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March 22, 2019

Dear Honorable Mayors and City Managers:

Subject: Guidance on actions for cities to help prevent endemic flea-borne typhus infections.

The Los Angeles County Department of Public Health (LAC DPH) has documented a surge in flea-borne typhus infections in LAC in recent years. Between 2013-2017, an average of nearly 60 cases per year were reported in LAC residents, a two-fold increase in the number reported compared to the previous five years. This letter is to provide cities across LAC with information on the disease and guidance for cities to help prevent endemic flea-borne typhus infections through actions in the environment.

### ***The Basics***

Flea-borne typhus is a flu-like illness caused by the bacteria *Rickettsia typhi* and *Rickettsia felis*. It is transmitted to people through contact with feces of an infected flea. Rats, cats, opossums and other small mammals can carry infected fleas and bring them into contact with people. Most infections are mild and self-limited, but severe illness and complications can occur. Deaths occur in less than 1% of cases. Typhus can be treated with appropriate antibiotics.

### ***Disease Trends in LAC***

Flea-borne typhus is endemic (regularly occurs) in LAC. Cases have been detected in 49 cities across the county (Figure 1 in Attachment A). Typhus cases can be seen to cluster in areas where environmental factors, either natural or man-made, support animal populations that carry infected fleas. In 2018 to date, 109 cases have been identified in LAC residents (excluding Pasadena and Long Beach which have their own health departments), surpassing the highest count of 68 cases recorded by LAC DPH in 2013 (Figure 2 in Attachment A). Pasadena and Long Beach have seen similar record increases in 2018, with 19 and 20 cases, respectively, totaling 148 cases across all of LAC. The majority of these cases were hospitalized, but no fatalities occurred. Many cases may go unreported, as infections can often be mild and resolve undiagnosed by physicians.

Two clusters of flea-borne typhus were identified by LAC DPH in early October 2018. To date, the clusters include 19 cases in downtown Los Angeles, eight of whom were experiencing homelessness or living in interim housing facilities, and seven cases in Willowbrook, none of whom were experiencing homelessness or living in interim housing facilities. LAC DPH has been working closely with the City of Los Angeles and other County of Los Angeles departments to conduct community outreach and enhance

services to mitigate environmental risk in the vicinity of those clusters.

***Preventing Flea-borne Typhus: For Community Members***

Anyone who has contact with infected fleas is at risk for typhus. For community members, preventing flea-borne typhus is achieved by reducing exposure to fleas. Recommendations include:

- ✓ Use flea control products on your pets.
- ✓ Keep pets indoors.
- ✓ Use EPA-registered insect repellent labeled for use against fleas.
- ✓ Do not leave pet food outdoors. Do not provide food or water for wild animals.
- ✓ Maintain yard free of debris and trim overgrown plants and bushes.
- ✓ Properly dispose of your waste wherever you are. Don't overfill public containers.
- ✓ At home, keep trash in containers that are tightly covered to avoid attracting animals.
- ✓ Close off crawl spaces and openings under home where rats and stray animals can sleep, hide, or find food.
- ✓ Address any stray cat, rodent or opossum issues on and near your property.

LAC DPH encourages cities to promote policies and messaging that support the above guidelines for individuals.

***Preventing Flea-borne Typhus: For City Officials***

Recommendations for the implementation of a successful rodent control program, including maintaining sanitation and eliminating sources of food for rodents and stray animals in public areas, are attached for your guidance (Attachment B). Additionally, public health concerns and recommendations for city administrators regarding policies that promote free-roaming cats and feeding or sheltering of stray animals with regards to flea-borne typhus is also provided (Attachment C).

Flea-borne typhus has become an increasing public health threat that has the potential to affect all residents of LAC. Because it naturally occurs in the environment, the threat cannot be eradicated; however, with the partnership of cities and communities in supporting and promoting policies and actions that minimize exposure to fleas and contact with wild or stray animals, the risk of flea-borne typhus can be successfully reduced. For more information about flea-borne typhus, please visit <http://www.publichealth.lacounty.gov/acd/vectortyphus.htm>.

