

Table 1. Canine rabies control programs around the world

Location	Period	Method	References	Comment
ASIA				
Singapore	1892	Stray dog elimination, enforcement of sanitary policy	(1)	Successful
Japan	1956	vaccination	(2)	First controlled in 1930, eliminated in 1956
Hong Kong	1956	vaccination	(3, 4)	Elimination in 1956, but reintroduced in 1980
Malaysia	1953-56	vaccination	(5-8)	Successful until civil unrest led to a decline in control activities in 1970. Sporadic cases have been recorded since the 3 month outbreak.
Taiwan	1961	vaccination	(9)	Successful
Philippines (Dumagete, Siquijor, Coastal towns, Negros)	1964-72	vaccination	(10, 11) (12)	Re-emergence when coverage dropped, rabies is now endemic across the country
THE AMERICAS				
USA	1950-65	vaccination, stray dog elimination and licensing laws	(9)	Eventually resulted in elimination of domestic dog rabies throughout the country
Alabama, USA	1937-44	vaccination	(13)	Small scale success but not enforced in all counties
New York State, USA	1946-48	vaccination	(14, 15)	Successful, although wildlife rabies is endemic
Memphis, USA	1948	vaccination	(16)	Successful
Houston, USA	1953-55	vaccination	(16)	Successful
Phoenix & Maricopa, Arizona, USA	1962	vaccination	(17)	Successful
California	1952-57	vaccination	(18)	Successful, although wildlife rabies is endemic
Santiago, Chile	1962-64	vaccination	(19)	Carried out to control a serious outbreak
Chile	1960	vaccination	(20, 21)	Within ten years rabies was reduced to very low levels. No human deaths since 1990
Greater Buenos Aires, Argentina	1976	vaccination	(22)	free of dog rabies
Argentina	1977-82	vaccination	(9, 22)	Nationwide decline in domestic dog rabies
Lima-Callau, Peru	1982	vaccination	(22)	free of dog rabies, but later reintroduced
Peru	1985	vaccination	(23)	Reduced levels of canine rabies
Sao Paulo, Brazil	1969	vaccination	(22)	Successful citywide control
Brazil	1981	vaccination	(24)	Nationwide decline in domestic dog rabies
Quayaquil, Ecuador	1985-86	vaccination	(25) (26)	When intensive vaccination campaigns implemented rabies was controlled
Mexico and the Caribbean	1990s	vaccination	(22, 27)	Dramatic reductions in incidence and human deaths
EUROPE				
Scandinavian countries	pre 1900	Stray dog elimination, enforcement of sanitary policy	(16)	Successful
Prussia	1875	Stray dog elimination, enforcement of sanitary policy	(1)	Initial success
UK	1886-1903	Stray dog elimination, enforcement of sanitary policy	(28)	Eliminated rabies until an outbreak from 1918-22 following WWI. Eradicated through muzzle and leash restrictions and elimination of strays.
Czechoslovakia	1921-39	vaccination	(29)	Mass campaigns in Slovakia, Bohemia and Kosice. Post 1947 dominated by wildlife rabies
Hungary	1935-44	vaccination	(30, 31)	Early success
Italy	1950-75	vaccination	(32)	1 case in northern from Italy 1957-68, no cases in central Italy since 1970, since 1977 sylvatic rabies only
Yugoslavia	1946-91	vaccination	(32)	Successful
Vojvodina	1946-63	vaccination	(32)	Successful
Malaga, Spain	1975-75	vaccination	(33)	outbreak controlled through vaccination and stray elimination
Spain	1950-1990	vaccination	(34)	no terrestrial cases since 1979, since 1966 no human cases (except imports)
MIDDLE EAST & NORTH AFRICA				
Israel	1951	vaccination	(35-37)	Field trial from late 1951-early 53. Subsequent implementation of compulsory vaccination and stray elimination
Tunisia	1982	vaccination	(38-41)	Vaccine production since 1952. National campaigns reduced rabies between 1982-87, though large epidemic occurred after campaign lapsed.

