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Mass immunisation campaigns - The Tintswalo experience

by

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PREFACE

Gazankulu is one of South Africa's so-called "black states". The Mhala district is an isolated island midway between Nelspruit and Tzaneen. It is typical bushveld with limited water and poor agricultural potential. 152,000 people live in Mhala's 57 villages which vary in size and infrastructure. Health services are underdeveloped and comprise one 280-bed hospital (Tintswalo), one health centre, ten clinics and a mobile clinic.

Why did Wits Medical School become involved here? It was by both design and fate. At Wits we had people interested in rural health and a benefactor (Anglo American Chairman's Fund) prepared to sponsor rural health work. The government has encouraged the various medical schools to become involved in rural health care and has designated schools to particular "homelands".

So we became involved in Gazankulu and the Health Services Development Unit (HSDU), a project of the Wits Department of Community Health, was established. The objectives of the Unit are the training of appropriate health service staff, the expansion and development of clinic services and the creation of a health service which is community supportive and responsive to local needs. To succeed we need the goodwill, support and respect of the community and the wholehearted backing of the existing health service.

This paper and the others of the HSDU are reflections, analyses, recommendations and ideas and are the product of our first two years' experience. Opinions expressed are based on the critical analysis of hard data on the one hand and on personal impressions on the other. Whatever the opinion, it has been acquired by first hand and sustained personal experience.

The papers cover three aspects of our experience:

1. The State of Health and Health Care in Mhala

   a. Health and Health Care in Mhala : an overview.
   b. The Nutritional Status of Children 1 - 5 years.

2. A Critique of Some Health Service Interventions in Mhala

   a. Community Health Workers in Mhala : Perversion of a Progressive Concept?
   b. How well do our Rural Clinics Function?
   c. Reviewing the Health Centre Policy.
   d. Mobile Clinics : What can and do they Achieve?

3. Health Service Interventions by the Wits HSDU

   a. Do Primary Health Care Nurses in Gazankulu provide Second Class Cheap Care to the Poor?
   b. Can good Tuberculosis Services be provided in the Face of Poverty?
   c. School Health Services : Problems and Prospects.
   d. Mass Immunisation Campaigns - The Tintswalo Experience.

The message is that:

- Health care in Mhala is inadequate.
- This care can be improved without preceding changes in the present economic and political systems.
- Such improvement is limited by social, economic and political constraints which are the root cause of much illness.
- It is worth working in "homeland" health services because of what can be achieved.

In acknowledging all who have worked in or with HSDU it must be remembered that health service development is a team effort. Many of the people of Mhala, the hospital staff, primarily Dave Stephenson as superintendent and the community health nurses, Dr Erica Sutter and the superintendents and staff of Gazankulu's other hospitals, the health department led by Dr Roos and, more recently, Dr Robert, and the Chief Minister of Gazankulu have all contributed to the establishment and development of the Unit. The Chairman's Fund of Anglo American and the University of the Witwatersrand have provided the infrastructure.

The action has come from Anita and Bob Backentose, Eric Buch, Rob Collins, Cedric de Beer, Clive Evian, Vic Gordeuk, Merryl Hammond, Thoko Maluleka, Shirley Maswanganyi, Sanilesiwe Mtetwa, Dipuo Mosoue, Robert Waugh and Merrick Zwarenstein.

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MARCH 1984

MASS IMMUNISATION CAMPAIGNS - THE TINTSWALO EXPERIENCE

Eric Buch, Ennika Ntlemo and Helen Nyathi

Tintswalo hospital is situated in the Mhala district of Gazankulu in the Eastern Transvaal. The hospital serves 152 000 people who live in 57 rural villages. The villages are spread over an area of 1204 sq.km.

Mhala is a fairly typical homeland area. Poverty and poor socio-economic conditions are widespread. The population is largely dependent on income from migrant labourers. Adult literacy levels are low. Transport is limited and expensive. Water is scarce.

Health services are based on the 260 bed Tintswalo hospital, its ten clinics and one health centre. There is no village level health service infrastructure. Immunisations are performed at weekly child health clinics. The immunisation service is free, but distances mean costs in transport and time.

Our involvement in mass immunisation campaigns emerged in response to the polio epidemic of 1982. The first campaign started in June 1982. Following its success, we ran a second campaign in September 1982 and a third in May 1983. We would like to describe how we delivered these services, and our results. We will then review our experience and comment on the role of mass immunisation campaigns.

