

## CITY CANINE RABIES ELIMINATION CAMPAIGN : MANPOWER AND PROGRAM COSTS

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*En 1993, une campagne de vaccination antirabique de masse des chiens a été réalisée dans le but d'éliminer la rage dans la ville de Muntinlupa (Philippines). L'un des objectifs du projet était de mettre en oeuvre le programme en impliquant les communautés locales et les pouvoirs politiques. Les coûts et les besoins de main-d'oeuvre correspondant à chaque activité du programme ont été répertoriés. Au cours de la campagne, la participation volontaire des communautés locales a permis de réduire le coût de la main-d'oeuvre. Des volontaires non-vétérinaires ont été formés pour assurer la vaccination des chiens. Au total, 26205 chiens (76% de la population cible) ont été vaccinés au cours d'une journée de campagne. Le coût total du programme (hors main-d'oeuvre) a été de 20400 US\$. Ceci place le coût de la vaccination par chien à 78 cents. Les principales composantes du prix du programme ont été: le planning et l'organisation (7%), l'information et l'éducation sanitaire (18%), la vaccination et l'enregistrement (20%) et les produits biologiques (55%). 670 personnes se sont portées volontaires pour vacciner. Ceci incluait des vétérinaires (7%), des étudiants vétérinaires (18%) et des volontaires de la communauté locale (75%). Tous se sont mobilisés pour une journée et ont participé sans être rémunérés. L'expérience et les données présentées ici peuvent être utiles à l'organisation de contrôles ou de campagnes de vaccination similaires contre la rage endémique sévissant dans les Pays en voie de développement avec l'appui des communautés locales.*

### INTRODUCTION

Most human rabies deaths worldwide occur in developing countries with endemic canine rabies. In these countries, cost effectiveness studies have demonstrated that dog rabies elimination is more economical than the widespread use of tissue culture vaccines for human postexposure treatment. Many rabies control programs have shown that vaccination of 60-80% of dogs can eliminate dog rabies and prevent human rabies cases in these areas. In the Philippines, a country with one of the highest incidences of human rabies in the world (6-8 per million population), elimination of rabies through vaccination is an achievable goal because the only known rabies reservoir is the domestic dog. In addition, the insularity of the Philippines should facilitate island by island step-wise elimination.

In November 1993, a mass canine rabies vaccination campaign in Muntinlupa City, Republic of the Philippines was conducted as a pilot study for a comprehensive rabies elimination program in an urban setting. This report summarizes our attempt to document the program processes involving the local community and government units in terms of costs and manpower requirements corresponding to each activity relevant to the program.

### MASS VACCINATION CAMPAIGN

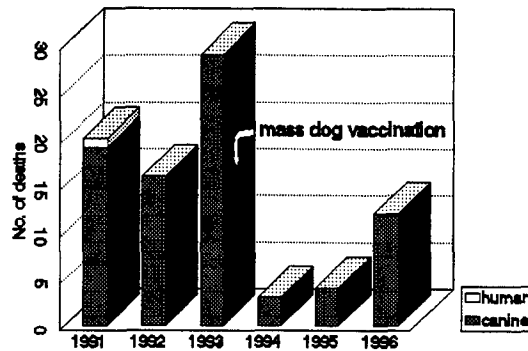
The local government created a Rabies Control Committee to plan, organize and implement the mass vaccination campaign. Vaccination of dogs was accomplished through the deployment of teams made up of veterinarians, veterinary students, Department of Health sanitarians, Department of Agriculture animal technicians, high school students and other local community volunteers. During the campaign, the participation of community volunteers was actively sought to reduce manpower costs. Some non-veterinary volunteers were trained to perform actual dog vaccinations. The vaccinations were done at pre-announced, centralized locations or by house-to-house visits in small villages. One month prior to the campaign, repeated educational announcements were made in churches, community assemblies, and public service broadcasts on local radio stations. All public high schools were visited to hold lectures and recruit student volunteers. Posters and leaflets advertising the campaign and the date of the vaccination were posted or distributed in village halls, health centers and other selected locations. The pre-vaccination estimate of the owned dog population used a dog-to-man ratio of 1:5 to plan team logistics. The mass vaccination was accomplished in one day, a Sunday.

### EPIDEMIOLOGY

A surveillance system initiated at the Research Institute for Tropical Medicine was enhanced in the study area. Pre and post-vaccination trends of human and canine rabies were monitored. The epidemic curve shows the significant reduction in the total number of cases for 2 years after the mass vaccination.

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Rabies cases, Muntinlupa City, Philippines, 1991-96



**MANPOWER AND PROGRAM COSTING**

Costs and manpower requirements corresponding to each activity relevant to the program were recorded. The required personnel time spent for each related activity was estimated. The personnel time per dog was calculated by dividing the total time spent by the actual number of dogs vaccinated during the campaign.

A total of 26,205 dogs (76% of the target population) were vaccinated. The cost of the program (excluding manpower) was US\$ 20,400. This puts the cost of vaccinating one dog at US\$0.78. The costs associated with the major activities of the program are summarized in the following table.

Activities/Program Component	Proportionate Cost
Planning and organization	6.8%
Health education and information	17.7%
Mass vaccination and dog registration	20.5%
Dog vaccines	55 %

670 persons volunteered as vaccinators, assistants and community organizers. These included veterinarians (7%), veterinary students (18%) and local community volunteers (75%). All were mobilized for a weekend. The Saturday was spent on training the community volunteers by the veterinarians and on organizing the vaccination teams. The actual mass vaccination was accomplished the following day. Training of volunteers on the vaccination procedures and the actual vaccination of dogs took up the greatest amount of personnel time. Person minutes spent per dog per activity were:

Activities	Person minutes per dog
Organization and preparation	8.43
Information and education	7.39
Training	8.14
Vaccination	13.96

All who were mobilized participated without remuneration.

**DISCUSSION**

The use of volunteers proved to be an effective approach for this mass vaccination campaign. The usefulness and advantage of volunteers in mass vaccination campaigns cannot be over stressed: (a) they are the least costly to employ, (b) they are recognized and respected by community residents, (c) they are familiar with the terrain and community set-ups, (d) they are able to speak the native dialect, and (e) they are well motivated to serve their own community. Veterinarians should appreciate the rationale behind this approach and should adopt a more proactive role as trainers, program planners, organizers and evaluators in rabies campaigns.

The information drive advertising the goals of the campaign and the date and sites of the vaccination helped prepare the population and ensured a high proportion of dog owners who were willing to participate. The approach of educating and utilizing high school students proved to be useful because information was readily shared with their families and peers.

The information obtained from this pilot project supports the feasibility of a one time comprehensive canine rabies elimination campaign in an inland urbanized area, provided certain political, managerial and technical prerequisites are met. Because the city was contiguous with canine rabies endemic municipalities, we proposed the approach of selective vaccination and dog elimination for maintenance of rabies free zones to the local