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PATTERNS OF HEALTH AND NUTRITION IN SOUTH AFRICAN BANTU

Section C

SYDNEY L. KARK

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A Health Unit as Family Doctor and Health Adviser.

By SIDNEY L. KARK, *Medical Officer in charge, Polela Health Unit, Union Health Department.*

IN planning our work for 1942 at the Polela Health Unit, we felt that the time was ripe for more intensive work than we had done before. One of the outstanding features of the life of the area was the almost complete absence of any local organisation of the people themselves, through which the Unit might work. Communal services, such as justice, social welfare, agriculture, health, education, churches and shops, are all for the most part in the control of "outsiders", namely government officials, missionary societies, traders, etc. It is important to recognise that the people themselves regard these services as coming from "without", and they often express doubt as to why an "outside" authority like the Government should want to do them any good. The absence of any political organisation, such as an elected local district council, directly representing the people tends to aggravate the problem, for the chiefs as a whole have little authority and are themselves often unaware of their communal responsibility. The Unit was thus faced with the fact that it had very little scope for becoming an advisory body to a progressive local council or committee, and that little was to be achieved by attempting a broad communal health programme similar to that carried out by Health Departments of municipalities acting under a town council. Decrees and regulations imposed by an "outside" authority do not succeed in improving the people's knowledge. The only social unit in which there was any advanced degree of communal responsibility was the family group. Our health work was therefore directed towards the adoption of progressive health measures by individual families. When political organisation develops health services will grow with them.

The concept of establishing a family curative service grew as the year advanced. A number of families looked to the Unit's clinic as a preventive and therapeutic clinical service. While the Bantu, generally speaking, have not evolved a "family doctor concept" to the same extent as have Europeans, this tendency of certain families encouraged the Unit to stimulate the process. Our clinic records are filed in a manner which allows cross-reference to the socio-economic state of the family. The advantages of treating patients and having a fairly detailed knowledge of their home background are obvious. This approach is even more important when it is remembered that the vast majority of illnesses are of an infectious or nutritional nature, usually implicating more than one member of the family to a greater or lesser degree.

In view of the prevailing discussion regarding the importance of the family doctor and the question of patient-doctor relationship in any future medical service in South Africa, it has been thought advisable to present this preliminary analysis of the Polela Health Unit's function as a family doctor and health adviser.

For our intensive work an area was chosen where the homes of the people lie on the slopes of a mountain range overlooking the Umkomaas River. It was given the name "River Valley Area". The clusters of huts are scattered along the mountainsides for a distance of some six miles, all overlooking the river in the valley below. Below the irregular line of huts are the main fields, where the staple crop, maize, as well as mabele, pumpkins and beans, is grown. Above is a provincial road which runs from Pietermaritzburg to Bulwer and Underberg. The Umkomaas River at this point is the boundary between the Polela and Impendhle districts; the Polela side of the river being "Native" territory, the mountain ranges and the valley on the Impendhle side being European farms. The contrast between the two sides of the valley is the first introduction one has to the economic state of the people of the River Valley Area. The brown, treeless, eroded, in parts desert River Valley Area appears a dismal contrast to the wooded, relatively green slopes on the Impendhle side of the river.

The area was roughly divided into four equal parts, one health assistant being deputed for each section. He was to spend at least two working days a week in his particular area. During the course of the year the following work was carried out:—

(1) Each home was given an address and was shown by number on a map of the area.
(2) Census of the family included name, age, sex, religion and occupation of each individual.
(3) The standard of education and literacy was assessed for all individuals.
(4) Housing. Structural details of all homes indicating the nature of walls, roofs, floors, doors and windows were recorded. In addition, a sample number of homes was measured in detail and stock taken of furniture in each room. Details of sleeping arrangements were also noted. A survey of fuel and lighting was also carried out.
(5) Livestock possessions of all homes.
(6) The number of cows in milk at each home was determined four times (4) during the year; and the yield of a sample number was measured at different homes, the measurement being made daily for one week.
(7) The maize, mabele, pumpkin and bean yield were assessed in some 50-70 per cent. of the homes.
(8) Vegetable gardens were surveyed and the types of vegetables planted and in yield were recorded every two months during the year.
(9) Egg yield was measured in a small sample of homes.
(10) Vital records, including births, deaths, stillbirths, abortions and marriages were noted. In addition, movements of the population, more especially persons leaving for work in the towns, etc., were recorded, including date of departure and return.
(11) Illnesses were recorded.
(12) All persons attending the Polela Health Unit clinic were registered on a family index card, showing the nature of the illness and number of attendances.
(13) Most of the children attending primary schools were examined by the medical officer and Medical Aid (Clinical and growth study) on several occasions.

In addition to the above survey work persistent propaganda was carried out by all members of the staff.

Records and reports of field work were collected once a week during a session at which the Medical Officer met the field staff. At this meeting problems arising during the week were thoroughly discussed and the following week's work planned. It must be emphasised that the field workers spent an average of only two days per week in the area, the remaining four days being allotted to other work, not necessarily in the River Valley Area, *e.g.*, typhoid control work, attendances at the clinic, school lectures and meals, etc.

The present preliminary report of this work is not intended to include the results of our findings, but rather to analyse the progress made in the area during the year.