PREPARATIONS FOR THE FIRST MASS IMMUNISATION CAMPAIGN

The Decision

On the 17th June, six weeks after the epidemic started, Tintswalo was informed about it, and requested to immunise against polio. As we had no details of the epidemic, and were not given information on polio or on how to cope with such emergency situations our first step was to establish this background. We did, and the information was analysed by senior hospital staff. On the 21st June we knew that we were at risk of an epidemic in our area as we recognised the uncontrolled spread of the disease, the inept attempts to control it, and the fact that we may have used impotent vaccine in Mhala.

We had to immunise as many children under the age of 5 as soon as possible.

We decided not to immunise against other diseases at this stage. We thought that if we did, we would lose our impact and overextend our resources. If the first campaign was successful we would mount further campaigns.

We decided that is was most appropriate to use a mass campaign strategy. We agreed to include extensive education, and to make services accessible to people by immunising in the villages, rather than at the clinic. The campaign would begin a week later to allow time for proper preparation.

We used a three day, three-step strategy in each village.

Day 1 - A village meeting was held to inform people about polio, the epidemic, and our immunisation plans.

Day 2 - Education teams visited people on a door to door basis to inform them. They also answered any questions and delivered information pamphlets.

Day 3- Immunisation teams immunised at an appointed place in each village. Mothers queued up, got their Road to Health Charts filled in, and their children immunised.

We added radio broadcasts to this strategy to help inform people and generate interest. News reports, a short advertisement and an interview with our staff were broadcast.

The preparation

During the week between deciding to mount the campaign and actually starting it a lot of work had to be done.

The education teams were trained in a two day workshop run by the hospital's primary health care nursing students. Subjects included polio, the epidemic, and the campaign. We used adult education methods and hoped that our students would do the same. Role plays and group discussions were extensively used.

The main messages for the campaign were:

- There is a polio epidemic threatening us
- Polio is ...
- Polio can be prevented by ...
- There is an immunisation campaign
- People are encouraged, but not forced to attend
- There is no punishment for choosing not to have your children immunised.

The training workshop also focused on our attitudes and our approach to people. We stressed the importance of making people feel comfortable, and of giving them enough time to ask questions. The importance of truthful answering was emphasised. We explained that the health services had failed to immunise adequately in the past and that we even wanted children to be re-immunised, because we feared that they may have received ineffective vaccine. We explained that our new vaccine had been well cared for. We would not blame mothers for not having had their children immunised before, as it was not their fault. This approach to people is fundamental to building the trust on which a successful mass immunisation campaign is based.

An information pamphlet was prepared to be delivered to the homes by the education team. (Appendix I) It explained:

- What Polio is.
- What happens when someone gets Polio.
- Why there is a campaign.
- How we plan to stop Polio.
- How immunisation works.
- Why should children who have been immunised be re-immunised.
- Where people can get their children immunised.

We started trying to build team spirit and teamwork. Regular team meetings were started to establish an open forum for discussion of problems, and sharing news on the progress of the campaign.

Information networks were established. Hospital staff were informed and asked to spread the word. Chiefs and headmen were visited to arrange village meetings and radio broadcasts were organised.

In spite of the apparent national shortage, vaccine supplies were arranged. The cold chain was to be maintained by freezer storage at the hospital, and cooler boxes with ice blocks for daily supplies.

Four health education teams of 2 nursing assitants and 2 village women were set up. (When we refer to village women, we mean mothers in the community who were in no way previously linked to the health service.) The four immunisation teams were made up of a community health nurse, a health inspector, and a secondary school student.

By 28 June we were ready to start. We had planned to finish the campaign in 15 working days. By 16 July we were finished. Our results and experience will be discussed later.

PREPARATIONS FOR THE SECOND AND THIRD MASS IMMUNISATION CAMPAIGNS

Following the success of the first campaign, we followed up with second and third ones. They were needed to ensure good protection against polio and because we had not yet immunised against all the other diseases.

The approach was essentially similar to the first campaign. As we were not in such a rush we could run these campaigns over 5 weeks. Needless to say we were better organised and had learned from our experience. We dropped village meetings as they had been unsuccessful. Our education teams were made up of village women only as they were by far the best educators, and we increased their number as they had previously been overworked.

