Mass dog culling is not an effective method for rabies control

Global Alliance for Rabies Control Position Statement

Mass dog culling has been shown to have no long-term impact on the control of rabies within cities [1-3], or across countries such as Ecuador, Indonesia, and Bangladesh [4-7]. It is a waste of time and resources that could be used instead to put in place a sustainable, effective rabies elimination program.

Why is mass culling ineffective?

Culling has no permanent effect on population size: Culling does not address the source of new or replacement animals and only has a temporary effect on population size [8]. Rapid dog replacement rates have been documented in some areas following culling, leading to a younger population of rabies-susceptible dogs [9, 10].

Culling can result in an increase in rabies: Indiscriminate culling of dogs in communities where rabies vaccination programs are operating is likely to remove vaccinated dogs from communities, resulting in lower vaccination coverage and a counter-productive increase in rabies transmission as populations recover [11].

Culling causes problems for the community: Culling often meets with public resistance both within the local area and outside, especially as the methods employed are often inhumane [12]. The result can be withholding of dogs from rabies vaccination efforts during current and future campaigns. People may even move dogs away from culling zones, a measure which has been documented to spread rabies [13]. Some methods of inhumane culling, such as poisoning, may

also pose threats to public health. Culling operations can be expensive [4, 14] and harmful to tourism [15].

For these reasons, the indiscriminate culling of dogs is now universally condemned as a means to eliminate rabies [16].

What should be done during a rabies outbreak?

In any rabies situation, but particularly during an outbreak emergency, the focus should be on vaccinating dogs [17]. Rabies can spread quickly across an area, especially where there are large numbers of unvaccinated free-roaming dogs. The basic management of the situation is the same, whether there is a rabies outbreak in an endemic area or in a rabies-free area. However, there needs to be a particular focus on animal movements into and out of the affected area in the case of an emergency in a rabies-free area.

- **Vaccination campaigns** for dogs (and cats if appropriate) should choose a strategy that will reach 70% vaccination coverage of the at-risk dog population as quickly as possible [17]. This will reduce the number of susceptible animals in an infected area to prevent the spread of the disease.

Briefly, alongside vaccination, additional measures that will help to limit the spread of the disease and ensure protection of people include:

- **Declaration of infected areas/places** with clearly established boundaries of the infected area/place marked by warning signs.
- **Community awareness campaigns** and systems for the public to report rabid dogs so the government can respond to quickly remove highly suspect dogs. This reduces human exposures and gives the program a much more community-friendly face than culling many dogs.
- **Accurate surveillance** and timely reporting will help to prevent future rabies outbreaks and contain them rapidly if they do occur.

- **Control of dog movements** into and out of infected areas/places to reduce opportunities for potentially infected animals to come in contact with susceptible animals.
- Adequate access to **post-exposure prophylaxis** (PEP) to ensure that people bitten by dogs that may have rabies are protected.
- **Temporary holding facilities** should be used to confine suspect dogs within the infected area for observation. Euthanasia is acceptable for highly suspect rabid dogs and unvaccinated dogs that have been bitten by such dogs, but should always follow humane guidelines.

In an emergency situation, the focus should not be on reducing the dog population [17]. If desired, a longer-term population management programs can be put in place once the outbreak has been brought under control [18].

Steps should be taken to create a national rabies elimination strategy if one does not already exist. This should be properly funded and staffed to enable effective implementation. Proper surveillance, set up as part of this strategy, will help to prevent future rabies outbreaks and contain them rapidly if they do occur. High levels of canine vaccination must be maintained to prevent any outbreaks from establishing and spreading.

How can we eliminate rabies for good?

Only mass vaccination of dogs will eliminate the disease from the dog population and thus protect the community from the risk of rabies in the long term [19]. High levels of dog vaccination must be maintained to prevent rabies from spreading. Dog vaccination is thus the backbone of the global framework to end human rabies, which set a goal of an end to human deaths due to dog transmitted rabies by 2030 [20].

In support of this goal, tools and resources to enable countries to plan and implement a comprehensive rabies elimination program have been developed [21, 22] and capacity building networks are being strengthened [23].

Elimination of rabies from dog populations and an end to the threat of rabies can be achieved.

#EndRabiesNow #Zeroby30.

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