



## AROUND US

The main events of epidemiological interest in the last months in the European Union and in the neighbour countries

### Eliminating dog-mediated human rabies by 2030: a One Health challenge

Whereas extensive efforts in developed countries have largely contributed to control rabies in non-flying mammals, dog rabies remains enzootic in much of the developing world. Although efficient vaccines are available for humans and animals, rabies remains one of the most neglected diseases inequitably affecting the poorest rural communities in developing countries, with an estimated 59,000 deaths per year, almost all transmitted by dogs. In the last decades, health leaders have increased their awareness that this fatal disease could be eliminated as a public health problem cost. Elimination of canine rabies is a priority to the World Health Organisation (WHO), the World Organisation for Animal Health (OIE) and the Food and Agriculture Organization of the United Nations (FAO) tripartite collaboration. “Zero by 30” is a campaign run by The Global Alliance for Rabies Control (GARC) jointly with the three international organizations to eliminate human deaths from canine rabies by 2030. Nevertheless, progress still remains slow. Currently, Latin America is undoubtedly the most successful region and the closest to the goal. South East Asia has engaged itself to reach the goal by 2020 and Africa by 2030. Several initiatives have been undertaken over the last years to move things forward in a relatively short time.

#### Dog rabies epidemiological situation (Latin America – Asia – Africa)

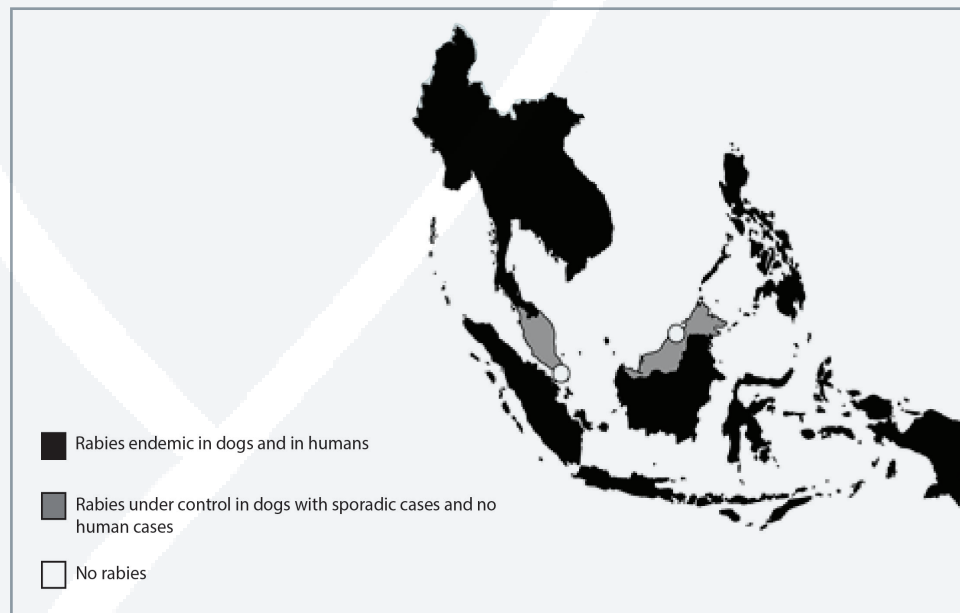
**Latin America and the Caribbean** - Countries in this region have made steady progress toward eliminating canine rabies, although four different dates for the elimination of rabies have been set so far (1990, 2000, 2012, and 2015), with the last one fixed at 2022. With substantial help from the Pan American Health Organization, they jointly purchase and share vaccines, use standardized surveillance and coordinate vaccination along borders. The regional elimination program has triggered a reduction of about 90% of dog-transmitted human cases from 1980 to 2017. However, Brazil, Peru and Venezuela still count for sporadic dog-mediated human cases and dog rabies is still endemic in Bolivia, Guatemala and Haiti (Figure 1).

**Southeast Asia** – In 2017, eight out of ten ASEAN (Association of Southeast Asia Nations) Member States (AMS) are still endemically infected with rabies, namely Cambodia, Indonesia, Lao PDR, Myanmar, the Philippines, Thailand, Vietnam and Malaysia, which unfortunately has recently acquired rabies in areas close to neighboring Thailand and Myanmar. Similarly, in the 2000s certain Indonesian islands, historically dog-rabies free, have experienced an extensive re-emergence of the disease (Bali, 2008, Nias Island, 2010, Larat Island, 2010, Dawera Island, 2012). Those incidents further highlight the transboundary nature of rabies virus and the need for a joint regional control to ensure national disease elimination. The remaining two small countries, namely Singapore and Brunei, historically free of rabies, are not representative but an exception to the general status of South East Asia, very likely due to their small size. Importantly, in 2014 and with the support of the tripartite international organizations and GARC, ASEAN countries have unanimously endorsed the [regional Rabies Elimination Strategy \(ARES\)](#) (Figure 2).

**Figure 1.**  
Epidemiological status of dog and human rabies in Latin America and the Caribbean



**Figure 2.**  
Epidemiological status of dog and human rabies in South East Asia



**Africa** – The African continent experienced one of the most successful rabies elimination programs, which was founded by the [Bill and Melinda Gates foundation in Kwa-Zulu-Natal \(KZN, South Africa\)](#). The 2008-2013 program proved to be extremely successful by reducing human deaths in the South African region to almost zero. The elimination program has been extended and is now funded by the SA authorities, demonstrating the feasibility of eliminating dog rabies in Africa. Since then, the KZN actors have become worldwide champions, and have stimulated other African countries to reach a similar accomplishment. Thus, in 2015 the commitment of Africa to eliminate the disease was renewed through the launch of the Pan-African Rabies Control Network (PARACON) with the aim to unify pre-existent networks, such as SEARG, AfroReb, RIWA and RESOLAB Rabies subnetwork. The first PARACON meeting held in South Africa in 2015 considered the elimination of canine-mediated human rabies by 2030 to be a plausible achievement. Since then, several initiatives have been undertaken under the PARACON umbrella, among these regional and sub-regional meetings and consultancies, the development of a regional Rabies Epidemiological Bulletin and guidance to national authorities for planning elimination programs (Figure 3).



death caused by canine rabies by 2030.

At a global level rabies epidemiological data are scarcely and inconsistently input into the official databases, so that human (and animal cases) are mostly estimated. Official OIE notification of rabies through the WAHIS is patchy and not representative of the real situation. The WHO Rabnet database has even been discontinued until further notice due to its unreliable and irregular data uploading from member states. However, there is a growing trend for feeding regional epidemiological bulletins with regional data, with the final idea that a targeting approach has more potential than a global one. So far, the WHO funded [Rabies Bulletin Europe](#) has proven to be extremely successful and has played as an excellent example for new initiatives, such as in [Latin America, the Caribbean](#) and in [Africa](#).

International organizations have committed themselves to facilitate the access to vaccines and immunoglobulins in endemic countries. In particular, the development of the OIE animal vaccine bank has been fruitful, uses production on demand to ensure good shelf life, and offers lower prices. Five years after its creation, [the bank has delivered 19 million doses over 27 countries worldwide](#).

From a public health point of view, the Strategic Advisory Group of Experts (SAGE) on Human Immunization from WHO has required the establishment of a background study on whether administration of pre-exposure prophylaxis (PrEP), post-exposure prophylaxis and rabies immunoglobulin (RIG) could be simplified and rendered more cost-effective. Furthermore, as the availability and accessibility to vaccines in endemic countries is problematic, the Global Alliance for Vaccines and Immunization (GAVI) is currently considering including rabies vaccine in their priority list.

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