

SECOND CARNEGIE INQUIRY INTO POVERTY
AND DEVELOPMENT IN SOUTHERN AFRICA

The estimated cost and effective-
ness of a nutrition rehabilitation
day centre in an urban squatter
community: Philani Crossroads,
Cape Town

by
D E Whittaker, I le Roux, P Disler

Carnegie Conference Paper No.216

ISBN 0 7952 0674 1

THE ESTIMATED* COST AND EFFECTIVENESS OF A NUTRITION
REHABILITATION DAY CENTRE IN AN URBAN SQUATTER COMMUNITY :
PHILANI CROSSROADS, CAPE TOWN

D. E. WHITTAKER

I. LE ROUX**

P. DISLER

Department of Community Health, University of Cape Town
Medical School and ** Philani Nutrition Centre

Based in part on data collected by the following students as part of
their undergraduate teaching in Community Health

R Blachowitz, J Friedman, C Ginsberg, S Jonathan, K Judd, M Judd,
M Jones, L Kaplan, B Peterson, C Sperryn, G Webb

who were assisted by B Tyeku and N Nyakaza.

* All estimates based on a preliminary analysis and subject to
revision.

INTRODUCTION

Much money is spent rehabilitating malnourished children in the Third World. These children are the casualties of a relentless cycle of poverty and ignorance which has its roots in the economic and political conditions prevailing in these countries. The various nutrition rehabilitation projects extant in this country now show that South Africa is no exception to this rule.

It is essential that such projects be reviewed with regard to their cost and effectiveness, because so much energy is expended on this work and because the consequences of undernutrition in children can be grave. We need to know how best to use the resources we have for this work. Work which can be seen as the State's responsibility. Voluntary schemes such as Philani play an important part in leading the State into a wider recognition of its responsibilities.¹

Philani in Crossroads is one such project whose general functioning is described elsewhere at this Congress.²

METHODS

Five groups of fourth year medical students, whilst undergoing their training in Community Health, chose to undertake a study on the long term followup of children discharged from the centre. Over the course of a year the folders of 192 children discharged from the Centre were selected and the students, with the help of an interpreter, then attempted to trace the children in Crossroads. They found 61 (Table 1) of the children whom they weighed and assessed clinically. They also completed a household survey which measured the parents' financial, educational and nutritional circumstances. This data has not been included in this analysis.

TABLE 1

	Sample	119
	Traced	61
Reasons for not being traced:		
	Return to Transkei	23
	" " Ciskei	1
	Moved elsewhere in Cape Town	17
	Not at home	4
	Died	1
	Untraceable	10

Of the 61 children traced, complete records were obtained for 42 children of their age, sex, weight on admission to the centre, duration of treatment at the centre, weight on discharge, age when traced and weight when traced as well as time elapsed since discharge.

This paper is confined to an estimation of the cost and effectiveness of the treatment given to these 42 children. We are aware of the bias inherent in analysing this sample but think it fitting to offer a preliminary evaluation of the centre.

RESULTS

The effectiveness: The third percentile of the N.C.H.S. standards was used as an indication of improvement and deterioration in this group. From Table 2 it can be seen that children were kept at the centre until they had improved. The three children below the third percentile may have been children whose growth pattern was normal but below the third percentile or they might have been those intractable social problems seen at all nutrition centres that do not respond to this type of rehabi-

litation. They might have had other conditions, for example tuberculosis, which had affected their growth (of 100 children attending one clinic at Philani, 21 were on full TB treatment and 14 were on prophylaxis with INH alone).

TABLE 2

	<u>Admission</u>	<u>Discharge</u>	<u>Followup</u>
No. < third percentile	27 (64%)	3 (7,1%)	6 (14,3%)
No. > third percentile	15 (36%)	39 (92,9%)	36 (85,7%)
Total	42 (100%)	42 (100%)	42 (100%)

At followup, on average, 10,3 months later, a further 3 (7,1%) were below the third percentile suggesting that these 3 children having been above the third percentile had deteriorated and were failing to grow well. A full understanding of how each child had fared would require examination of each child's growth curve; this was not possible here.

	<u>Duration of treatment</u>	<u>Time elapsed since discharge</u>
Mean	7,8 months	10,3 months
Range	1-26 months	1-23 months

Using the third percentile as a single gross indicator of the effectiveness of the centre we conclude that the centre achieved nutritional improvement in the majority of those children who were originally below the third percentile which was maintained after discharge from the centre. We believe that this improvement was due to the supervised supplementary feeding and to the education of the mother. We further believe that the sustained improvement after discharge was due to the mothers' improved skill in caring for the child as no supplementary feeding was given during this time.