THE RESULTS OF THE MASS IMMUNISATION CAMPAIGNS

30 233 children were immunised in the 57 villages during the first campaign. 32 088 and 35 871 were immunised in the second and third campaigns respectively. This is more than the number of children who were believed to be in the villages.

The number of children immunised against each disease is presented in Table I below:

TABLE I

NUMBER OF CHILDREN IMMUNISED AGAINST DIFFERENT DISEASES

Immunisation against	First Campaign	Second Campaign	Third Campaign
Polio	30 233	32 088	35 871
Diphtheria, Whooping Cough and Tetanus	-	8 329	14 835
Diphtheria and Tetanus	-	23 119	21 652
Measles	-	29 323	18 053
Tuberculosis	-	Incomplete data	9 026

The estimated cost of the first campaign was R7 100 and of the second and third R13 800. Details of these estimates are presented in Table II below. Most of the costs fell within the routine hospital budget.

TABLE II

MASS IMMUNISATION CAMPAIGN BUDGETS

	First	Second & Third
Vaccine	R2 000	R 7 500
Transport	R 750	R 600
Food	R 300	R 650
Workers (Permanent)	R3 000	R 3 000
Workers (Temporary)	R 750	R 1 750
Printing (Education Pamphlets)	R 300	R 300
	R7 100	R13 800

A REVIEW OF THE EXPERIENCE OF THE FIRST MASS IMMUNISATION CAMPAIGN

We reviewed our experience during and after the campaign. The information that we now present is an accumulation of the thoughts of all our workers.

The training workshops were successful. Doing role plays and practicing in the hospital were the best teaching methods. The education teams did well in their approach and in their education practice, but struggled with administrative tasks such as reading timetables and defining the division of work. We never thought of teaching these subjects.

Village meetings were disappointing. In the majority of villages attendance was poor. In some the headman did not even arrange a meeting. Furthermore, the behaviour of powerful people at the meetings inhibited open discussion and questions.

Door-to-door education was the key to success. The fact that we visited people in their own homes proved to them how important the campaign was and allowed them the freedom to ask questions. Not only did the educators deliver our messages; they also dispelled many myths. For example, some people believed that polio was a disease of Shangaan speakers, and therefore Zulu and Sotho speakers did not need to be immunised against it. Others had been told that immunisation would poison their children.

The village women were the best educators. They communicated easily and in a natural way with their fellow villagers. They were not elitist and showed the greatest respect for people. The villagers were more at ease with them and more apt to ask questions and criticise the health service.

The immunisation teams worked well, albeit a bit roughly at times. They gave polio drops, kept statistics, and filled in Road to Health Charts at a rate of up to 250 per hour.

Ensuring proper queueing was a problem. One person jumping the queue started the ball rolling, and if nothing was done about it, the situation became uncontrollable. We found that those people who consider themselves elite (usually those with high education or income) are the ones who thought they didn't need to queue. We solved this problem by escorting them to the back. They were obviously embarrassed, and our firm response discouraged others.

This also helped improve our credibility, as the average villager saw that we did not favour the rich or the educated. It also helped people to be more patient.

Radio announcements of immunisation venues and campaign results were helpful. However, we should have taken more care with the educational component of radio messages. We found that some people had misunderstood them. Even worse, conflicting messages were aired. For example, while we were explaining that the epidemic was due to health service inadequacies, the radio said that it was because mothers had refused to bring their children for immunisation. This made mothers feel scared, ashamed and alienated, and made our job more difficult.

The education pamphlets served us well. For children it was an opportunity to receive some reading material and for grandparents a chance to get their grandchildren to entertain them. It also gave those who were not home when we called an opportunity to become informed. The fact that the printing was large, the language Shangaan, and the words used simple, all contributed to the success.

The review up to now may make it sound as if everything went like clockwork. As in any programme, there were ups and downs, especially in the early stages. The daily team meetings helped us overcome problems, and as our experience grew, so did our skill.

A REVIEW OF THE EXPERIENCE OF THE SECOND AND THIRD MASS IMMUNISATION CAMPAIGNS

The second and third campaigns ran more smoothly. No problems resulted from our decision to drop village meetings. The idea of using education teams made up of village women only, proved to be a good one. Radio information was more accurate, but not as consistent as in the first campaign. This was probably explained by the fact that there was no epidemic. We added a song about immunisation to our educational programme. Our education team left each day singing about our theme.