The following is a summary of progress made:—

Population (as at January 1st, 1942), 887. Number of homes, 130.
Number of deaths, 34. (Rate per 1,000, 38.33.)
Number of births, 40. (Rate per 1,000, 45.09). (14 of these 40 were attended to ante-natally.)
Number of stillbirths, 3.
Number of abortions, 2.
Number of marriages, 9.
Number of infant deaths, 11. (Rate per 100 live births, 27.5 per cent., or roughly 275 per 1,000.)

Vital Records: Our census figures required patient, repeated questioning of various members of each family and the records were checked several times. We believe that the figure given is reasonably accurate.

The births and deaths figures are given corrected for in- and outward transfers and may be accepted as accurate. Stillbirth and abortion figures are probably an understatement of the conditions which prevailed, more especially figures for the latter.

The high death-rate is one about which very little comment is needed, except to say that no epidemic of a severe nature accounted for these deaths. Almost one-third of the deaths were in babies under 1 year of age.

Sanitation: *Pit Latrines and Compost Pits.* The former was encouraged as being the most practicable method of disposal of human refuse at present. The fact that two homes completed pit privies (latrines) and that four others were building them

Sanitation	Homes with pit latrines	Nil	2 (plus 3 in construction)
	Compost pits	Nil	12
	Vegetable gardens	* See below	* See below
Nutrition	Anti-soil erosion construction in vegetable gardens	Nil	5 (plus 4 ready to start)
Housing	During the course of the year two new improved types of dwelling in construction, and in three homes where extra huts were being built Health Assistants persuaded people to increase height of wall and size of window openings.		
Medical examination and sickness	From July 1st, 1941, to December 31st, 1942, a little more than 400 of the 887 people attended the Unit or were examined at school. These persons were attended to over 3,500 times in the 18 months period.		

* The above items need further elucidation.

is more than we expected. To those unaware of the attitude of the people towards fæces and their fear of being bewitched via their fæces, as well as the difficulty of getting men and women to agree to use the same latrine, this advance will appear very small. It is, however, an encouraging sign, more especially when it is remembered that even the three main primary schools, which the children of this area attend, have no facilities at all for human refuse disposal. The manufacture of compost in small pits was recommended as a very suitable means of disposing of household, garden and animal refuse. It not only provides useful organic fertiliser, but, if carried out correctly, offers a fly-proof system of disposal. The 12 homes in which this was introduced, during the year, are in our opinion the forerunners of what will one day be an accepted means of disposing of refuse.

Nutrition: Our two main lines of propaganda regarding nutrition were: (1) improvement of vegetable gardens, which has been encouraged for two years in this area; and (2) anti-soil erosion measures of a simple nature—contour terracing of gardens. The practical field work in regard to the latter commenced during 1942. The teaching was carried out in schools, at the Unit's headquarters (adult and children's nutrition classes) and in the homes. Health Assistants helped the people to contour their gardens by marking out the contours and showing them the method of bunking these and digging silt and water traps. If the Health Unit can continue assisting agricultural advance on these lines, it can truly be said that it is making a contribution to the outstanding nutritional problem of the area, namely, the devastation being wrought by soil erosion.

THE INCIDENCE OF VARIOUS TYPES OF VEGETABLES IN HOME GARDENS OF THE RIVER VALLEY AREA, JANUARY, 1941 AND 1943.

Types of Vegetables Arranged in Order of Frequency, January, 1943.	January, 1941. No. of Homes Surveyed=113.		January, 1942. No. of Homes Surveyed=127.		January, 1943. No. of Homes Surveyed=128.		Percentage Difference between January, 1943, and January, 1941.
	No. of Gardens with Particular Vegetable.	Per cent. Incidence of Total Gardens.	No. of Gardens with Particular Vegetable.	Per cent. Incidence of Total Gardens.	No. of Gardens with Particular Vegetable.	Per cent. Incidence of Total Gardens.	
Potatoes	69	61·1	83	65·4	91	71·1	Increase 10·0
Tomatoes	7	6·2	18	14·2	33	25·8	,, 19·6
Chinese cabbage ("Petsai")	—	—	—	—	27	21·1	,, 21·1
Soya beans	—	—	2	1·6	26	20·3	,, 20·3
Peppers	14	12·4	10	7·9	26	20·3	,, 7·9
Cabbage	7	6·2	17	13·4	22	17·2	,, 11·0
Spinach (New Zealand) ..	—	—	43	33·9	15	11·7	,, 11·7
Peas	3	2·7	16	12·6	14	10·9	,, 8·2
Sweet potatoes	7	6·2	7	5·5	14	10·9	,, 4·7
Lettuce	—	—	—	—	12	9·4	,, 9·4
Carrots	2	1·8	7	5·5	11	8·6	,, 6·8
"Amadumbi"	2	1·8	4	3·1	10	7·8	,, 6·0

The drive for increased production of vegetables has yielded most encouraging results, and the methods employed are therefore described in some detail :—

(1) Health Assistants and other members of the staff received training at the Health Unit's Headquarters by doing garden work, and the whole staff attended lectures in the Unit's vegetable garden two mornings a week. Here, demonstrations and talks on methods of planting, suitable times for planting, food values and methods of preparation are given.

