

# The Distance Factor in the Use of Psychiatric Facilities

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When the Zambian mental health service was being established it was realized that an effort ought to be made to establish general hospital units serving local populations. However, distances are great and the population density, in the rural areas is low.

The mental health service resources are also extremely limited and it has only been possible to extend the service to a number of major centres. A question arises as to whether people in need are able to gain access to the service and what steps might be taken to make it more effective.

Fendall (1965) drew attention to the way that out-patient attendances at rural health centres fall off with distance from the centre at which the patient lives. The idea was further developed by Jolly and King (1966) who demonstrated the fall-off as an exponential decay curve. McGlashen (1968) in an analysis of Lusaka City clinics showed that a similar pattern existed with a high degree of 'nucleation' around the various clinics and very little apparent "leap-frogging". In another study of Zambia-wide health services McGlashen (1968) has pointed out that the factor which may persuade any patient to attend a particular health facility may be complex and hence it is difficult to analyse work loading of various facilities with any but the crudest measures. Yet it has to be admitted that most patients have little choice and especially so with regard to mental health facilities. Distance and the availability of transport, coupled with the state of the patient are likely to be important.

There is relatively little information on the state of the patient though, in common with many African countries the male admission rate is about double that for females and seems to be related to the ability of communities to tolerate or contain deviant behaviour. Does the factor of distance operate for these patients, on a different scale of course, in a similar fashion to that described by Jolly and King

(op. cit.)? The present study is an attempt to examine this question.

## The Pattern of Psychiatric Admissions throughout Zambia

Admission to all mental health units will be examined for the year 1975 in order to test the hypothesis that there is a negative correlation between distances patients live from the unit and their liability to be taken there. Trends in admissions for the ten year period 1965 to 1975 can first be examined.

There was no country-wide mental health service in 1965. The only mental hospital in Zambia, Chainama Hills Hospital (opened June, 1962) admitted 281 patients, the Ndola Central Hospital department admitted 450 patients and although a unit was in existence at Livingstone, no details are available regarding number of admissions. If the number taken is the same as in the next year - 103, the total admissions in Zambia was 1499 of which 584 (39%) were to prisons. By 1975 there were 1346 admissions to Chainama Hills Hospital, units had been established at eight general hospitals and out of a country-wide total of 5846 admissions only 349 (6%) were into prisons.

The pattern of admissions must depend upon facilities being available (at least as far as countable admissions). An effort was being made to develop the service in all parts of the country and units were established in all provinces except the North-Western Province. The distribution of admissions and population in Zambia is shown in Table 1. See also Appendix I.

The mental hospital in Lusaka had initially taken patients from all parts of Zambia but by the early 1970s it had increasingly become the local

psychiatric unit for the Capital City and its environs. This is demonstrated in Table 2.

"Low density" in the table refers to the higher class residential areas as contrasted with municipal

**TABLE I**  
**TOTAL PSYCHIATRIC ADMISSIONS IN ZAMBIA**

HOSPITAL	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
CHAINAMA	281	508	522	596	900	782	933	1084	1300	1337	1348
LUSAKA	84	423	410	403	—	—	—	—	—	—	—
NDOLA	450	681	879	1059	1298	1398	1488	1639	1845	1985	1783
KASAMA	—	—	—	406	393	395	547	677	595	596	570
MANSA	—	—	—	206	354	367	408	477	465	475	417
CHIPATA	—	—	146	141	269	354	477	352	371	461	423
MONGU	—	—	—	—	93	160	172	217	390	412	250
KABWE	—	—	—	209	204	189	167	205	162	235	313
MAZABUKA	—	—	—	—	69	83	69	113	132	106	168
LIVINGSTONE	—	103	167	219	371	455	402	372	261	310	294
NSADZU	—	—	—	—	—	—	70	4	12	16	18
PRISONS	584	990	1054	930	330	322	275	261	268	396	348
<b>TOTALS</b>	<b>1339</b>	<b>2705</b>	<b>3145</b>	<b>4169</b>	<b>4181</b>	<b>4605</b>	<b>4938</b>	<b>5397</b>	<b>5786</b>	<b>6329</b>	<b>5846</b>

