

MEASLES CONTROL IN AREAS OF LOW POPULATION DENSITY

J. C. Gilles¹

I. INTRODUCTION

Straddling the equator, the Republic of Gabon is 267,000 square kilometres in size and consists almost entirely of equatorial rain forest. In the most recent demographic survey in December 1968, the population was estimated to be 472,097 (density: 1.7 inhabitants per square kilometre) of which 63,000 reside in Libreville and 24,345 in Port-Gentil, the two largest cities. The birth rate is 36/1000 and the death rate 30/1000, giving a yearly population increase of 6/1000.

The distribution of the population by age is shown in Table 1.

Table 1: Distribution of Population by Age

Age	Population	Percent
0-4	58,540	12.4
5-14	83,561	17.7
15-44	222,247	47.5
45+	105,749	22.4
TOTAL	472,097	100.0

The 6 months to 6 year age group is estimated to be 16.5% of the population. The 0 to 20 age group is estimated to be 35.6%.

II. THE EPIDEMIOLOGY OF MEASLES IN GABON

Data from the last ten years (1959-1968) demonstrates that measles is endemic in Gabon (table 2, figure 1) with yearly outbreaks of epidemic proportions. The disease exacts a heavy toll among Gabonese children since the number of deaths attributable to measles each year is between 0.43% and 1.65% of total deaths from all causes.

Overall measles morbidity showed an initial decline in reported cases following the start of the campaign (figs. 1,2). However, in both Libreville and Gabon as a whole sharp epidemics subsequently occurred. A recent rural epidemic in a non-vaccinated sub-prefecture demonstrates that measles eradication is still far from realization in Gabon and that severe outbreaks of epidemic proportions can appear at any time.

The rural areas of Gabon with a lower population density seem to have a lower measles morbidity than urban areas. Thus, although the population of Libreville represents approximately 13% of the population of Gabon, the number of cases reported from the city varies between 19.3% and 26.3% of all cases reported.

In 1968 a significant change took place in measles morbidity in Gabon as a direct result of the mass measles vaccination campaign which began in 1967. In 1968 there were only 822 reported cases in rural areas. However, an epidemic in Libreville of 1,119 cases raised the proportion of cases occurring in urban areas to 57% of the total.

This epidemic occurred less than 6 months after the mass campaign in the city. In all, 28% of the cases were in children too young to have been vaccinated at the time

¹Director, Service des Grandes Endemies/Technical Director, Ministry of Public Health, Gabon.

of the campaign, a few cases occurred in vaccinees, and the remainder occurred in children who had not been reached by the maintenance vaccination sessions or who had purposely avoided vaccination for various reasons. A curious fact is that 3.4% of the cases were under 6 months of age (Table 3).

Measles control can only be accomplished by continuing to vaccinate on a scale sufficient to attain a coverage which will provide a high level of immunity. This will require systematic maintenance activities using mobile teams which will reach all children 6 months to three years of age.

Table 2. Measles Cases and Attack Rates Among Children
6 Months to 6 Years of Age in Gabon, 1959-1968

Year	Number of Cases	Attack Rate Among Children
		6 Months - 4 Years (%)
1959	2,980	4.0
1960	1,265	1.7
1961	6,112	8.2
1962	3,087	4.1
1963	4,782	6.4
1964	2,243	3.0
1965	3,916	5.3
1966	7,369	9.8
1967	3,073	4.2
1968	1,941	4.9

Table 3. Age and Sex of 761 Measles Cases in Libreville
1968-1969

Age	Cases			Percent
	Male	Female	Total	
0 to 5 months	11	15	26	3.4
7 to 12 months	125	103	228	27.9
1 year	168	141	309	40.6
2 years	56	65	121	15.9
3 years	18	33	51	6.8
4 years	3	5	8	1.0
5 years	6	5	11	1.4
6 years +	4	3	7	0.9
TOTAL	391	370	761	

FIGURE 1
NUMBER OF MEASLES CASES BY MONTH
GABON - 1966-1969 (March)

