

CO.70**COMPARATIVO DE LA INVERSIÓN EN BIOLÓGICOS ANTIRRÁBICOS PARA LA PREVENCIÓN DE LA RABIA HUMANA TRANSMITIDA POR EL PERRO EN MÉXICO**

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En la eliminación de la rabia humana transmitida por el perro en México, los biológicos antirrábicos han sido elemento básico para alcanzarlo, por ello el gobierno federal ha destinado presupuesto para adquirirlos, gasto permanente desde 1990 a la fecha. A continuación se establece comparativo de la década de los 90's con el período del 2000, se utilizan indicadores de resultado (caso de rabia humana transmitida por el perro y caso de rabia canina) y de proceso (personas agredidas, tratamientos iniciados y perros vacunados contra la rabia), las cantidades de los biológicos antirrábicos adquiridos y utilizados (vacuna antirrábica humana, inmunoglobulina antirrábica humana y vacuna antirrábica canina) en dólares americanos y el efecto logrado con los siguientes resultados:

Casos de rabia humana transmitida por perro, en la década de los 90's se registraron 240 casos en 20 entidades federativas de las cuales cuatro aportaron el 49% del total, en contraste en el período del 2000 se notificaron cuatro casos en sólo dos entidades, se dejaron de presentar a partir de 2006.

Casos de rabia canina, en la década de los 90's se acumularon 13 mil casos en 31 de las 32 entidades, en contraste se reduce para el período del 2000 a 921 casos en 23 entidades (decremento del 93.3%).

Personas agredidas, en la década de los 90's se acumularon 947 mil personas agredidas por animal sospechoso de rabia con una tasa promedio de 106.2 agredidos por cada 100 mil habitantes, mientras que para el período del 2000 suman 1.2 millones de estas personas, con una tasa de 96.4 por cada 100 mil habitantes.

Personas que se indica vacunar, en la década de los 90's se acumularon 334 mil personas que iniciaron tratamiento antirrábico (35.3%), mientras que para el período del 2000 lo iniciaron 378 mil (31.3%).

Vacuna antirrábica canina aplicada, en la década de los 90's se aplicaron 101.3 millones de dosis a igual número de animales de compañía, mientras que para el período del 2000 se incrementó a 196.2 millones de dosis aplicadas (93.7% de aumento).

Vacuna antirrábica humana aplicada, en la década de los 90's se utilizaron 1.4 millones de dosis que correspondió en tratamientos completos (cinco dosis) al 56.4% y el resto (44.6%) en incompletos (tres dosis en promedio), misma cifra aplicada en el período del 2000 pero se invierte el consumo en tratamientos completos 46.1% y en incompletos el 54.9%.

Inmunoglobulina antirrábica humana aplicada, inicia su uso a partir de 1998 acumulando hasta el año pasado 385 mil frascos aplicados en 97 mil personas con agresión de riesgo grave. La inversión que hizo la Secretaría de Salud de 1990 a 2011 en estos biológicos fue de \$105.4 millones de USD, que comparado con el gasto que se dejó de aplicar en medidas de control de rabia canina en los casos que se evitaron en este período (92,028) estimado en \$225 millones de USD, representó economías para el país por \$120 millones de USD, lo cual justifica esta inversión en dichos biológicos.

CO.71**QUALITATIVE RISK MODEL TO ESTIMATE BOVINE RABIES OCCURRENCE IN BRAZIL**

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Bovine rabies is still considered endemic in Brazil and despite the control efforts, the disease still spreads in an insidious way and the main vector is the vampire bat, *Desmodus rotundus*. This project aimed to create a predictive model to estimate the probability of bovine rabies outbreaks in each municipality of 21 out of 27 Brazilian States. The risk was estimated using concepts of receptivity and vulnerability. Questionnaires were sent to the Local Veterinary Units of each State and covered a number of questions related to the surveillance of possible risks, such as: bovine outbreaks, active roosts, bats positivity and spatial changes. The bovine density and geomorphologic features were obtained from national registries and geographic information systems. The risk results were compared with the 417 bovine outbreaks in 2010 distributed throughout the municipalities. Out of 5016 municipalities accessed, 217 (4.3%) were rated as having a high risk for the virus spread, 1277 (25.5%) as medium risk, 2045 (40.8%) as low risk, and 544 (10.8%) as negligible risk. In 933 (18.6%) cases the risk was unable to be determined because the lack of information. From 417 municipalities presenting herbivores outbreaks in 2010, 183 (43.9%) were rated as high risk, 196 (47.0%) as medium, 23 (5.5%) as low and in 15 (3.6%) the risk was not determined. The results showed that places with outbreaks were skewed towards areas with higher risk for the virus spread. In the future, these models could allow the targeting of efforts, adoption of control measures directed to certain locations, optimization of the control team's transit and a better understanding of rabies spread. Additionally, efforts need to be made to stimulate the continuous surveillance of risk and reduce areas with lack of information.

CO.72**OPTIMIZATION OF SPATIAL ACCESSIBILITY TO VACCINATION POINTS OF 2009 RABIES VACCINATION CAMPAIGN IN SAO PAULO CITY, BRAZIL**

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São Paulo city has more than 2.5 million dogs and 560 thousand cats. These populations are distributed irregularly through the territory, making it difficult to allocate health services. One of the most important health interventions over the animal population is the vaccination against rabies, presumably responsible for the ending of the rabies epidemics in dogs and cats in 1983. The aim of this study is to evaluate the accessibility to vaccination points during the 2009 mass vaccination campaign. To achieve this, we used a two-step floating catchment area (2SFCA) method implemented in a geographic information system environment, under the hypothesis of optimal distribution of vaccination points to assure the potential use of the service by 100% of the target population. Areas with low accessibility were observed, especially in dense populated areas, for both dogs and cats. An algorithm to optimize the vaccination point location was created in order to improve accessibility, and scenarios with lower number of vaccination points were created. This methodology can be used to offer vaccination against rabies evenly to the entire population of animals, especially after the halt of this control strategy from 2010 and 2011. The model considered the same location of vaccination points for dogs and cats, when appropriate.