(2) Children attending the Unit's weekly nutrition class and clinic learn to cook, plant and care for vegetables, and often receive some seed for planting at home.

(3) The primary school, situated in the heart of the River Valley Area, was assisted in the construction of a model vegetable garden, which now includes compost pits, contoured beds, and a variety of vegetables where previously there was little other than deep gulleys exposing subsoil and rock. This school, too, is one of those which has a weekly vegetable meal and lesson organised by the Unit.

(4) Certain seeds grown in the Unit's garden were distributed to those people who were keen to improve their gardens. In each case a Health Assistant took the seed to the home and demonstrated methods of planting and subsequent care.

(5) A co-operative vegetable seed buying group was organised in order to buy seeds at cheaper rates.

(6) At the beginning of December, 1942, we felt that sufficient advance had been made to get a small market started, along the lines of those started by Dr. Hertslet, of Mapumulu.

The results of this work are more than encouraging, as is indicated by the figures in table on previous page.

Notes on the Table.

1. It will be noted that tomato-planting has increased four-fold in the two-year period surveyed, and that soya beans and Chinese cabbage ("petsai"), which were not grown in any homes two years ago, are now to be seen in approximately one of every five gardens.

2. The increase in Chinese cabbage, soya bean, New Zealand spinach and lettuce is due to the fact that the Health Unit distributed seed to the homes, the seed being that grown in the Unit's garden.

3. The increase in tomatoes, cabbage and carrots is partly due to the formation of the "Vegetable and Seed Co-operative buying group".

4. In addition to the vegetables listed in the above table, others such as onions, turnips, kale, etc., were encouraged. Slight progress was made, but not as striking as in the others analysed above.

Housing : Progress in housing must necessarily be slow, but it must be stated that the Unit can hope to accomplish very little of lasting value until such time as residential zoning is undertaken and village settlements encouraged. This will allow for advances in types of buildings, layout, sanitation and water-supplies, etc. Equally as important as these basic health needs is the cultural advance which necessarily follows more compact settlement, the relatively short distances which children will have to walk to school, etc., and the development of a more advanced outlook on communal affairs. Above all, village planning must be an essential feature of any scheme for combating soil erosion, without doubt the most important of the many health problems in the area.

Medical Inspection and Illness : Our preliminary analysis indicates that of the 130 homes at least one member of the family of 109 of the homes was examined by the Medical Officer during the 18-months period ending 31st December, 1942. The total number of persons attending at least once was 404, a mean of 3.7 persons per home, *i.e.*, over half of the persons in each family (the mean number of persons per home being 6.8). The figure of 404 represents 45.5 per cent. of the total population, including those who were away working in the towns.

It is not intended to analyse all the figures of disease incidence, etc., in the present paper, but three examples will help to indicate the nature of attendance and our approach, viz., syphilis, anti-typhoid immunization and school service.

1. *Syphilis* : The following figures indicate the extent to which the Unit is advancing in therapeusis of syphilis :—

Number of homes in which at least 1 person had syphilis, 36.
Number of cases under treatment from these 36 homes, 74; *i.e.*, 74 per 887 = 8.34 per cent. of the population.

The number of attendances by these 74 patients is indicated in the following table :—

Period during which Patient first Attended.	No. of Cases.	No. of Attendances for Injections up to Dec. 31st, 1942.	Mean per Patient.
July 1st, 1941, to June 30th, 1942 ..	47	588	12·5
July 1st, 1942, to Sept. 30th, 1942 ..	15	182	12·1
Oct. 1st, 1942, to Dec. 31st, 1942 ..	12	37	3·1

Thus of the older patients mean attendance = ± 12 for treatment. These figures do not take into consideration the persons who stopped treatment on leaving the district or going to town to work and continue treatment there. If this factor is taken into consideration the mean attendance for treatment = 13.4. Furthermore, it must be remembered that many of the 74 are still under treatment, and this mean is therefore not to be considered as the final figure.

The distribution of attendance is as follows :—

Adult female, 34 of 257 population (13.23 per cent.).
Adult male, 12 of 210 population (5.71 per cent.).
Children, 6-18 years, 6 of 266 population (2.26 per cent.).
Children, 0-5 years, 22 of 154 population (14.28 per cent.).

Several interesting features emerge from the analysis :—

(1) The comparatively few adult men and older children as compared with the number of adult women and younger children who attended for treatment. It is not very difficult to convince an adult woman of the ravages of syphilis when she is reminded of the number of abortions, stillbirths and dead babies she has had. The men, however, view this as essentially a female characteristic, and when external signs of the disease have gone they appear to be satisfied. This is not the only cause of the few men who attend, for most of the men are away for a good part of the year, working in the towns. The number of children from 6 to 18 years under treatment is no indication of the incidence of syphilis, but indicates the difficulty experienced in explaining to the people that children who seem healthy may be syphilitic.

(2) By discussing the familial nature of syphilis, at their homes and at the clinic, the 36 patients who were originally diagnosed as syphilitic brought 84 members of their families for further examination, and of these a further 38 were found to have syphilis, thus bringing the total number of cases under treatment, in this area, to 74. In all, 205 persons of this area had a Wassermann reaction done (*i.e.*, 23 per cent. of the population), which means that we have a long way to go before we can claim to have combed out the area for positive reactors.