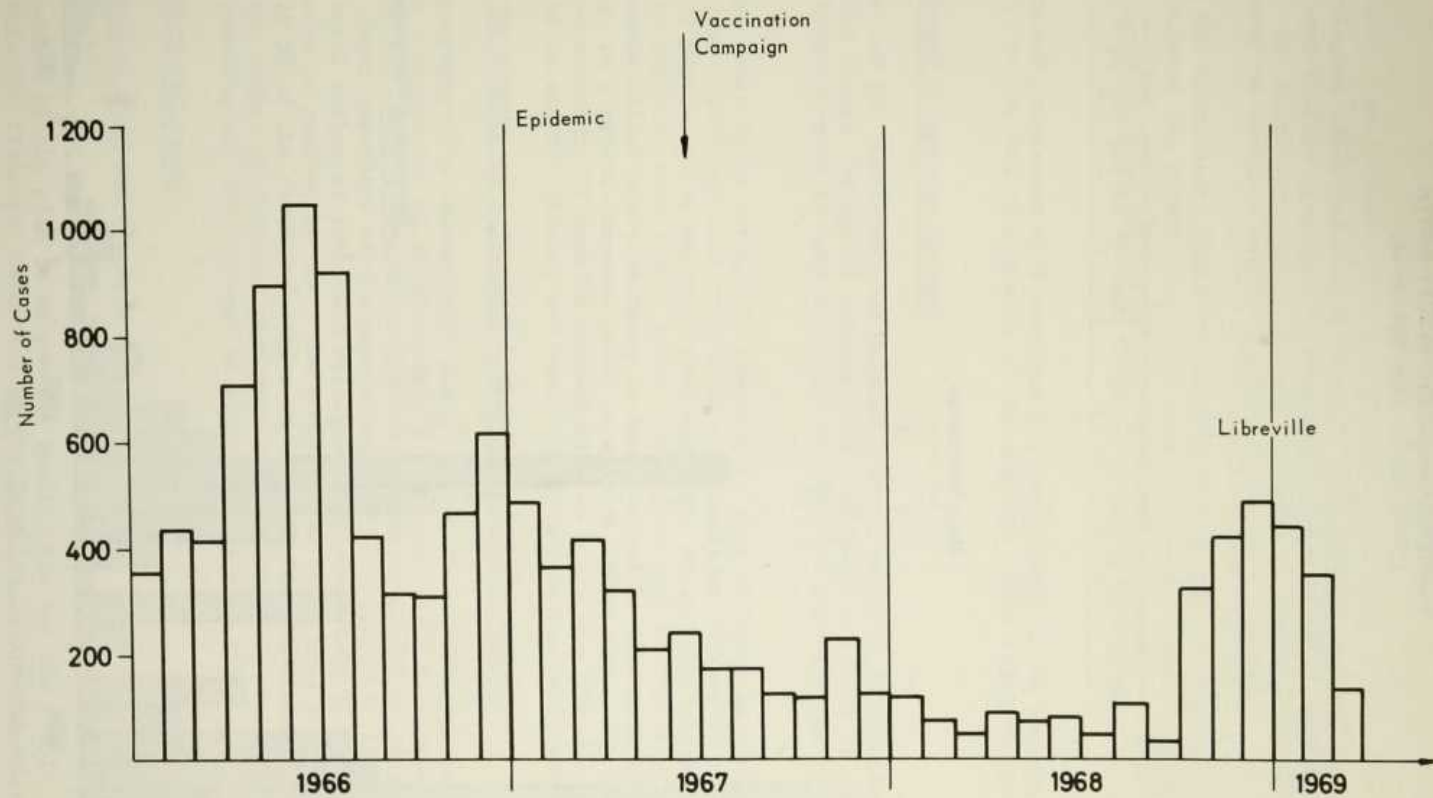
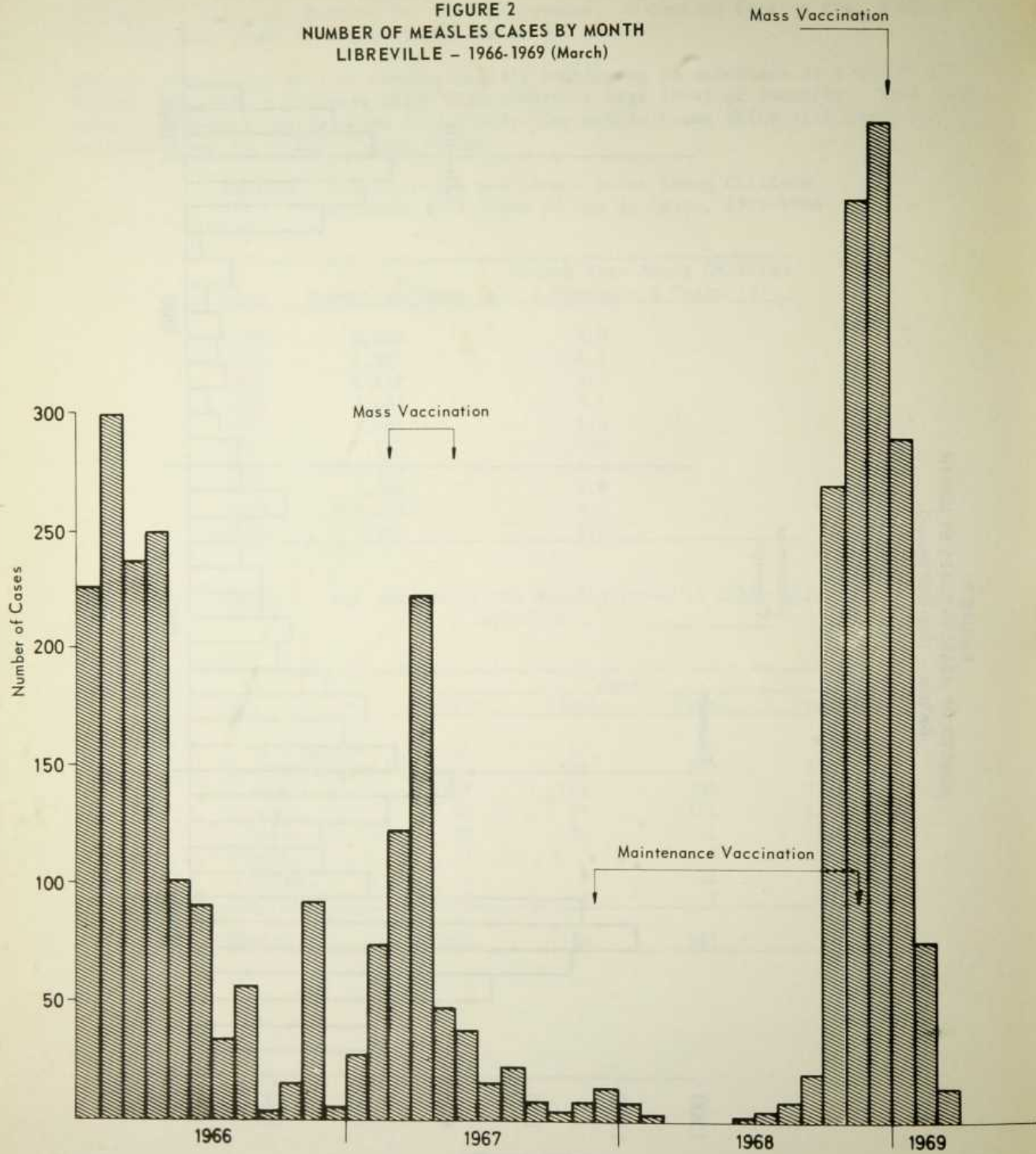


FIGURE 2
 NUMBER OF MEASLES CASES BY MONTH
 LIBREVILLE - 1966-1969 (March)



Number of Vaccinations: First Mass Vaccination - 11,860
 Maintenance Vaccination - 1,002
 Second Mass Vaccination - 3,937