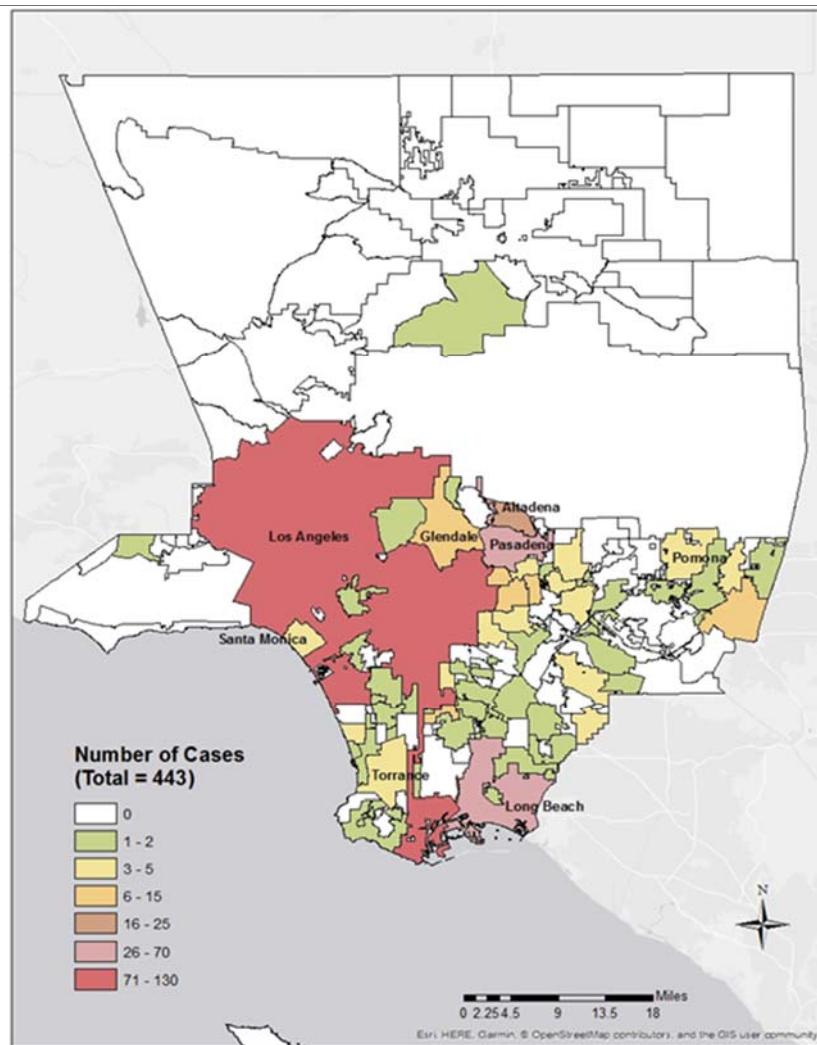
Sincerely,

  
Muntu Davis, M.D., M.P.H.  
County Health Officer

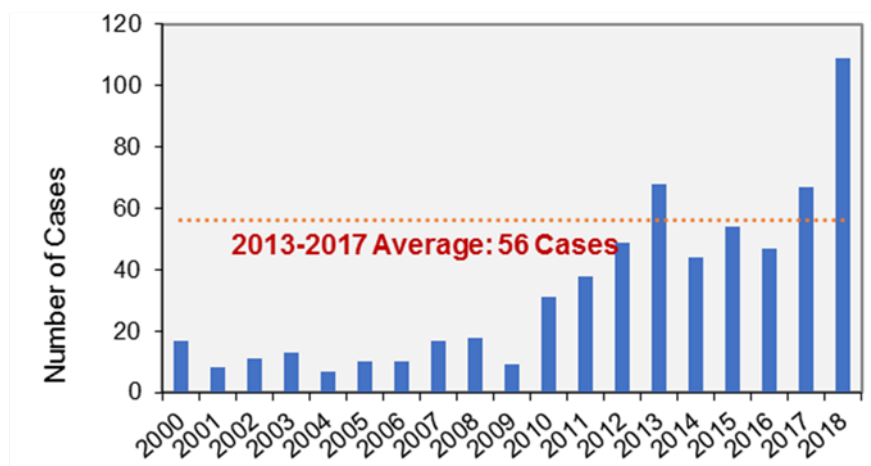
Attachments (3): A – LAC Data on Flea-borne Typhus, B – Recommendations for Controlling Rodents, and C – Public Health Concerns Regarding Free-Roaming Cats, Feral Cat Colonies and the Feeding/Sheltering of Stray Animals.