2. *Anti-typhoid Immunisation* : In view of the fact that enteric fever is a major cause of death in the Polela district, it was decided to carry out propaganda for immunisation.

The propaganda is given by all members of the staff, at the clinic, in schools and at the homes of the people. In the River Valley Area the campaign started in August, 1942.

From August to December, 1942, 201 persons were immunised (viz., 22.66 per cent.). As in the case of syphilis, we found that the main groups availing themselves of the service were women and children. The fact that more than one-fifth of the population responded within the first five months of the campaign was more than we had expected, and encourages the belief that our "Family Welfare" approach was not only successful in the purely curative side of the work but also as a weapon in preventive services.

3. *School Service* : The Unit examined six primary schools in the area of Polela at regular intervals during the year. Children of the River Valley Area who attend primary schools are distributed mainly among three of these six. The following figures indicate the proportion of River Valley children attending school who are examined by the Unit.

Number of Children of River Valley Area attending Primary School in 1942, 122.
Number of these children examined by the Unit in 1942, 90 (73.77 per cent.).

Each child examined at school has the address of his home included on his examination form, and the fact that he has been examined is noted on the family index card at the Unit's office. The examination is voluntary and is not carried out unless the parents' consent is given. The Unit keeps a register of all children in the area attending school, and is thus able to refer to any homes refusing the examination. In this way we have been able to discuss the aims of the service with those parents whom we know have refused the examination, and with the help of the teachers, the response to the School Medical Service has improved. The following facts, which refer only to River Valley homes, indicates the improvement in the parents' attitude :—

Year.	No. of River Valley Children Examined at School.	No. of Examinations.	Mean No. Examinations per Child in the Year.
1940 ..	54	98	1·8
1941 ..	72	229	3·2
1942 ..	90	294	3·3

Of the 90 children examined in 1942, 27 were first examined in that year, 27 were examined in 1941 and 1942, and the remaining 36 have been under observation for the three-year period 1940-1942. These repeated observations have not only given the Unit an opportunity to study growth trends and seasonal incidence of infections and nutritional conditions, but when related to our other investigations of the various homes, have kept us aware of prevailing conditions in the families of the children. The inclusion of the school service within the scope of the Unit's work has thus augmented our knowledge of family welfare in the area.

System of Recording and Reference : It is essential that all the data relative to each family should be readily collated. This can be simply done by cross reference to various files in which sets of data are maintained. The cross reference index used was the address. In order to illustrate the nature of this method, it will, perhaps, be best to summarise the records of two family groups. (*See Charts "X" and "XX" at end of article.*)

The living conditions of these two families are not typical. The records are given for the purpose of illustrating the extent to which the Unit is able to co-ordinate the various health indices of the family, and not to indicate standards of living, health, etc., in the community. It is important to emphasise that records continue to be added to each family file from time to time. In this way, we not only have a fairly good knowledge of the present condition of the people, but as the years go by, the Unit will have a reasonably accurate record of the family's health history.

Discussion.

It is now possible to analyse some of the main advantages to be derived from this family welfare approach by a Health Unit. Each member of the staff (Medical Officer, Nurses, Medical Aid, Health Assistants) plays a part in bringing health and medical advice to the family. The school medical and health services, maternal and infant welfare clinics, nutrition classes and therapeutic clinics, are all co-ordinated with the continuous visits to homes. The field worker is informed of the state of health of various members of the family seen by the medical officer and his findings regarding the family's standard of living are related to the medical problems of the home. In this way the Health Unit has developed a team of workers who together are becoming "family doctor and health adviser". The type of service being developed in Polela requires one doctor per 4,000 people, providing we accept the fact that the doctor should not be expected to attend to more than 50 persons per day. On certain days the Unit's clinic attends to 100-150 people, and if we accept the figure of 100 per day as the absolute maximum which can be carried successfully by a single doctor assisted by nursing staff, we face the fact that one doctor with nursing assistance cannot be expected to cater for the needs of more than 8,000 people. It is believed that these facts indicate that in spite of the superstitious beliefs of the people, a medical service has developed which requires one medical practitioner for every 4,000 persons, or, if the doctor and his staff is to be overworked, 8,000 persons.

While an increase in medical practitioners thus becomes desirable for future services in the Native Territories, even more important is an increase of the remaining personnel, medical aids, health assistants and nurses. The intensity of propaganda required among a people who are economically and culturally poverty-stricken must be taken into consideration. Unless adequate attention is given to the production of suitably trained men and women to carry out the work required in the Native Territories, little improvement in health services can be expected in the near future.

The success of the work in the River Valley Area during 1942 has encouraged the Unit to expand this type of service, and plans for the year 1943 include an expansion from the 130 families in this area to other areas, making a total of approximately 450 family groups. The Unit's intensive work will thus include some 3,000 people. Services to other people in the area will continue on less intensive lines until each section is gradually absorbed into the Family Welfare Plan.

Summary.

1. An approach to health services among the rural Bantu is discussed. The method outlined is that which has been tried out by the Polela Health Unit in Natal.

2. The population of a selected area was chosen as an experimental group for the purposes of determining the degree to which a Family Health and Welfare Service would succeed.

