# BLUEPRINT FOR PAEDIATRICS IN SOUTH AFRICA

FINDLAY J. FORD, M.D., F.R.C.P. (GLASGOW), *Department of Child Health, University of Cape Town*

The definition of paediatrics is 'that branch of medicine which treats of the child and its development and care, and of the diseases of children and their treatment'. At present a paediatrician spends little time in the prevention of sickness and he is therefore fulfilling only half of his requirement. He is following the time-honoured concept of healing the sick, on the pattern of adult medicine. The purpose of this paper is to suggest that our present way of handling the paediatric problem is inadequate, is doing nothing to lessen what has become a menacing situation, and could be improved upon in a very short time by a different use of our resources in man- and woman-power.

No one will doubt that a hospital is a very expensive item financially. More, bigger, and more expensive hospitals are planned. Practically none of these are meant primarily for children though they will probably all have

children's wards and some of the other wards will help with paediatric problems, e.g. ENT, dermatology, ophthalmology. Where the staff, particularly the nursing staff, is to be recruited from is a mystery. But it is quite safe to predict that, on our present régime, these hospitals will not be able to cope with the ever-growing demand for paediatric care. Something must be done to stop the rapidly increasing procession of children to hospitals where, because of the deluge of patients, each can be given the maximum of temporary care in the minimum of time and be sent home to be exposed to the same conditions which produced his illness originally. The community has, in fact, registered another sick child, treated him at relatively vast expense, and left the situation unchanged. He and his brothers and sisters will come again—*ad infinitum*.

The statistics of the City of Cape Town and its Red Cross War Memorial Children's Hospital can be used to illustrate these points. Table I shows the proportion of

TABLE I. CHILDREN IN THE POPULATION (GREATER CAPE TOWN, 1960)

| | | |
|---|---|---|
| Total White | 305,155—under 13 years | 25% |
| Total Coloured | 417,881—under 13 years | 37% |
| Total Bantu | 75,200—under 13 years | 24% |
| Total Asiatic | 8,975—under 13 years | 40% |
| | 807,211 | 31% |

the population which falls into the paediatric age group—31% of the whole. Fig. 1 shows the speed at which attendances at the hospital have increased in the past 7 years and, though it is not charted, the estimate for 1964

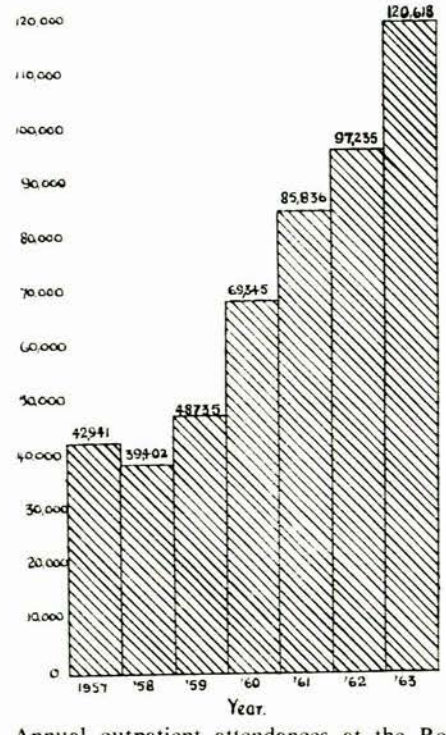


*Fig. 1.* Annual outpatient attendances at the Red Cross War Memorial Children's Hospital, Cape Town. Note the annual increase in numbers.

is 150,000. Table II demonstrates the fact that probably 20% of the non-White children in the area came for hospital attention in 1963. It is not surprising that this hospital is, and has been for some years, the most expensive hospital (on the basis of costs per bed per day) in the whole of the Republic. It is totally incapable of meeting the demands put upon it.