DID THE MASS IMMUNISATION CAMPAIGNS STOP DISEASE AND SAVE MONEY?

No cases of polio occurred in Mhala during the epidemic. Four cases of paralytic polio were admitted to Tintswalo from nearby areas outside Mhala. We have admitted 18 measles and 9 whooping cough cases since the second campaign. This compares with an average of 113 measles admissions per annum from 1979 to 1982, and 10 of whooping cough. No cases of childhood tetanus have been admitted since the second campaign. Details are presented in Table III below:

TABLE III

ADMISSIONS OF IMMUNISABLE DISEASE TO TINTSWALO : 1979 - 1982

	TOTAL			FROM MHALA		
	Measles	Whooping Cough	Polio	Measles	Whooping Cough	Polio
1979	22	15	0	8	6	0
1980	150	3	0	72	1	0
1981	169	7	0	98	6	0
1982	109	12	4	55	6	0
1983	19	9	0	9	3	0

Note: The low number of measles admissions in 1979 is because hospital policy was to not admit children with measles unless they were seriously ill. This was to prevent an outbreak of measles amongst hospitalised children.

We cannot conclusively prove that the immunisation campaigns prevented the polio epidemic spreading to our area. However, it does seem likely. We should point out that during the campaign we immunised more than 8 000 children at the hospital. They came from nearby villages in Lebowa to which we are not allowed to go to. This may have had the effect of blocking the spread of polio southwards by creating a belt of immunised children.

We cannot prove that we would have admitted more cases of measles, but the notable drop in the number of cases admitted in 1983 is probably due to the campaigns. This argument is strengthened by the finding that although 25, 23 and 22 cases of measles were admitted to Tintswalo in the 3 months before the 2nd campaign, the number dropped to 6,9 and 0 after it.

One thing we can say: the children in our area are now immunised.

The cost-benefit of the mass immunisation strategy is not in doubt. A total calculation of benefits would need to include costs to the family (e.g. transport, mothers away from work), cost of care at the hospitals and clinics, and the long term cost of caring for disabilities. As this complete analysis is impossible to do, some examples of savings will be given.

- The total cost of the first immunisation campaign was much less than the cost of ensuring long term treatment for a single case of paralytic polio.
- Using the average number of hospital days for measles from 1979 - 1982, and the cost per patient per day at Tintswalo, measles admissions cost us R7623 per annum to treat. This is half the cost of a campaign.
- The cost of all three campaigns is covered if we have prevented a single child going blind as a result of a vitamin A deficiency following measles.

WHY WERE WE SUCCESSFUL?

We believe that our campaigns have been successful. After the first campaign we tried to analyse the key factors that led to our results. This analysis is obviously subjective, but we believe it is correct. We suggest five main reasons:

Informed parents

The extensive information, delivered in a caring manner by trained staff using appropriate educational methods was vital. Especially important was the fact that our educators did not just tell people to get their children immunised, but gave them enough knowledge to make an informed decision.

Easy access

Easy access to the immunisation points was critical. People neither had far to walk, nor to pay for transport. The rand or two that transport costs is beyond what most people can afford. Because the services were in the village, grandmothers were able to bring their grandchildren, and children their baby brothers and sisters.

Trust

As many villagers do not really trust the health service, we had to build this up in a short time. Certain strategies helped. Two days with person-to-person contact in the village before immunisation was the key. In a deprived society the victim is often blamed for the circumstances in which they find themselves. We rather emphasised health service failure. The fact that people near Mhala were threatened and punished for not having had their children immunised added to the alienation that already existed. The fact that we made it clear that there would be no punishment and that parents had a free choice helped to remove some of this.

Teamwork

Our team approach kept our workers highly motivated. Their certainty of the value of their work, their adequate training, and the progress and problem meetings helped ensure maximum effort.

Vaccine

Despite shortages in other nearby homeland areas, we managed to arrange an adequate supply of vaccine. Without it we could not have immunised.

After the first campaign we believed that we had demonstrated that if people are given real access to services, they will use them. We believe that there is no such thing as "a community of ignorant mothers who refuse to bring their children for immunisation," but rather that there are many rural mothers who have not had the chance of becoming adequately informed, or the opportunity of receiving health care near their homes. Many people doubted this assessment, and suggested that we were only successful because of the panic during the polio epidemic.

