

MEASLES CONTROL IN THE GAMBIA

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INTRODUCTION

The maintenance phase is undoubtedly the most important phase in the endeavor to achieve a complete control of measles in The Gambia. This phase requires more publicity to reach those missed in the attack phase and those qualifying by virtue of age to be protected against measles. It is the phase also in which the public requires more information as to the need to keep the disease at an insignificant level. It is, indeed, the phase in which it becomes difficult to keep up the enthusiasm of the vaccinators in what may now be a monotonous or repetitive exercise. In short, it is the phase that has come to stay!

During the attack phase of the Gambian Smallpox Eradication/Measles Control Programme, 81,000 measles vaccinations were given. The entire country was covered by three mobile teams in just under one year. During the attack phase, teams were not directed to undertake measles outbreak control activities and measles cases were not individually investigated. At the end of the campaign, measles was practically eliminated in our essentially rural country by vaccinating an estimated 92% of the total population between 6 months and 6 years of age. The average number of measles cases reported per year during the 12 year period preceding the campaign was 2,000 (Table 1). Following the campaign, only 43 cases have been reported (Tables 1, 2). Thus, because of the initial success of our attack phase, we decided to continue the cycling of two teams through the country, administering smallpox vaccinations by Ped-O-Jet to all persons not previously vaccinated and measles vaccine to all persons below 6 years of age who had not been previously vaccinated or not previously infected with measles. Measles susceptibility is determined by questioning the prospective vaccinee or his mother. Undoubtedly our pre-vaccination questioning process allows some immunes to be vaccinated, but we felt that this was preferable to permitting susceptibles to go unvaccinated.

Essentially, the method of team operation is the same as that used during the attack phase. One hundred dose smallpox vials are used as well as both 50 and 10 dose measles vials. Teams move on a village-by-village basis, operating out of a semi-fixed base of operations. The teams return to the same base each evening, changing their base about every two to four weeks. The age grouping of vaccinations given suggests that 66% of our measles vaccinations are administered to those coming into the population as a result of birth, and 33% are administered to older children who are immigrants to the area or were missed during the attack phase.

No formal assessment is conducted as we continue to rely on morbidity reports as a gauge of programme effectiveness.

An important aspect of our maintenance programme is the immediate investigation of reported measles cases in order to verify diagnosis, to confirm the vaccination and age status of the case, and to make a judgment as to whether the diversion of the vaccination teams is indicated. To date, no measles epidemics have occurred requiring such a diversion, and no cases have been reported among vaccinated children.

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In the city of Bathurst (population 33,000), not knowing exactly when a city is large enough to necessitate 6 monthly measles vaccination cycles, we decided to vaccinate newborns every 6 to 8 months. The first maintenance cycle in Bathurst was conducted 8 months after the completion of the attack phase. During this interval, 3 cases of measles had occurred. The second maintenance cycle was carried out 6 months after the preceding one. During this interval 2 cases of measles had occurred. Since the last maintenance cycle, 5 months have lapsed and no cases have been reported. Thus, with the level of coverage of 90% in the 6 month to 6 year age group and vaccination cycles every 6 to 8 months in Bathurst, we have, as far as we know, completely interrupted the transmission of indigenous measles cases.

Our high level of coverage was obtained by a very individualized approach. The teams station themselves at every other intersection and send messengers into each compound to look for unvaccinated children, particularly infants. The mothers are then asked to bring the children immediately to the team for vaccination. Another method has been for the teams to cruise the streets slowly with a loudspeaker. When the people bring the children out of their compounds the truck stops and the children are vaccinated. Thus extensive publicity with the use of loudspeakers and the almost immediate accessibility of the teams have been major factors in the success of our Bathurst campaign.

Two other features of our maintenance programme which may be of interest are as follows:

1. We attempt to rotate our personnel including Health Inspector trainees, who are on duty with the vaccination project. We feel that this provides a more balanced workload for our personnel and results in better morale.
2. The local traditional authority structure, such as district and village chiefs, are relied upon heavily in the advance publicity scheme. These men are then thanked formally in a letter from the Medical Officer of Health. We feel that this procedure, continued from the attack phase, has done much to contribute to the continued excellent cooperation obtained from local authority figures and the villagers themselves.