TABLE II. NON-WHITE CHILDREN ATTENDING THE RED CROSS WAR MEMORIAL CHILDREN'S HOSPITAL

| | |
|---|---|
| 1960 Census: under 13 years of age | 179,000 |
| 1960 attendances at Red Cross War Memorial Children's Hospital | 69,000 |
| Estimate of individuals | 28,000 |
| As fraction of Census figure | 15.6% |
| 1963 individuals attending | 48,000 |
| As fraction of 1963 child population | possibly 20% |

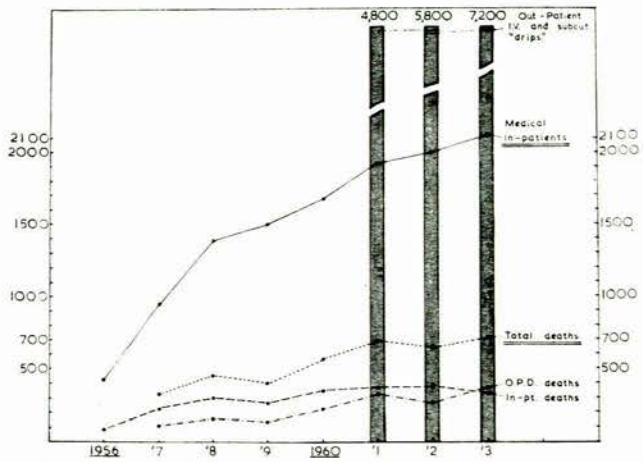


*Fig. 2.* Red Cross Hospital. Inpatient numbers and deaths are for the medical paediatric beds and cots only. Outpatient deaths are also medical (not surgical) and concern children who could not, for one reason or another, be admitted. 'Drips' refer to IV or subcutaneous administration of fluid or plasma or blood to children who could not be admitted. These are not necessarily the numbers of children but each 'drip' means one episode in one child, whether given only electrolyte or that followed by plasma or blood, and whether the duration was 4 hours or 2 - 3 days. A second 'drip' would refer to another visit to hospital.

Fig. 2 is a picture of the yearly admissions to the medical side of the hospital contrasted with the number of deaths which the paediatricians had to certify. There were as many outpatient deaths as there were deaths in the wards, and for the past 3 years the number of 'resuscitations' by blood or fluid therapy was also noted. These were children already 'in the valley of the shadow of death'. They were all in need of non-existent beds and, doubtless, many of them died. There were a few surgical deaths also, a mere 40 or so on the average, and the burden is a medical paediatric one. The hospital is, in sober fact, acting as a forecourt to the undertakers' establishments: 2,000 admissions; 700 deaths within or around its doors.

The term 'preventive paediatrics' is well known, but the only people who really practise it are the maternity and child welfare groups of the local authorities and they are

handicapped by the law of the land which does not allow them to combine therapeutic and prophylactic procedures, by lack of transport arrangements, and by shortage of health visitors. So there is really no machinery for improving the background to this dreadful story. And while accepting the probability that there are many causes for it—ignorance, lack of hygiene, lack of money, alcohol, overbreeding—no improvement can be expected by simply maintaining the *status quo*. It is axiomatic that 'fever and plague dog the footsteps of famine', and the 1959 hospital census shows the local position for the nutrition of all the children attending in these 12 months—Figs. 3, 4 and 5. More than half of the non-White patients would not

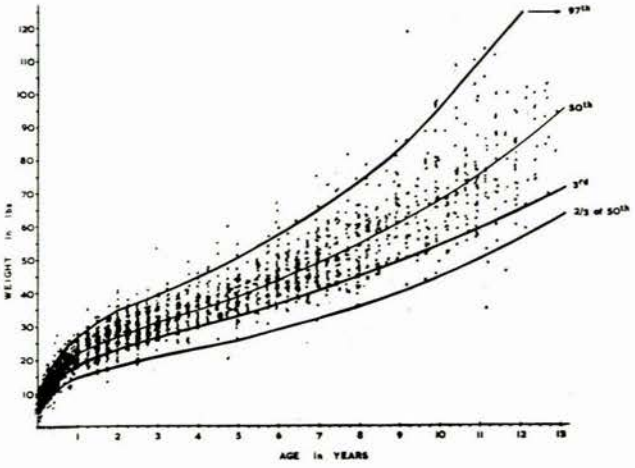


*Fig. 3.* Scatter of weights—White children attending the Red Cross Hospital. The upper 3 lines are of the Boston 97th, 50th and 3rd percentiles. The lowest line is the suggested standard for malnutrition. There are approximately 3,000 individual weights on this chart: ages from birth to 12 years.
*Note*: There are a few White children in the malnutrition class, and between that and the 3rd percentile lines.