3. The following data regarding the homes were collected :— Census, education and literacy of each individual, occupation and time spent working in towns, housing, livestock possessions, milk yields, cereal and vegetable production, etc. The economic and social status of the family could thus be estimated.

4. Illnesses, births, deaths, stillbirths, abortions and marriages were registered.

5. Children attending school in the area were medically examined, and all persons attending the Health Unit's clinic were registered on a family index card.

6. The year's work indicated the following :—(*a*) Death-rate 38.33 per 1,000, birth-rate 45.09 per 1,000, infant mortality rate approximately 275 per 1,000. (*b*) Improvements in sanitation and housing were not remarkable, but nevertheless very encouraging. (*c*) Improvement in production of vegetables was generally very rapid ; not only was the quantity increased, but many additional types were introduced. Anti-soil erosion works of a simple nature were constructed in several homes. This nutritional aspect of the work was perhaps the most successful and quite definitely brought about a radical change in vegetable production. (*d*) 404 people attended the Unit's clinic 3,500 times in 18 months, *i.e.*, 45 per cent. of the population.

7. To indicate the usefulness of the "Family Welfare approach" the response to anti-syphilitic treatment, anti-typhoid immunisation and medical examination of school children is discussed.

8. The system of recording allows for the easy collation of all data—social, economic and health—regarding each family. Two specimen charts are presented to illustrate this.

9. The combination of curative, preventive and social Health and Medical Services within the activities of one Unit demands the co-ordination of various types of personnel, *e.g.*, Doctor, Medical Aid, Nurses (including midwives) and Health Assistants (public health propagandists and family welfare officers).

10. The success of such an approach to the health needs of a people who are economically and culturally poverty-stricken depends upon the following : (*a*) a determined effort to improve their economic, social and educational status ; (*b*) the training and production of a large number of suitably qualified Medical officers, Aids, Nurses and Health Assistants.

[I wish to thank the Secretary for Public Health for authority to publish this review.]

RIVER VALLEY 'X'—HOME OF B. NZ. AND FAMILY.

A. PERSONAL DETAILS (FAMILY CENSUS, EDUCATION, HEALTH AND MEDICAL CARE).

General Census Data.									Education—Standard.		Health and Medical Treatment.						
Index No.	Name.	Sex.	Age.	Family Relationship.	Birthplace.	Religion.	Occupation.	Time away from Home.	Examinations passed.	Literacy. *	No. of Attendances at Clinic.†	Nutrition Classes. ‡	School Examinations. §	Infant Clinic. ‖	Clinical Findings.	Wassermann Reaction	T.A.B. Immunisation.
	Nz. B.	M.	31 yrs.	Head.	Polela.	New Jerusalem	Minister and clerk.	—	T:6 (1929) (Teaching)	R. and W. English, Zulu.	2	—	—	—	Thin, healthy adult.	—	+
2	,, H.	F.	23 ,,	Wife of 1	,,	,,	Housewife and tiller of soil	—	2nd grade	R. a little Zulu	7	—	—	—	Constipation; sinusitis.	Neg.	+
3	,, E.	F.	54 ,,	Widow, mother of 1	,,	Presbyterian	Housewife, tiller, washerwoman	—	Nil	Nil	6	—	—	—	Minor injury, caries, rheumatism.	—	+
4	Ngc. A.	F.	33 ,,	Widow, sister of 1	,,	Anglican	Cook and housemaid	1/1/42-25/4/42 13/8/42-21/12/42	Std. 6 (1926)	R. and W. English, Zulu	2	—	—	—	Bronchitis (X-ray chest, negative T.B.). Ill at home for 3¾ months.	Neg.	—
5	,, Ch.	M.	13 ,,	Child of 4	Ixopo	,,	School child	—	In Std. 2	R. and W. Zulu	8	—	+ (12)	—	Injury to scrotum. Insect bite. Malnutrition	±	+
6	,, R.	F.	10 ,,	,,	,,	,,	,,	24/1/42-1/7/42 3/8/42-16/12/42	In Std. 2	,,	17	+	+ (12)	—	Impetigo; tonsillitis; diarrhœa; malnutrition.	Neg.	+
7	,, M.	F.	1½ ,,	Illeg. ch. of 4	River Valley 'x'	,,	—	—	—	—	9	—	—	+	Dysentery; whooping-cough with pneumonia.	—	+
8	Nz. S.	M.	4 ,,	Child of 1 and 2	,,	New Jerusalem	—	—	—	—	13	—	—	—	Whooping-cough; pneumonia; subconjunctival hæmorrhage.	—	+
9	,, E.	F.	1 10/12 ,,	,,	,,	,,	—	—	—	—	28	—	—	+	Acute tonsillitis; fracture forearm; minor injuries; whooping-cough	—	+
10	Ng. J.	F.	13 ,,	Nil	Polela	?	Nurse girl to baby 12	Came to this home Aug., 1942	—	—	4	—	—	—	Diarrhœa.	Neg.	+
11	Soh. C.	M.	9 ,,	Nil	Impendhle	Anglican	School child	Boards here during school term	In 2nd year	Very little Zulu	13	+	+ (13)	—	Minor injuries; malnutrition.	Neg.	+
12	Nz. B.	F.	Born 10/6/42	Child of 1 and 2	River Valley 'x'	As for 1	—	—	—	—	18	—	—	+	Whooping-cough; tuberculin patch. Neg.	—	+

