.4 minutes) of CBP officer time to review documents.⁸⁷
- With the temporary suspension in place, CDC estimates that the time required to review CDC-issued permits would decrease from the above to five minutes (range: 3 to 8 minutes) per dog for the estimated 12,139 (range: 3,934 to 35,145) dogs arriving with permits. The amount of time required for dogs with US RVCs or for dogs transported to a CDC-approved facility would be unchanged.

⁸⁷Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84, 724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

- An estimated reduction in the number of dogs denied entry because of the temporary suspension: (estimated at 450 fewer dogs denied entry, range: 255 to 750).
- An estimate of 71 (range: 47 to 95) minutes of CBP staff time required per dog denied entry (GS-12, step 5).⁸⁸

The estimated benefits (averted costs) for airlines were estimated based on:

- The reduction in the estimated numbers of dogs denied entry and abandoned by importers (200 under the baseline vs. 20 with the suspension of entry).
- An assumed cost of \$600 per dog for airlines to fly abandoned dogs back to their countries of origin.⁸⁹

The costs associated with an importation of a dog with CRVV include health department staff time for the public health response, payments for post-exposure prophylaxis for exposed persons, and the costs associated with quarantining or euthanizing exposed animals. CDC estimated the response cost per imported dog with CRVV to be \$323,742 (range: \$220,897 to \$521,828) based on the following assumptions:

⁸⁸Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

⁸⁹Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

- An estimate of 800 hours of health department staff time per importation.⁹⁰
- The public health response time is split evenly among veterinarians (code 29-1131, \$52.09 per hour), epidemiologists (19-1041, \$40.20 per hour), registered nurses (29-1141, \$38.47 per hour), licensed practical nurses (29-2061, \$24.08 per hour), and office and administrative assistants (43-0000, \$20.38 per hour).^{91,92} These wage estimates are multiplied by two to account for non-wage benefits and overhead.
- An average of 25 (range: 16 to 44) individuals will require post-exposure prophylaxis because of exposure to the dog with CRVV.^{93,94}
- The average cost of post-exposure prophylaxis was estimated to be \$9,524 per person.⁹⁵

⁹⁰Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

⁹¹Bureau of Labor Statistics (2020). May 2020 National Occupational Employment and Wage Estimates: United States. Retrieved from https://www.bls.gov/oes/current/oes_nat.htm.

⁹²Bureau of Labor Statistics (2020). May 2020 National Occupational Employment and Wage Estimates: United States. Retrieved from https://www.bls.gov/oes/current/oes_nat.htm.

⁹³Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C., Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019. *Morbidity and Mortality Weekly Report*, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

⁹⁴Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84,724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.

⁹⁵Raybern, C., Zaldivar, A., Tubach, S., Ahmed, F., Moore, S., Kintner, C., Garrison, I. (2020) Rabies in a dog imported from Egypt-Kansas, 2019.

- An estimated 29.6 animals would need to be quarantined or euthanized due to exposure to the dog with CRVV.
- Public health follow-up of each exposed animal would incur economic costs of \$1,000 for quarantine or euthanasia.⁹⁶

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Morbidity and Mortality Weekly Report, 69(38), 1374-1377. Retrieved from <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6938a5-H.pdf>.

⁹⁶Centers for Disease Control and Prevention (2019). Guidance Regarding Agency Interpretation of "Rabies-Free" as It Relates to the Importation of Dogs Into the United States. *Federal Register*, Vol. 84, 724-730. Retrieved from <https://www.federalregister.gov/documents/2019/01/31/2019-00506/guidance-regarding-agency-interpretation-of-rabies-free-as-it-relates-to-the-importation-of-dogs>.