Thus, in summary, the maintenance of measles control in The Gambia is viewed as a practical possibility because we are permitted to recycle often enough to keep the size of the susceptible group below the epidemic threshold. We intend to continue in this manner with mobile teams simply because our static health facilities do not reach a large enough segment of the population to provide the necessary coverage. The characteristic features of the programme are as follows:

1. Mobile teams are cycled each 12-18 months on a village by village basis, with each team averaging about 5 villages per day.
2. Trained personnel at the Dresser Dispenser and Health Inspector levels are used on a rotational basis.
3. Semi-fixed bases of operation are employed.
4. The traditional authority structure is used so that every village is directly forewarned of the pending arrival of a team.
5. Morbidity reports are investigated and teams would be re-routed if an epidemic were encountered.
6. Vaccination certificates are not routinely used.
7. The teams work year round by scheduling more easily accessible areas for coverage during the rainy season.

CONCLUSION

The Gambian Government has agreed to provide the support for financing this phase which is estimated to cost 25% less than the attack phase. It is, therefore, logical to expect the Government to make provisions annually for the maintenance of measles control as part of the Social Services provided for the country as a whole, when U.S. assistance ceases to provide vaccines and equipment.

A brief note should be made on inter-territorial cooperation. This affects our relationship with neighbouring Senegal. Happily, they are well ahead in their attack phase. Thus it remains for us to harmonize our control measures. It is of interest to note that we have signed agreements to exchange epidemiological data and coordinate our preventive measures in the control of endemic diseases prevalent in our two countries. For the implementation of agreed policies, there is based in Bathurst a Senegal-Gambian Secretariat, which coordinates the work of the Inter-Ministerial Committees of the two countries.

Undoubtedly, this short note on the maintenance of measles control in The Gambia will be considered incomplete without reference to surveillance. In our surveillance system, there are obvious difficulties which are likely to be overcome in due course. At the present time, since we have not achieved a full medical coverage by the provision of Basic Health Centres with professional or trained staff, a large proportion of measles cases are never seen by our trained staff. Statistical recording is improving gradually, but there are still difficulties in the presentation of data.

TABLE 1

Measles Reports by Year in The Gambia, 1957 to 1969

<u>YEAR</u>	<u>CASES</u>	<u>DEATHS</u>
1957	848	72
1958	10	-
1959	1,307	48
1960	690	49
1961	1,526	29
1962	2,044	55
1963	5,113	146
1964	803	9
1965	1,297	16
1966	1,961	48
1967	4,150	51
1968	192	0
1969*	6	0

*Up to 22 March

TABLE 2

Reported Measles by 4-Week Periods
and Geographic Areas
The Gambia
1967 - 1968

	<u>Week</u>	<u>Total</u>	<u>Western Division</u>	<u>Bathurst</u>	<u>Lower River Division</u>	<u>Upper River Division</u>	<u>North Bank Div.</u>	<u>McCarthy Island Division</u>	
1967	1-4	184	75	75	2	3		67	
	5-8	247	87	73	14	19		54	
	9-12	509	208	106	42	17		136	
	13-16	699	443	101	47	2		204	
	17-20	721	435	94	85	8		68	
	21-24	777	389*	113	184	11		30	
	25-28	472	247*	65	126	1		33	
	29-32	390	173*	55*	84	3		15	
	33-36	63	7	8*	36*	1		11	
	37-40	137	2	2	100*	-		33	
	41-44	20	-	-	11*	-		9	
	45-48	2	-	-	2*	-		-	
	49-52	7	1	-	1*	-*		5	
	1968	1-5	49	2	-	-	4*		43
		6-9	61	-	-	-	5*		56*
10-13		30	-	-	-	-		30*	
14-17		14	-	-*	-	-		14*	
18-22		6	1	-*	-	-		5	
23-26		6	4	1	-	-		1	
27-31		6	5	-	-	-		1	
32-35		3	3	-	-	-		-	
36-39		4	-	-	4	-		-	
40-44		13	2	1	3	-		7	
45-48		-	-	-	-	-		-	
49-52		-	-	-	-*	-		-	
1969		1-5	1	-	-	-*	-	1	-
		6-9	2	1	-	-*	-	1	-

*Measles vaccinations performed during period.