* R = Read. W. = Write. † Attendances from July, 1941, to December, 1942. ‡ Classes 1941-42. § Number of medica examinations, 1940-42. ‖ Clinic started 1942

B. HOUSING

Building Number.	Structural Materials.					Measurements.							
	Walls.	Roofing.	Flooring.	Doors.	Windows.	Floor.	Wall Height.	Windows.	Doors.	Uses.	Furniture, etc.	Occupants. (Index Nos.)	Remarks.
A	Wattle frame daubed with mud	Corrugated iron	Wattle poles and earth	Corrugated iron sheet (lean-to)	Nil	6′ x 3′	6′ 5″	Nil	Nil	Pit latrine	Box seat (23″ x 16″, 18″ ht.) Pit depth 48″	Used for defæcation by family. Not used for micturition	The depth of pit 4′ only, due to striking solid rock at this level
B	,, ,,	Thatch	Loose soil	1 wooden	Nil	Diameter 12′	5′ 8″	—	4′ 11″ x 1′ 10″	Store hut.	Frame for storage of mealies.	—	—
C	,, ,,	,,	,,	1 wooden	Nil	Diameter 9′	5′ 6″	—	4′ 2″ x 2′ 4″	Store hut.	,, ,, ,,	—	—
D	,, ,,	,,	Beaten earth, dung smeared	2 wooden	2 glass	17′ 3″ x 13′	7′ 4″	(1) 2′ 11″ x 1′ 7″ (2) ,, ,,	5′ 6″ x 2′ 5″ (outside door)	Bedrooms	2 iron beds, 1 wardrobe, 1 wall cupboard.	(*a*) Bedroom for No. 4 when home. (*b*) 3, 5, 6, 7, 8, 10 and 11. Some of these occasionally sleep in (*a*).	The children sleep on the floor, the beds being reserved for two adult women.
E	,, ,,	,,	,, ,,	1 wooden	1 wooden	Diameter 23′ 3″	6′ 10″	2′ 3″ x 1′ 3″	5′ 7″ x 2′ 6″	Kitchen for persons living in D. Also used for eating.	Bench, pots, drums, hand "grinding" machine for mealies, crockery cupboard, etc.	—	—
F	,, ,,	,,	,, ,,	4 wooden	3 glass	24′ 6″ x 12′ 6″ (excluding study, which is 8′ x 6′)	7′ 2″	(1)2′ 11″ x 1′ 7″ (2) ,, ,, (3)1′ 11″ x 1′ 11″	Main Front 6′ 1″ x 2′ 4″ Others: 5′ 9″ x 2′ 3″ 4′ 11″ x 2′ 7″	3 rooms used as shown in diagram.	*Bedroom:* 2 beds and bunk. *Dining-room and study:* 1 bed, table, 4 chairs.	*Bedroom* used for Nos. 1, 2, 9 and and 12. Study for use of No. 1 only.	The dining-room is not often used as such, the meals being taken in E more often. The head has his meals alone in the study.
G	,, ,,	,,	,, ,,	1 wooden	1 glass	Diameter 15′ 3″	6′ 7″	2′ x 1′ 10″	5′ 8″ x 2′ 6″	Kitchen.	Falkirk - Dover coal stove; table, wall cupboard, pots and drums.	—	*Fuel:* Family has its own wattle plantation. Also use twigs from thorn-bush, and occasionally manure, mealie stalks. *Light:* Table lamp, small burners and candles.

C. ECONOMIC STATUS, LIVESTOCK AND FOOD PRODUCTION.

(i) Livestock:

Cattle, 6.. .. .. (Cows, Oxen, 2 Heifer, 1

Pigs, 3
Poultry 8 (+ 21 chickens)
Horse, 1; donkey, 1; dog, 1; cat, 1

(ii) Money Earnings (per month):

No. 1.	£7	0	0	(as clerk)
	£4	10	0	(as minister)
No. 3.	£1	10	0	(for washing)
No. 4.	£3	0	0	(housemaid and cook)
Total	£16	10	0*	

* Not all of this goes into the home, as No. 4 lives away with her employers and only sends clothing for her 3 children.

(iii) Food Production:

1942 Harvest { *Maize:* Measured and estimated to last until Feb., 1943. *Mabele:* Approx. 750 lbs. *Beans* (dry): 40-50 ,,

Milk { March, 1942. 2 cows in milk, yielding total 1-1.5 pints per day. June, ,, Nil. Sept. ,, Nil. Dec. ,, 1 cow in milk, yielding 2-3 pints per day.

Vegetable Garden:

1942.	Crops growing in Garden.
January ..	Beans, cabbage, cauliflower, peas, tomatoes, potatoes, pumpkins.
March ..	Beans, cabbage, carrots, potatoes, pumpkins, spinach, tomatoes, amadumbi, sweet potatoes.
May	As for March, but mostly in yield.
July	Nil.
Sept.	Potatoes, peas.
Nov. ..	Carrots, sweet potatoes, tomatoes, soya beans, lettuce, pumpkins, peas.

Remarks.