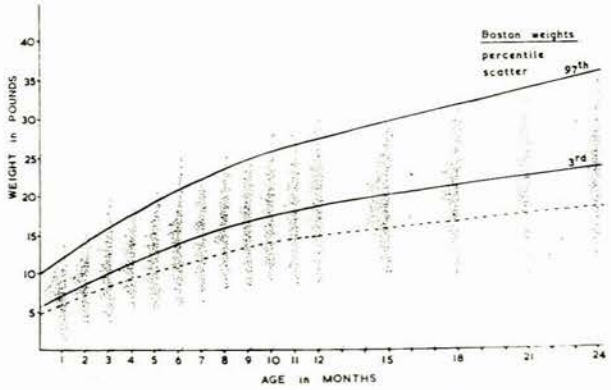


*Fig. 4.* Red Cross Hospital (1959 - 1960). Weights of non-White children under 2 years. Note the considerable number between the Boston lines, i.e. of tolerably normal weight. Actual numbers are on Fig. 6.

appear at all on the Boston percentile graph for weight. The surprising thing is that so many were quite well nourished. Fig. 6 gives the average figures for 17,000 of these children and for the 2 big sections, below and above 2 years of age. The poor will always be with us, but we should not have over 50% of our children with such low weights and we should have none below what is tentatively called the 'malnutrition' line.[1] That this also applies to some extent to White-group children is apparent from Fig. 3 and, from the statistics for attendance at their general practitioners' offices, it seems probable that the care and attention received by the paying section of the population leaves a lot to be desired. According to Table III, 40% of general practice is paediatrics—paid for.

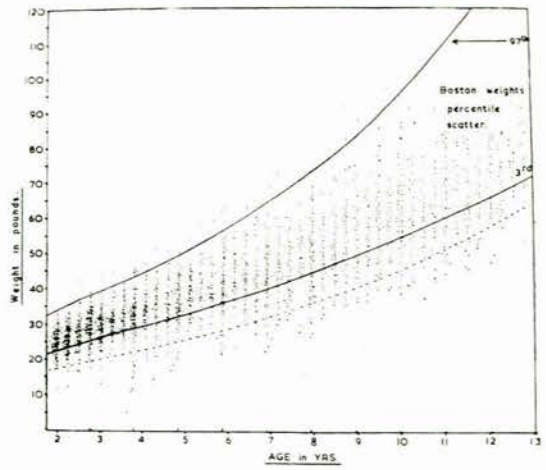


*Fig. 5.* Red Cross Hospital (1959 - 1960). Weights of non-White children over 2 years. Note persistence of large numbers under Boston 3rd percentile line and still lower, under the malnutrition line.

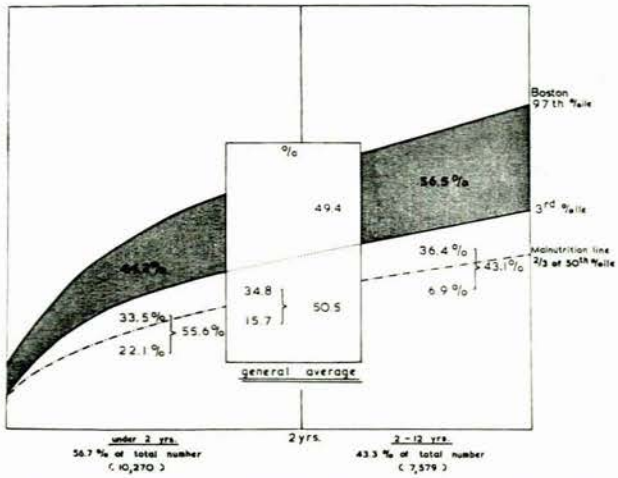


*Fig. 6.* Red Cross Hospital. Composite figure for non-White children showing the numbers of children whose weights appear on Figs. 4 and 5. Centre block shows averages for all the 17,000 children and those for the groups on the Boston charts below the Boston 3rd percentile, and below the malnutrition line; and in the separate groups under and over 2 years of age.

Among these people ignorance and lack of hygiene are more likely to be major factors rather than the other 3 mentioned above.

