# Out-Patient care Gradients for a Rural Zambian Hospital

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## OBJECT

Maurice King (Medical Care in Developing Countries, 1966), has shown that Out-Patient Care Gradients, i.e., the relationship between distance travelled by patients to attend clinic, is exponential for hospitals in developing countries.

The purpose of this survey was to discover whether this was true in a country in which development was progressing rapidly. Almost all surveys done previously have been some years ago in areas where communications were poor and modern luxuries such as buses were unheard of. As such, they bear little relevance to our understanding of community needs in present day Africa, where modern technology is changing all but the most remote areas.

## COMMUNICATION IN THE DISTRICT

The hospital is situated in a rural area of the Southern Province of Zambia and is thirty miles off the main tar road. A graded dirt road links the hospital with the tar road. Along this come six buses per week from Mazabuka and three buses per week from Lusaka. The hospital is connected to the Gwembe Valley via a graded dirt road, passable most of the year. A daily bus connects the hospital with two population centres in the valley-Caanga and Sianyolo (see map).

## METHOD

One thousand eight hundred and sixty-one new out-patients were seen in the months of February, March and April, 1973.

These patients were all questioned by the nurse/receptionist, who gave them out patient cards, as to where the patient had travelled from in coming to the hospital.

Distances were calculated in two ways:
1)  Patients who lived within ten miles of hospital. A map was made of the area around the hospital with the names of the villages within a ten mile radius (118 villages). The distances from the villages to the hospital was calculated by direct distance, i.e. as the crow flies.

2)  Patients who lived more than ten miles from the hospital. Mileage was calculated on road distances by shortest available route.

## DISCUSSION

Eighty-one patients gave names of villages unknown to the author. The hospital has trainee nurses from all provinces in the country and many of them helped in identifying some of the more obscure and remote villages. Eighty-one patients remained unidentified. Most of these patients had certainly come from areas outside the immediate vicinity of the hospital and would probably swell the numbers in the more distant groups.

Large populations at Mazabuka, Caanga and Sianyolo, within the 20—50 mile range, helped to swell this figure. Similarly a low population density in the 10—20 mile range caused the low figures in this group.

## CONCLUSION

It is obvious from this study that patterns are changing. Whereas Maurice King's figures show that virtually no patients who lived over twenty miles away attended his hospital, sixteen percent of all patients attending this hospital came over twenty miles.

Hospitals will need to take account of this changing patient problem in future planning, especially with regard to accommodation and follow-up problems.

## REFERENCE

King, Maurice, (1966), *Medical Care in Developing Countries*, Oxford University Press, East Africa, Chapter 2. ●