The family is a relatively progressive one. Advanced economically and educationally when compared to others in the area. They have become "health-conscious" during the past year, as is evidenced by the fact that all members of the family have made use of the Unit's facilities, both for illness and health classes, such as nutrition class for children, school medical service, infant clinics and anti-typhoid immunisation.

In all, the 12 persons have been attended to by the Unit on 164 occasions including school examinations.

The following material progress was noted during the year 1942:—

(1) The head of the home received an appointment as a clerk with a salary of £7 per month. This altered the whole economic status of the family and accounts for much of the progress made.
(2) Pit latrine built. The first home to do so in the River Valley Area.
(3) Coal stove bought.
(4) Table paraffin lamp bought.
(5) Vegetable garden improved and family has become a "seller" on the local market.
(6) Bought maize field cultivator and planter.
(7) Maize and mabele yields the best they have ever had.
(8) The three school children passed their examinations and are to continue school in 1943.

Plans for 1943 (1) Anti-soil erosion contouring of garden.
(2) Construction of "compost" pits.

RIVER VALLEY 'XX'—HOME OF H. NZ. AND FAMILY.

A. PERSONAL DETAILS (FAMILY CENSUS, EDUCATION, HEALTH AND MEDICAL CARE).

General Census Data.									Education Standard.		Health and Medical Treatment.					
Index No.	Name.	Sex.	Age.	Family Relationship.	Birthplace.	Religion.	Occupation.	Time away from Home.	Examinations Passed.	Literacy.	No. of Attendances at Clinic.†	V.D. Treatment Attendances	School Examinations.	Clinical Findings.	Wassermann Reaction	T.A.B. Immunisation.
1	Nz. H.	M.	52 yrs.	Head	River Valley	Presbyterian	Labourer	—	Std. 4 (1912)	R. and W.* Zulu	22	21	—	Syphilis. Malnutrition.	+	Nil
2	,, E.	F.	38 ,,	Wife of 1	Polela	Roman Catholic	Housewife, tiller of soil	—	—	Nil	15	12	—	Syphilis, scabies. Attended during pregnancy with No. 6. Malnutrition.	+	Nil.
3	,, H.	M.	15 ,,	Child of 1	River Valley	Presbyterian	Labourer	1/1/42-4/6/42	Std. 4 (1941)	R. and W.* Zulu, English	—	—	+ (2)	Both these children have only been seen at school medical examinations in 1940. They have since left area for work and schooling.	?	Nil
4	,, E.	F.	13 ,,	Child of 1	,,	Presbyterian	School child	Home for 2 weeks in year	In Std. 4	R. and W.* Zulu, English	—	—	+ (3)		?	Nil
5	,, P.	M.	4 ,,	Child of 1 and 2	,,	Roman Catholic	—	—	—	—	9	9	—	Syphilis (probably congenital), scabies, conjunctivitis, malnutrition.	+	Nil
6	,, F.	F.	5/12 in Jan., 1942	Child of 1 and 2	,,	Roman Catholic	—	—	—	—	13	11	—	Syphilis (congenital), scabies and impetigo contag., conjunctivitis, blepharitis.	+	Nil

* R = Read, W = Write. † Attendances from July, 1941—December, 1942.

B. HOUSING.

Building Number.	Structural Materials.					Measurements.						
	Walls.	Roofing.	Flooring.	Doors.	Windows.	Floor.	Wall Height.	Windows.	Doors.	Uses.	Furniture.	Occupants. (Index No.)	Remarks.
A	Wattle frame daubed with mud	Thatch	Beaten earth dung smeared	2 wooden	1 wooden (built over in Nov., 1942)	Diameter 16′ 6″	6′ 4″	1′ 9″ x 1′ 4″ (closed with daub in Nov., 1942)	(1) 4′ 11″ x 2′6″ (2) 4′ 1″ x 1′ 9″	Cooking, living and sleeping room.	Pots, basins, 1 bench, wooden packing case used as chair, hanging board for food, paraffin tins, sleeping mats, 4 blankets.	Nos. 1, 2, 5, sleep and eat here.	6 Poultry share this hut with the family during sleeping hours.
B	,,	,,	,,	1 wooden	2 wooden fixed, not able to open	Diameter 15′ 2″	6′ 2″	(1) 1′ 11″ x 1′ 3″ (2) 1′ 3″ x 1′ 2″ (but never opened)	5′ 10″ x 2′ 3″	Not used. Roof leaking.	—	—	No. 3 when home sleeps at the "umuzi" of a relative in the River Valley Area.
C	,,	,,	Loose soil.	1 wooden	Nil	Length 8′ 0″ Breadth 7′ 10″	—	—	4′ 8″ x 1′ 8″	Store hut.	Frame for mealies and much old goods not in use.	—	*Fuel:* Has small wattle plantation, and also uses thorn-bush twigs, cattle manure and dried mealie stalks. *Light:* Have only one small single-wick paraffin burner, 2 oz. capacity.

C. ECONOMIC STATUS, LIVESTOCK AND FOOD PRODUCTION

(i) LIVESTOCK: Poultry, 3 (+ 1 chick).
Nil else, except 1 horse, which is kept in the Impendhle District.

