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#### Invited Review

# Formation of the Asian Rabies Control Network (ARACON): A common approach towards a global good



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#### ABSTRACT

The drive towards the worldwide elimination of dog-mediated human rabies by 2030 is the first step towards the ultimate goal of dog rabies elimination - as dogs account for more than 99% of human rabies cases globally - and has gained considerable momentum since this resolution was taken at a global meeting in Geneva in December 2015. For dog rabies-endemic countries and regions, dedicated regional networks may offer unique opportunities to take advantage of this global momentum. Towards this goal, the Pan-African Rabies Control Network (PARACON) was created in 2015, and the past year has seen the formation of the Asian Rabies Control Network (ARACON). ARACON provides opportunities for member countries to share lessons learnt and challenges faced, while also introducing them to programmatic support tools such as the Stepwise Approach towards Rabies Elimination (SARE) assessment and the Rabies Epidemiological Bulletin (REB). During the inaugural ARACON meeting, member countries evaluated their progress and developed country-specific Practical Workplans based on their SARE outcomes. The results from the national-level SARE assessments were considered at the regional level and, after discussion among countries, consensual agreement was reached that the target date of regional freedom from dog-mediated human rabies by 2020 was not feasible, and a new regional target of 2030 was set. With this new regional target, ongoing support will continue to be provided to countries through regional structures such as ARACON. However, the responsibility remains with the countries to use the available tools and resources to progress towards the new regional goal of dog-mediated human rabies elimination by 2030.

#### 1. Introduction

Rabies in humans has been inextricably linked to dogs, as evidenced by the fact that dog-transmitted rabies remains responsible for more than 99% of human cases globally (Hampson et al., 2015; WHO, 2018). While the ultimate global goal is the elimination of dog rabies, rabies elimination in humans is considered an initial milestone. To this end, the drive towards the worldwide elimination of dog-mediated human rabies by 2030 has gained considerable momentum since this resolution was taken at a global rabies meeting in Geneva, December 2015 (WHO et al., 2015). For dog rabies-endemic countries and regions, a dedicated regional network may offer unique opportunities to take advantage of this global momentum. Towards this goal, the Asian Rabies Control Network (ARACON) was formed in March 2018, on the same premise as

the Pan-African Rabies Control Network (PARACON), created in 2015. The ARACON network provides opportunities for member countries to share lessons learnt and challenges faced, while also introducing them to programmatic support tools such as the Stepwise Approach towards Rabies Elimination (SARE) assessment and the Rabies Epidemiological Bulletin (REB).

In this process, member countries evaluated their progress and developed country-specific Practical Workplans based on their SARE outcomes. The results from the national-level SARE assessments were considered at the regional level and, after discussion among countries, consensual agreement was reached that the target date of regional freedom from dog-mediated human rabies by 2020 was not feasible. Therefore, a new regional target date of 2030 was set. With this new regional target, ongoing support will continue to be provided to

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A. Coetzer et al. Antiviral Research 157 (2018) 134–139



Fig. 1. Member countries of ARACON (Asian Rabies Control Network). Two of the member countries invited to participate in the ARACON network (China and Nepal) were unable to attend the inaugural meeting.

countries through regional structures such as ARACON. However, the responsibility remains with the countries to use available tools and resources. This paper describes the formation of ARACON and the guidance and support that it provides to member countries to achieve the new regional goal of eliminating dog-mediated human rabies by 2030.

#### 2. Background: eliminating dog rabies

Rabies is the oldest known zoonotic disease, with anecdotal evidence suggesting its presence in Mesopotamia and the Mediterranean basin since antiquity (Blancou, 2004). Throughout the ages, rabies was a global scourge of humans until the development of the first effective rabies vaccine, by Louis Pasteur, in the 1870's (Adamson, 1977; Blancou, 2004; Nel and Rupprecht, 2007; Pasteur, 1887). Despite the fact that rabies has been a vaccine preventable disease in humans and dogs for more than one hundred years, dog-mediated rabies – accounting for 99% of all human rabies cases - continues to cause the deaths of an estimated 59 000 people annually (Hampson et al., 2015; WHO, 2018, 2017) and remains endemic throughout Africa and Asia. The majority (59.6%; 35 000 people) of these deaths originate from rabies-endemic Asian countries, with approximately four billion people being considered at-risk.

Due to the transboundary nature of rabies, those countries that have succeeded in eliminating dog-mediated rabies did not do so without regional collaboration. In this regard, the most recent evidence is from the Pan American Health Organisation (PAHO) and the network of Directors of Rabies Programs in the Americas (REDIPRA) (Clavijo et al., 2013; Velasco-Villa et al., 2017), as well as the North American Rabies Management Plan (NARMP) (Slate et al., 2009).

In an effort to create similar collaborative regional rabies networks within dog-mediated rabies endemic countries, the Pan-African Rabies Control Network (PARACON) was established in 2015 under the secretariat of the Global Alliance for Rabies Control (GARC) (Scott et al., 2015). Since its establishment, the PARACON network has been operational within sub-Saharan Africa and has granted member countries the opportunity to gain hands-on experience in the strategic planning, development, implementation, refinement and evaluation of their national rabies control and prevention strategies using various tools and mechanisms developed by GARC and its collaborating partners, including the tripartite of the World Health Organization (WHO), the World Organization for Animal Health (OIE) and the Food and Agriculture Organization of the United Nations (FAO), as well as the United States Centers for Disease Control and Prevention (CDC), among others.

Building upon the foundation laid by PARACON for rabies-endemic African countries, GARC and its partners have endeavoured to create a

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