

**SECOND CARNEGIE INQUIRY INTO POVERTY
AND DEVELOPMENT IN SOUTHERN AFRICA**

**School health services -
Problems and prospects**

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 200-bed hospital (Tintswale), 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 (MSDU), 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 MSDU 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 MSDU

- 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 Tintswale 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 MSDU 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 Suttar 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 Bachtosse, Eric Buch, Rob Collins, Cedric de Beer, Clive Evian, Vic Gordeuk, Nerryl Hammond, Thoko Maluleka, Shirley Mswanganyi, Sanlisive Mtetwa, Dipuo Moseu, Robert Naugh and Merrick Zwarenstein.

SCHOOL HEALTH SERVICES - PROBLEMS AND PROSPECTS

Eric Buch

The 57 primary schools in Mhala had 16 064 Sub A and Sub B pupils in 1982. The teacher pupil ratio was 1 : 62,0. Most teachers are not qualified. Many classrooms have inadequate lighting and only spaces for windows. As there are too few classrooms, many children learn under a tree - if it rains or is cold, school is cancelled for the day. Schools have no water facilities and either a few insanitary toilets, or none at all.

School health services were started by Tintswalo hospital in May 1982. The service aims to screen for disease and treat the problems found, improve the school environment, train teachers in health and health care, and develop Child-to-child programmes for children to learn about and improve health. Let us look at these four functions in more detail.

WHAT CAN SCHOOL HEALTH SERVICES IN THE UNDERDEVELOPED WORLD DO?

Screen for disease

Children in the underdeveloped world have much undetected and untreated disease. This is due to extensive ill health in the community, and poor access to and inadequate quality care. These factors make screening services in schools especially important.

The purpose of screening is not just to find health problems, but to ensure that appropriate action is taken in response to these findings. In fact, for a screening service to be worthwhile it should meet the following six criteria (1):

- The tests used should be simple, and acceptable to the children and their parents.
- Important health problems should be found.
- The problems would not otherwise be detected and treated.
- The problems found are treatable.
- It is cost-beneficial to treat the diseases.
- The health service can cope with the load of providing care.

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Improve the school environment

The physical environment at schools in the underdeveloped world is often unsatisfactory. Many children are taught under trees, as they have no classrooms. Classrooms often have inadequate lighting and only spaces for windows. Many schools have no toilets or water facilities.

A school health service should take action to improve the physical environment at schools.

Develop Child-to-child programmes

The idea in Child-to-child activities is that older children gain an interest in health through helping their younger brothers and sisters. For example, they could care for them when they have diarrhoea, make toys to enhance their development, prevent accidents by improving safety at home, and improve their neighbourhood by acting against pollution.

Good Child-to-child programmes can encourage children to recognise that they have the ability to change and improve the situation that they live in. They will take part in activities that help to build important value systems such as helping one another. In the long term these experiences will help them become better parents and better members of their community.

Train teachers

Resource constraints on school health services in the underdeveloped world mean that they usually only reach a small proportion of schoolchildren, and then only once a year. Problems outside of these times will need to be solved by those who are there - the school teachers. Volunteer teachers undergo training in simple aspects of screening, primary care, health education and running Child-to-child programmes.

WHAT HAS HAPPENED IN TINTSWALO'S SCHOOL HEALTH SERVICE THUS FAR?

It was noted earlier that school health services were started by Tintswalo in May 1982. They were planned to include screening, environmental, teacher training, and Child-to-child services. In developing the service we have faced a number of problems. This section describes these problems, and outlines our solutions if they have been solved. It also describes our plans for unsolved problems and our prospects for the future.

Thus far, only screening services have been initiated. 2 609 Sub A and Sub schoolchildren have been screened.

The screening service

If we compare our experience with the criteria given earlier for justifying screening for disease we find that school health screening is worthwhile.

Simple and acceptable tests

The tests performed are all simple, and acceptable to the children and their parents. An abbreviated general examination is done on all children. The illiterate E test is used for vision, PPD for tuberculosis, and protein in the urine for bilharzia (200 urines of children who had protein in their urine were tested - bilharzia ova were found in over 97%.) Because of the limited skills and equipment available, we have had to limit hearing testing to the "whisper test" and to use only a mouth inspection for dental caries.

Important health problems

Important health problems were found. 46,1% of children have PPD's of 15mm or above, 39,6% had had no food before coming to school, 16,1% had bilharzia, 11,5% had obvious dental caries on mouth inspection, and 4,5% had skin infections. A wide range of other problems occurred, all in less than 3% of the children.

Problems would remain undetected and untreated

Not only were important health problems found; it is likely that most of the diseases would have remained undetected and untreated if not for the school health service.

Treatable conditions

Most of the conditions we found can be treated with improved end results. Specific guidelines have been developed for the care of common problems.* Some problems are beyond our means to treat. This is considered under 'load' below.

Cost-beneficial

It is certainly cost-beneficial to care for the problems found. The single school health team costs us about R12 000 per annum to run. This figure is made up of R7 000 for staff, and R2 500 each for supplies and transport. Weighed against the benefit of treating disease early and the lost learning ability of children with health problems, the price is cheap.

Load within health service means

The final criteria is whether the health services can cope with the problems found. The answer is "yes" except for bilharzia, nutritional problems, dental caries, and the need for tuberculosis treatment.

Praziquantel, used for bilharzia treatment, is expensive (R3,70 per treatment). We are therefore only able to treat the more severe cases.

When it comes to nutrition we are really at a loss. Trying to arrange handouts of food at schools is not a solution to the basic problem of poverty, but there is little else that can be done through a school health service. Even so, it is beyond our resources to organise a school health feeding programme.