Is it possible, then, to devise some other scheme to prevent minor illnesses from developing into catastrophies, to employ a new approach to these many deficiencies of our present practice which has not changed

TABLE III. PAEDIATRICS IN SOUTH AFRICAN GENERAL PRACTICES (PROPORTION OF CHILDREN)

| | |
|---|---|
| 20 Transvaal practices .. .. .. .. .. | 44·6% |
| 11 from Cape Town report .. .. .. .. | 31+% |
| 1 Zululand: new cases only .. .. .. .. | 49% |
| 32 | 40% |

materially for 50 years, is hopelessly inefficient, even in saving lives, and vastly expensive? The psychologists have for years been spreading dejection about the ill-effects of hospitalization on small children detached from their mothers. We should, therefore, for several reasons, try to keep them out of and indeed away from hospitals. The cost of getting the children to the hospital is considerable. Last year's 120,000 outpatient attendances at a modest 10c each for the return bus fare (patient and guardian) cost R12,000: a considerable subsidy for the bus companies. Where train, ambulance or other transport was used the cost was much greater. The expenditure in time was vast, mainly in waiting at various places. Educational efforts have failed, probably because the mothers by the time they arrive at the hospital are often mentally and physically exhausted and not receptive. Could we not take paediatrics out to where the children live?

The answer appears to be in the setting up of multiple peripheral clinics. Emphasis must be laid on the words 'multiple' and 'peripheral'. The present hospitals and those which are at present planned would remain as the centres, which would be both fed and protected by a group of these peripheral check-points. The peripheral units could act in many other ways, as local headquarters for continuing care after hospital treatment, as the centre for maternity and child welfare work, for the immunization clinics, and for the health visitors. Placed not more than 2 miles apart, they would be within walking distance for anyone, i.e. no one would have to walk more than a mile. The ancillary services could be provided by mobile units for radiology, biochemistry and bacteriology, etc.

Such a scheme would stop the inundation of the hospitals, especially if each hospital was responsible for staffing a group of clinics and for the circulation of medical and nursing staff so that they could be kept up to date and also so that tricks which they invented in the outfield would, in due course, descend on their own heads in the centre. The hospitals which do not pull their weight would have to do so. No polyclinic sister would be in a position to say 'we don't see children under 6 years'. Eighty percent of the children in question are under that age.

The waiting time, travelling expenses, and the bobbing about from one hospital to another, would be minimal. The local 'no-goods' could be better supervised. Illness could be dealt with at an earlier stage and part of the vast expenditure on drugs, fluid, etc. could be diverted to more productive channels.

For research purposes such centres would be ideal and could serve as feeders for any type of illness or abnormality desired for study. Medical students, nurses in training, physiotherapists and the social service people could all be integrated into this kind of organization. Married women, doctors and nurses, would probably be willing to work in such places. Specialist sessions such as those for dermatology, ophthalmology, and dentistry, would not be required at each place. And the hospital would stand in the background to deal with all the more serious problems, the acutely ill, and the research work. The present clamant need for convalescent homes might even disappear; it would at least decrease greatly.

Such places would not require much elaborate equipment. The buildings could be simple and relatively cheap. Fig. 7 shows the approximate number of such clinics to

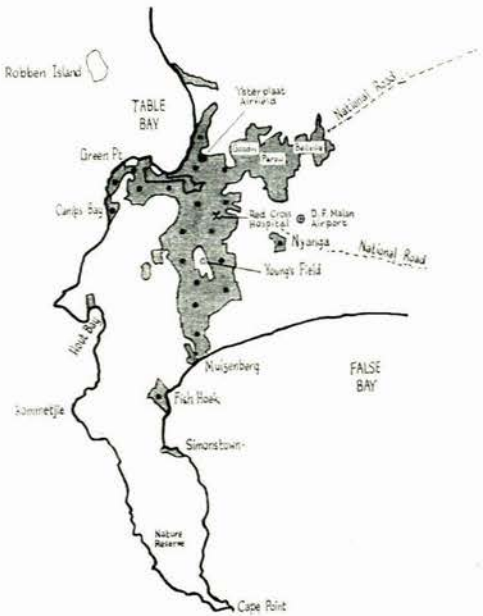


*Fig. 7.* Map of the Cape Peninsula showing that about 21 peripheral clinics would be needed to cover the area within the boundaries of the City of Cape Town if they were not more than 2 miles apart, i.e. within easy walking distance for anyone.

cover the Cape Town city area. There might be about 20 of them. The Red Cross Hospital costs, in round figures, a million rand a year to run; about R11 per bed per day. The same expenditure on running costs would give each peripheral clinic R50,000 with a multitude of advantages over the present system of paediatric care. It would at least lay a foundation for proper health care in each neighbourhood, for the proper practice of paediatrics, a project which in this second half of the twentieth century is more than somewhat overdue.

At the moment we are about as progressive as a hen with its beak on a chalk line. But there is no end to the line. Must we follow it for ever?

REFERENCE

1. Ford, F. J. (1964): J. Trop. Pediat., **10**, 47.