**TABLE II**  
**ADMISSIONS TO CHAINAMA HILLS HOSPITAL**  
**PERCENTAGE (%)**

	1973	1974	1975
Low Density	5.08	6.83	4.67
Rural	15.25	11.18	18.69
Kafue	5.93	5.59	6.54
Kabwe	4.24	2.48	2.08
Other Provinces	18.64	19.25	14.49
Municipal	22.88	17.39	22.43
Unauthorized	32.02	24.22	22.43
Not Known	—	7.45	5.61
Institutions, Residential Schools, Police Camps, etc.	1.69	5.59	4.67

'high density' suburbs and unauthorised (shanty) 'compounds'. Kafue and Kabwe are medium-sized towns 40 & 140 km from Lusaka. It will be noted that the pattern of admissions was tending to remain constant and about one-fifth to one-quarter of patients had probably been referred from some distance away for special investigations. The place of Chainama Hills Hospital in the system is not typical however and its pattern of admissions will not be taken into account in the analysis of Zambia-wide admissions.

**The Pattern of Admissions to General Hospital Mental Health Units**

The units make an annual return of patients admitted but they can give only a partial picture of the situation. Some patients are admitted to prisons and then transferred to mental health units while others are held only in police cells while in an acutely disturbed state and then, perhaps because of lack of transport to the nearest mental health unit, they are released. The figures analysed below have been

APPENDIX I

PERCENTAGE OF TOTAL ZAMBIA PATIENTS ADMITTED IN EACH PROVINCE COMPARED WITH POPULATION DISTRIBUTION

Province	1972	1973	1974	1975	Population as percentage of total population
Central	24.18	25.61	25.34	29.03	19.59
Copperbelt	30.37	31.89	31.36	30.26	22.28
Luapula	10.26	9.44	9.32	8.66	6.83
Eastern	12.38	9.83	9.57	9.54	12.10
Northern	12.58	10.54	9.84	9.78	12.35
North-Western	0.37	0.38	0.58	0.77	5.45
Western	4.89	7.57	7.14	4.36	9.86
Southern	8.99	6.79	6.57	7.09	11.05

APPENDIX II

TABLE III

ADMISSIONS RATES PER 10,000 WITHIN PROVINCES 1969 AND 1975

Province	1969	1975	Means of rates in Districts
Central	15.49	21.47	7.81
Northern	7.21	9.86	9.66
Luapula	7.57	15.76	9.98
Copperbelt	15.91	15.05	12.66
North-Western	—	6.64	No information
Western	2.57	5.51	4.08
Eastern	5.28	9.82	7.13
Southern	9.44	8.56	5.1

mental health workers capable of operating the various units has the development of the service been possible. No doubt a further report at the end of its second 10 years of existence will show many more changes.

REFERENCES

1. Fendall, N.R.E. (1965) *Medical Planning and the Training of Personnel in Kenya*, *J. trop. Med. Hyg.* 68, 12.
2. Jolly, R. and King, M. (1966) *The Organisation of Health Services*, in King, M. (ed.) *Medical Care in Developing Countries* London, Oxford University Press.
3. May, A.R. (1976) *Mental Health Services in Europe*. Geneva, WHO Offset Publication No. 23.
4. McGlashan, N.D. (1968a) *The Distribution of population and Medical Facilities in Zambia*, *Medical Journal of Zambia*, 2, 17.
5. McGlashan, N.D. (1968b) *The Geography of Lusaka City Clinics*, *Medical Journal of Zambia*, 2, 147.

so as well as or better than 'western' oriented medicine; we do not share this view although we look for increased cooperation with traditional healers.

When it is considered that, there are very few qualified psychiatrists in Zambia it will be realized that providing such a widespread service must put high demands upon the staff. Only by the training of