* Details available from the author.

Tintswalo has only recently acquired a dentist and dental equipment. The service cannot cope with the enormous load of dental caries in schoolchildren; so, we restrict ourselves to only caring for serious cases e.g. root exposures.

On the basis of our current data we estimate that there are nearly 8 000 children in sub-A and sub-B in Mhala who require tuberculosis care. As we do not have the resources to tackle this massive task, we tried the alternative of arranging supervision of care through school teachers. Unfortunately it was impractical. 138 out of the 338 children at one school needed care. The teachers were very willing, but spent more than 2 hours a day supervising care instead of teaching. The support we had to give to keep this effort going could also not be achieved again. We have therefore had to decide that we will only provide TB care for about 15% of the children needing it.

The decisions outlined for care of bilharzia, malnutrition, dental caries, and tuberculosis were difficult to make but we had no choice. Doing more than we have described would have drawn off scarce resources from other parts of the health service.

The workload

Ideally, children should be screened three times at primary school. We have found that if our school health nurse and her assistant are working optimally, they can screen and care for an average of 80 children a week. Based on a 40 week school year, they can only reach 3 200 of the 9 248 children in sub-A. In response we have started a second school health team, but we will still only reach 70% of the sub-A's, and no children a second or third time.

Staffing

We have just pointed out that even with a second school health team, we will only screen half the Sub-A's. Therefore, not only will our screening be inadequate to meet the need, but for the foreseeable future we will have to shelve environmental improvement, teacher training, and Child-to-child programmes. The school health service needs at least 8 registered nurses. We can motivate for posts for extra staff, but this takes time and we may not get them. Even if we do, we may not have the skilled staff available to fill the posts.

There have been problems of skill and productivity. We made the mistake of assuming that a public health nurse would have skills that she did not and have since designed and run a 3 week course.

As the school health nurse works with little supervision she has to ensure her own motivation and discipline. We have had problems such as cutting corners when screening, poorly kept records and leaving work early. In 1982 the school health nurse worked at some distance from the hospital and cared for only 8 children a day. In 1983 she worked at schools near the hospital, and was more supervised, and managed a rate of 18 a day.

When we started the school health service our matrons, instead of choosing from the most reliable and dynamic workers, chose one who had worked poorly in other departments. They thought that her specific interest in school health would lead to good work. It didn't. We made sure we chose a reliable and dynamic second school health nurse.

Support systems

The school health service has had a vehicle since it began, but we don't have another one for our new team. This has led to serious disruption of their work. Our prospects of getting one through the health services are remote, so we will be looking towards outside donors.

Our early attempts at record systems were clumsy. We have since tested and finalised a record system which is working well.*

* Details available from the author.

Initially we did not have our drugs and supplies organised. We have now developed equipment and drug lists and specific guidelines for care of common problems.*

At the outset we underestimated the amount of supervision and support that would be required. After some ups and downs these systems are stronger. They operate under the routine management of the nursing service. A weekly doctor's visit also helps.

CONCLUSION

There is no doubt in our minds that school health services are an important component of health care in the homelands. However, the service will remain limited to one that screens about half the Sub-A children, unless adequate staff and transport become available. The needs for environmental improvement, teacher training, and Child-to-child programmes will remain unmet.

The service needs 8 registered nurses each with a vehicle. If we did allocate these resources now the school health service would be developed at the expense of other areas. The hospital would be left with only two vehicles, and either the clinics would lose all or the hospital wards half of their registered nurses. And yet, school health services meet an important need, a need that will not diminish until health in our area improves. This improvement is in turn dependent on the reduction of poverty.

REFERENCES:

1. Sackett D.L. "Laboratory screening : A critique",
Federation Proceedings, 34 : 12, 1975, 2157 - 2161.

* Details avail.

TINTSWALO HOSPITAL SCHOOL HEALTH SERVICE

SUMMARY OF GUIDELINES OF ACTION TO TAKE FOR PROBLEMS FOUND

<u>Problem</u>	<u>Action</u>
No breakfast	Nil
Weight/age less than 80%	If clinically severe, refer to hospital.
Height/age less than 80%	Nil.
Urine positive for protien (Bilharzia)	Treat with praziquantel if 2+ protein, passing blood clots or has pain on micturition. Otherwise no treatment.
Hearing	If a cause found, treat it and re-examine. If no cause refer to doctor who may refer to Pretoria.
Vision	If 6/9 or less refer to ophthalmic nurse, who may refer to visiting ophthalmologist.
PPD test (for tuberculosis infection)	If 23mm or above arrange 6 months of supervised care by the school teacher. Use Mynah as per protocol. If 15-23mm, leave. If less than 5mm give a BCG.
Anaemia	Give iron and to take as per protocol.
Skin, eye, ear and throat infections.	Treat as per protocol.
Pellagra	Give nicotinimide as per protocol.
Dental caries	Refer root exposures and other severe caries to the dentists. If less severe, no treatment.
Heart murmur	Refer to doctor.
Abnormal chest sounds	Refer to doctor.
Undescended testies Hydrocoele or inguinal hernia.	Refer to doctor.
Mental health problems including retardation and epilepsy.	Refer to psychiatric team.
History of worms	Give thiabendazole as per protocol.

- Note:
1. Children who are referred will need to pay for care.
 2. Specific patient care guidelines (protocols) are available for all the problems.
 3. The fact that a problem does not get treated does not mean that we do not see it as a problem. It means that we are not in a position to cope with it.