**ATTACHMENT A – LAC Data on Flea-borne Typhus**

**Figure 1: Los Angeles County Flea-borne Typhus Case Distribution by City, 2014-2018. Includes data from Long Beach and Pasadena.**



**Figure 2: Flea-borne Typhus Cases by Year, LAC, 2000-2018 (as of 2/22/2019). Excludes Long Beach and Pasadena.**



## **ATTACHMENT B**

### **RECOMMENDATIONS FOR CONTROLLING RODENTS**

Rodents can cause damage to property, transmit organisms that can cause disease, and contaminate areas with their urine and droppings. They are associated with diseases such as flea-borne typhus, plague, hantaviral diseases, rickettsial pox, rat-bite fever, leptospirosis, lymphocytic choriomeningitis, and listeriosis. They can also carry multiple internal parasites which can be transmitted to humans and domestic animals. Rodents with their diseases and fleas remain a continuing threat to the health and well-being of the residents of Los Angeles County.

To reduce the risk of exposure to these organisms, a successful rodent management program utilizing Integrated Pest Management should be implemented. Consistent environmental sanitation, i.e. consistent removal of trash, garbage and other wastes, is the key to rodent control.

An effective rodent control program can be achieved using the following recommendations:

#### **1. Eliminate Food Sources:**

- Keep sidewalks, streets, and alleys clean and free of trash and debris
- Remove trash, garbage, fecal material, pet droppings and other food sources
- Keep garbage in bins with lids closed and secured with locks when necessary
- Provide enough waste containers to prevent an accumulation of rubbish and trash in high foot traffic areas and in between collection days
- Do not leave food outside

#### **2. Eliminate Harborage (Shelter) Conditions:**

- Keep vegetation trimmed and maintained
- Keep tree limbs trimmed at least six feet from structures
- Remove cast-off items such as mattresses, furniture and appliances
- Elevate stored materials 18" off the ground and 12" away from walls and fences with a clear space underneath

#### **3. Eliminate Rodents Using Effective Physical, Mechanical or Chemical Controls:**

- Repair structures and perform rodent-proofing to prevent rodent entry
- Eliminate rodent burrows in planters along streets, sidewalks and easements
- Use appropriate traps during and after structure repairs to eliminate rodents
- Control fleas prior to baiting to prevent fleas from seeking other hosts
- Use bait stations after cleanup and sanitation to enhance bait acceptance
- Follow label instructions when using any chemical control
- Utilize professional pest control services on a regular basis

A successful rodent control program requires active and consistent participation by all members of the community. Permanent reduction of food, water, and harborage will result in a permanent reduction in rodent populations. In a community-oriented rodent control program, trapping and baiting are successful only when used in conjunction with improvements in sanitation, elimination of harborage, and performing rodent-proofing.

## **ATTACHMENT C**

### **Flea-borne Typhus and Public Health Concerns Regarding Free-Roaming Cats, Feral Cat Colonies and the Feeding/Sheltering of Stray Animals**

Free-roaming cats are present throughout Los Angeles County (LAC). Some free-roaming cats are feral and unsocialized to humans, some are lost or abandoned pets, while others are owned cats but permitted to roam outdoors. Currently in LAC, there are no requirements for animal control agencies to register, license, or monitor free-roaming cat colonies. For the majority of feral, free-roaming cats, preventive veterinary medicine is limited to time of capture if the animal is trapped for neuter/spay and then released, leaving many cats not fully vaccinated and lacking in internal/external parasite control. Feeding of free-roaming cats is also not controlled, with the unintended effect of attracting other animals, including wildlife, to congregate in urban and peri-urban areas. This can pose a threat to the public health in communities, affecting neighbors and local businesses, creating liabilities for safety (bites) and disease transmission (e.g. flea-borne typhus, rabies, etc.). The following are public health concerns with regards to free-feeding and free-roaming cats in relation to the increased detection of flea-borne typhus in LAC.