The cost: Expenditure on Philani for the year 1982-83 is given in Table 3.

TABLE 3

Source of Funds	Salaries	Food	Drugs	Total expenditure
Philani (donations from voluntary organisations)	R 4 882	R4 740		R10 259
SHAWCO, UCT	1 000	1 600	R2 500	5 100
SACLA Clinic, Crossroads	10 800			10 800
State Health Department	3 600			3 600
	R20 282	R6 340	R2 500	R29 760
	(68%)	(21%)	(8,4%)	(100%)

Attendances at the centre derived from the mean daily attendance at the emergency centre and the mean weekly attendance at five clinics over a 50 week year gave a total of 12 300 child days. This yielded a cost per child per days attendance of $\frac{R29\ 800}{12\ 300} = R2,42$

The estimated duration of attendance for a severe case was derived from a daily attendance at the emergency centre for 3 months and weekly attendance at the centre for 5 months derived from the mean duration of attendance of 7,8 months, yielding a total of 80 attendances. The estimated duration of a case of moderate severity was calculated on a weekly attendance for 7,8 months at 30 attendances.

Estimated cost of complete treatment:

Severe case	80 x R2,42	=	R194
Moderate case	30 x R2,42	=	R 73

CONCLUSION

Dr le Roux's observation of the clinical state of these children¹ led her to conclude that some of them would certainly have needed hospital admission had they not been treated at Philani. It is likely that hospital admission at + R100 per paediatric bed per day (Red Cross Children's Hospital 1983) was avoided for some children. The group studied improved, most of them maintained this improvement, and justified, in gross nutritional terms, this expenditure on them.

Accuracy of estimates

Children who are under care at the emergency centre often came with siblings who were also fed, the centre therefore is feeding more children than appear in the attendance figures. It is probable too that the feeding of one child from a family at the centre means that there is more food for siblings at home, as is well known to occur at nutrition rehabilitation centres.⁷ The hidden costs of the centre include doctors who give time voluntarily in running clinics.

Future research

The analysis given in this paper has of necessity been limited. A detailed description of the nutritional status (weight-for-height, clinical state etc) of the 42 children studied would have allowed a firm assessment of their initial state and also an appreciation of subtler changes in their nutritional status. Of interest too would be an analysis of the effectiveness of the teaching and the feeding components of the rehabilitation. Just how well do the mothers learn? Would they learn more and retain it better using other educational approaches? Answers to questions like these would allow the optimal allocation of resources in such a centre.

Important too would be more complete follow up of all children for a clearer idea of the work of the centre as a whole in its full population perspective including subsequent mortality and morbidity.

On balance, however, we conclude that Philani is effective at moderate cost in improving the nutritional status and overall wellbeing of selected undernourished children in Crossroads.

Postscript

We believe that Philani's achievements in no way absolve us from the responsibility of working for the redress of those economic, political and social factors which perpetuate this deplorable state of affairs.

REFERENCES

1. Elliot V. Skills required for appropriate technology in health. *Tropical Doctor* 1979; 9: 143-144.
2. Le Roux I. Nutrition, Health and Poverty in Crossroads. Paper delivered at Second Carnegie Inquiry into Poverty (1984).
3. Annual Report on the Philani Nutrition Clinic Crossroads, 25th November 1983.
4. The Balance Sheet - Philani Nutrition Clinic, 31st October 1983.
5. The Director, SHAWCO, UCT. Personal Communication.
6. Dr Ivan Toms, Medical Officer, SACLA Clinic, Crossroads. Personal Communication.
7. Beghin ID. Centres for Combating Childhood Malnutrition. In: McLaren C, ed. *Nutrition in the Community*. Chichester: John Wiley & Sons, 1976.

These papers constitute the preliminary findings of the Second Carnegie Inquiry into Poverty and Development in Southern Africa, and were prepared for presentation at a Conference at the University of Cape Town from 13-19 April, 1984.

The Second Carnegie Inquiry into Poverty and Development in Southern Africa was launched in April 1982, and is scheduled to run until June 1985.

Quoting (in context) from these preliminary papers with due acknowledgement is of course allowed, but for permission to reprint any material, or for further information about the Inquiry, please write to:

SALDRU
School of Economics
Robert Leslie Building
University of Cape Town
Rondebosch 7700