References

1. West, G. P. (1972) *Rabies in Animals and Man* (David & Charles, Newton Abbot).
2. Shimada, K. (1971) in *Nagano, Yasuiti And Fred M. Davenport (Ed.). Rabies. Symposium. 406p. Illus. Maps. University Park Press: Baltimore, Md., U.S.A.; London, England*, pp. 11-28.
3. Cumming, G. G. & Rex, J. C. (1952) *Vet Rec* **64**, 105-111.
4. Cheuk, H. (1969) *Agricultural Sciences in Hong Kong* **1**, 141-174.
5. Wells, C. W. (1957) *Bulletin of the World Health Organization* **17**, 1025-1029.
6. Wells, C. W. (1954) *Bull World Health Organ* **10**, 731-742.
7. Tan, D. S. K. & Shukor, K. B. H. (1985) in *Kuwert, E. Et Al. (Ed.). Rabies In The Tropics; International Conference, Tunis, North Africa, Oct. 3-6, 1983. Xviii+786p. Springer-Verlag: Berlin, West Germany; New York, N.Y., Usa. Illus*, pp. 600-603.
8. Tan, D. S. K., Abdul, W. M. A., Mohd, N. K. & Beran, G. (1972) *Medical Journal of Malaysia* **27**, 107-112.
9. World Health Organisation Guidelines for Dog Rabies Control.
10. Beran, G. W. & Frith, M. (1988) *Reviews of Infectious Diseases* **10**, S672-S677.
11. Beran, G. W. & de Mira, O. (1966) *Public Health Rep* **81**, 169-173.
12. Beran, G. W., Nocete, A. P., Elvina, O., Gregorio, S. B., Moreno, R. R., Nakao, J. C., Burchett, G. A., Canizares, H. L. & Macasaet, F. F. (1972) *Southeast Asian Journal of Tropical Medicine and Public Health* **3**, 433-445.
13. Johnson, H. N. (1948) in *Proc. 49th Ann. Meeting U.S. Livestock Sanitary Assoc.*, pp. 99-107.
14. Korns, R. F. & Zeissig, A. (1948) *American Journal Of Public Health* **38**, 50-65.
15. Friend, M. (1968) *N Y Fish Game J* **15**, 71-97.
16. Tierkel, E. S. (1959) in *Advances in Veterinary Science*, eds. Brandly, C. A. & Jungherr, E. L. (Academic Press, New York, Vol. 5, pp. 183-226.
17. Kelly, T. E. (1980) *Journal of the American Veterinary and Medical Association* **177**, 1231-4.
18. Humphrey, G. L. (1966) in *Proceedings of the National Rabies Symposium*, pp. 65-72.
19. Fuenzalida, E., Palacios, R. & Borgono, M. (1966) *Symposium Series in Immunological Standardization* **1**, 339-345.
20. Ernst, S. N. & Fabrega-G, F. (1989) *Revista de Microbiologia* **20**, 121-127.
21. Ernst, S. N. & Fabrega, F. (1989) *Epidemiology and Infection* **103**, 651-658.
22. Larghi, O. P., Arrosi, J. C., Nakajata-A, J. & Villa-Nova, A. (1988) in *Campbell, J. B. And K. M. Charlton (Ed.). Developments In Veterinary Virology: Rabies. Xiii+431p. Kluwer Academic Publishers: Dordrecht, Netherlands; Boston, Massachusetts, Usa. Illus. Maps*, pp. 407-422.
23. Chomel, B., Chappuis, G., Bullon, F., Cardenas, E., Debeublain, T. D., Maufrais, M. C. & Giambruno, E. (1987) *Rev. sci. tech. Off. int. Epiz.* **6**, 97-113.
24. Belotto, A. J. (1988) *Reviews of Infectious Diseases* **10**, S693-S696.
25. Beran, G. W. & Frith, M. Urban dog ecology in Guayaquil, Ecuador, report.
26. Ministerio de salud Publica Data Mensuales de la rabies, Seccion Zoonosis, 1980-88.
27. World Health Organisation WHO Expert Consultation on Rabies: First Report.
28. Fooks, A. R., Roberts, D. H., Lynch, M., Hersteinsson, P. & Runolfsson, H. (2004) in *Historical perspective of Rabies in Europe and the Mediterranean*

- Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. (OIE (World organisation for Animal Health), Paris, France).
29. Matouch, O. (2004) in *Historical perspective of Rabies in Europe and the Mediterranean Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. (OIE (World organisation for Animal Health), Paris, France), pp. 65-75.
30. Manninger, R. (1968) *Wiener Tierärztliche Monatsschrift* **55**, 698-706.
31. Lontai, I. (2004) in *Historical perspective of Rabies in Europe and the Mediterranean Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. (OIE (World organisation for Animal Health), Paris, France).
32. Mutinelli, F., Stankov, S., Hristovski, M., Seimenis, A., Theoharakou, H. & Vodopija, I. (2004) in *Historical Perspectives of Rabies in Europe and the Mediterranean Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. I. (OIE (World organisation for animal health), Paris, France).
33. Diaz Yubero, A. M., Zarzuela Pastor, E. & Munoz Navarro, M. (1982) *Comparative Immunology, Microbiology and Infectious Diseases* **5**, 315-320.
34. Abellan Garcia, C., Sanchez-Serrano, L. P., Amador, R. & Rosinha, A. J. (2004) in *Historical perspective of Rabies in Europe and the Mediterranean Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. (OIE (World organisation for Animal Health), Paris, France), pp. 147-155.
35. Yakobson, B., Manalo, D. L., Bader, K., Perl, S., Haber, A., Shahimov, B., Shechat, N. & Orgad, U. (1998) *Israel Journal of Veterinary Medicine* **53**, 114-126.
36. Yakobson, B., David, D. & Aldomy, F. (2004) in *Historical Perspective of Rabies in Europe and the Mediterranean Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. I. (OIE (World Organisation for animal health), Paris, France).
37. Kaplan, M. M., Goor, Y. & Tierkel, E. S. (1954) *Bull World Health Organ* **10**, 743-752.
38. Osman, F. B. & Haddad, N. (1988) *Reviews of Infectious Diseases* **10**, S703-S706.
39. Matter, H., Blancou, J., Benelmouffok, A., Hammami, S. & Fassi-Fehri, N. (2004) in *Historical Perspectives of Rabies in Europe and the Mediterranean Basin*, eds. King, A. A., Fooks, A. R., Aubert, M. & Wandeler, A. I. (OIE (World organisation for animal health), Paris, France).
40. Chadli, A. (1988) *Archives de l'Institut Pasteur de Tunis* **65**, 15-27.
41. Chadli, A., Osman, F. B. & Mayoux, M. A. (1976) *Archives de l'Institut Pasteur de Tunis* **53**, 1-16.