#### **Flea Infestations:**

The cat flea, *Ctenocephalides felis*, is the most common type of flea that infests cats, dogs, opossums and other wildlife. It readily bites humans which can result in local irritation and transmission of flea-borne typhus. Large numbers of flea-infested animals congregating in one area can lead to very large populations of fleas. Residents may have difficulty eliminating fleas in their yards due to the repeated presence of community cats from neighboring properties. Large flea infestations limit the ability of residents and their children to enjoy outdoor time in their yards as well as increase the risk of human and pet exposure to flea-borne typhus.

#### **Wildlife-Domestic Animal-Human Interface:**

Free-feeding of free-roaming cats frequently attracts other wildlife, bringing them into close contact with humans and their pets, and creating opportunities for flea-borne typhus to spread. Food left out for free-roaming cats can attract rats and opossum. Opossum are of special concern as they can amplify flea-borne typhus - one opossum can easily host thousands of cat fleas. Those fleas can be spread to pets, increasing the risk of human cases of flea-borne typhus.

In addition to flea-borne typhus, uncontrolled free-feeding and free-roaming cats can increase the risk of several other diseases as a result of increased flea infestations, attraction of wildlife, and fecal accumulation. These include plague, cat scratch fever, rabies, leptospirosis, baylisascaris, toxoplasmosis, roundworm, hookworm, cryptosporidiosis, and giardiasis.

#### **Recommendations for cities regarding free-roaming cats and feeding or sheltering stray animals:**

Free-roaming cats and wildlife pose a challenge in terms of flea control as both the animals and the environment are difficult to treat. Flea infestations that result from free-roaming cats are rarely, if ever, successfully managed. To eliminate fleas effectively, it is vital to routinely address both the infested animals and their environment.

The best way to reduce exposure to fleas is to discourage free-roaming cats from congregating and establishing a colony in areas inhabited by humans or other pets. Cities should promote the following prevention measures among residents:

- ✓ Do not leave food outside for pets.
- ✓ Keep tight-fitting lids on trash cans.
- ✓ Remove fallen fruit quickly.
- ✓ Eliminate heavy vegetation or other areas that encourage harboring of animals.

Although topical flea control medications kill fleas within hours of application, they cannot be administered to feral or semi-feral cats due to the inability to safely handle the animals. Feed-through products available for cats that disrupt the reproductive cycle of fleas (but do not kill the adult fleas) are effective, but it is not possible to administer the prescribed oral dose every 30 days as required to each cat during typical mass-feeding operations. When exposed to or handling these animals, it is recommended to use EPA-registered insect repellent. Yard treatments of pesticides can be immediately effective, however, flea-infested cats that return to the area continually introduce new infestations.

Cities should also encourage all pet owners to act responsibly and have their cats vaccinated, microchipped, treated regularly for fleas, spayed or neutered, and confined to the owner's property. Pet owners can protect their pets by appropriate use of flea preventatives and flea control for animals, and not allowing their pets to roam outdoors.

Additionally, cities should support and encourage reporting of animal welfare concerns and violations of local ordinances limiting the number of cats per household to the local animal control agency. Cities should regularly enforce violations of ordinances related to animal welfare and ownership. For unincorporated areas of LAC, property owners can be ordered to reduce the number of animals to the legally permitted number of animals and can be issued citations for noncompliance with these ordinances.

Flea infestations and accumulation of animal feces can be reported to the LAC Department of Public Health. A Notice of Violation can be issued to the property owner/responsible party requiring action to abate any public health risk.