However, the fact that we immunised more children in the second campaign than in the first, and more in the third than in the second, suggests that our analysis is the correct one.

THE ROLE OF MASS IMMUNISATION CAMPAIGNS

The simplicity and cost-benefit of mass immunisation campaigns tempts one to view them as a solution to immunisation services in rural areas. However, we do not view them as a solution, but rather as a means of buying time until we can provide comprehensive child care by means of regular child health clinics in each village. We believe that every child is entitled to such a service, and that this should be our goal. Anything less amounts to cheap care for the poor. However, we do not want epidemics of immunisable diseases in the meantime, and so we use mass immunisation campaigns.

KANA POLIO YI NGA SIVERIWA HI YINI?

Hi nga yi sivela hi Ku nyika vana nsawutiso wa Polio.

Eka nsawutiso wa Polio hi thonisela mathonsi ya murhi enon'wini wa n'
ani u fanele Ku minta, lexo a tshutela u fanele Ku tlhela a Kuma mal
anharhu na Kambe.

Kutani loko n'wana a Kume nsawutiso lowu a nga Ka. anga Khomiwi hi vuv
byi.

ANA HI VAHI VANA LAVA FANELAKA KU KUMA NSAWUTISO
OWU WA POLIO?

na lava va sukelaka eka tinhweti timbirhi Ku fika eka tsevu wa malembe

ANA NSAWUTISO LOWU WU KUMEKA KWIHI?

Eti Kliniki na le swibedlhele swa Ka n'wina.

Exi fundzheni xa Mhala Ku ta va ni ntlawa wa nsawutiso lowu nga ta fan
nca hi miganga hinKwayo va ri Karhi va sawutisa vana.

Ku ta va ni tinhlengeletano emugangeni wun'wana ni wun'wana Ku
amusela hi ta nsawutiso wa Polio.

asiku ya nsawutiso mi ta tivisiwa wona eka tinhlengeletano leti ta miga
'a radio madyambu man'wana na man'wana.

ANA LOKO N'WANA A KUMILE NSAWUTISO EKA
KARHI LOWU NGA HUNDZA HI ENDLA YINI. KE?

ni hi leswi Ku nga na ntungu wa Polio swa antswa leswaKu
na hinKwavo va tlhela va Kuma nsawutiso hi vuntshwa.

FUNANI KU SIVELA POLIO EKA VANA
'WINA NI LE MUGANGENI WA KA N'WI
I. KU YISA. VANA VA N'WINA VA YA
UMA NSAWUTISO WA POLIO SWESWI

XITOMBO WA POLIO

va Loko exifundzheni xa Ritavi va hlaserile hi vuvabyi bya Polio
ala va vona byi va lamatile Kambe van'wana va vona va lovile

POLIO I NCINI ?

i vuvabyi bya nghozi swinene, bya tlulela eka vana. Byi Khoma vona lava
a xihoxi Ka tsevu wa malembe. Byi endla tinyama ti va ni vusindza, bya
a ni ku hundzuka n'wana xigona vutomi bya yena 'nKwabyo.

O VANA VA NGHENILE HI VUVABYI BYA POLIO VA'TWA YINI XAN,

'wana vona a va twi nchumu.
n'wana byi va sungula Ku fona ni maKhuhlwana, va pfaleka tinhompfu, Kum
ala Ka ni Ku hisa miri.
ona a nga endzwanyona masikunyana.
abyi byi nga ha ya emahlweni hi Ku hisa Ka mirhi ni vusindzo bya tinyama
ho xin'wana ni xin'wana xi nga Khomiwa hi vusindza.
ndziso: a. Loko byi ri enKolweni n'wana u ta tsandzeka Ku minta swaKudy
b. Loko vusindza byi Khoma tinyama ta xifuva n'wana u ta
tsandzeka Ku hefemula.
c. Loko vusindza byi Khoma mavoko u ta tsandzeka Ku ma tirhis
d. Loko vusindza byi Khoma milenge u tsandzeka Ku yima Kumbe Ku fam
lava byi nga va Khoma tinyama ta xifuva va tsandzeka Ku
aula Kutsmi va lava.

LIO YI NGA TSHUNGURIWA HI YINI XANA ?

n'wana a Khomiwe hi vuvabyi bya Polio u fonela Ku tisiwa exibedlhele
a nga ta pfuniwa Kona.