(ii) MONEY EARNINGS, per month):

No. 1. £2 15 0 (as general labourer).
No. 3. 0 15 0

Total £2 15 0 (+15/-)

No. 3.—Whatever he earned as a "garden boy" in Pietermaritzburg, he sent nothing to the home. On his return in June, 1942, he brought £1 12s. 0d. for the home.

(iii) FOOD PRODUCTION.

Harvest 1942
Maize: Measured. Lasted 3 months (until September, 1942)
Mabele: Approx. 450 lbs.
Beans: About 15 lbs. (dry).
Milk: Nil throughout the year.

VEGETABLE GARDEN:

1942. *Crops growing in garden:*
Jan. Pumpkins, potatoes, "melon," cabbage, beans, Peas, soya beans.
March. Pumpkins, cabbage, beans, soya beans, melons.
May. Pumpkins, beans, soya beans.
July. Nil.
Sept. Potatoes.
Nov. Pumpkins, potatoes, lettuce, soya beans.

REMARKS.

The family is very poor. The head of the home is keen to progress, but spends 11 hours a day away from home in earning £2 15s. per month. This is his second marriage, the first wife, who died some years ago, being the mother of Nos. 3 and 4. His present wife is an extremely backward person lazy and unkempt, and the home, unfortunately, reflects her personality It is kept in an untidy and filthy condition.

It was with the greatest difficulty that the Unit persuaded the family to undergo anti-syphilitic treatment, but the wife often stops treatment and refuses to bring the children regularly.

The son, No. 3, is rapidly becoming a delinquent adolescent, and with friends in the area is often responsible for petty thieving in the neighbourhood.

Progress during 1942.

Apart from an extension of the vegetable garden in which ½ bag of potatoes was planted in September, there has been little progress. In fact, there has been a marked decline, e.g. the state of repair of the huts is very poor—leaking roofs, cracking walls and closing in with daub of the few windows in the huts.

One bright feature is the fact that the head of the family is very well disposed to the Health Unit and its staff, and during the year 1943 the Unit plans to assist this man in an effort to rehabilitate the family.

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THE PRACTICE OF SOCIAL MEDICINE

S. L. KARK, M.B., Ch.B.,
and E. KARK, M.B., Ch.B.,
(Medical Officers, Polela Health Unit, Union Health Dept.)

The concept of Man's destiny being largely determined by his environment is not a new one. It was well known to the Jesuits of medieval Europe. It is, however, only during the past century that man has begun to understand some of the environmental and genetic factors which influence life processes. The work of Freud and Pavlov regarding behaviour has indicated the extent to which our outlook, our emotions, thoughts and reactions are determined by the conditioning of our nervous and mental mechanism during earlier days. It has paved the way for revolutionary approaches to the science of medicine such as the school of thought led by Speransky, and the development of psychosomatic medicine as a science. Likewise, the advance of bacteriology and epidemiology following the work of Snow, Pasteur, Koch and others gave society weapons to control a host of diseases caused by organisms which thrived under certain conditions. Those conditions, suitable for so many pathogenic organisms, were thus realised to be hostile to man, and rapid strides were made in devising measures to control or abolish such adverse influences.

The measures adopted produced a revolution in the ways of living of the more advanced groups of people in the world. They led to the development of such methods of controlling man's environment for his benefit as water purification systems, co-ordinated and communal methods of refuse disposal, pasteurisation of milk supplies, sterilisation and a host of other measures which changed many of Man's habits where they were applied. In the present century research into the value of various foods and nutrition problems has resulted in a mass of knowledge which when applied fully will further revolutionise society.

More important than any of these advances in themselves is the fact that they have occurred within a period which is recognised to be revolutionary in so far as Man's historic development is concerned. It was this revolutionary epoch which produced two closely allied philosophical concepts—a new concept of biological history in the shape of the Evolution of Species (Darwin, Wallace, Huxley and others),

and at the same time arose a radical approach to the study of Man's social development, among the earliest interpreters of this changed outlook being Marx and Engels. The fact that these two great philosophical revolutions occurred at more or less the same time cannot be explained as a chance co-incidence. The French Revolution of 1789-94 introduced an era of social change, first in Europe and later spread to the rest of the world, characterised by revolutions of one kind or another. This revolutionary era required a revolutionary philosophy, and the leading thinkers of the age were born into an environment which no longer accepted the order of things as being static and everlasting. Beliefs in the spontaneous generation of species or of social conditions within these species being predetermined by a force outside and above all natural phenomena were being replaced by more dynamic concepts.

Such a period could not but help produce a new outlook, which it expressed through its influence on its leaders in the fields of biological and social sciences. A dynamic historical interpretation of physical and social evolution paved the way for the Pasteurs, Kochs, Pavlovs, Freuds, Hopkins', McCollums', etc., and thus the concept of causes of diseases was placed in relation to social and biological laws. The influence of this revolution on the practice of medicine was first felt in the development of non-personal environmental services. Departments of Public Health were inaugurated concerning themselves mainly with the control of refuse disposal, water supplies, and later with ventilation and lighting of buildings and so on. The more personal aspects of health and disease remained the function of the medical practitioner—the Family Doctor.

In the late nineteenth and early years of this century specialisation in medicine had not yet evolved to a very great degree. In South Africa, hospitals like the Johannesburg General Hospital had special surgical, medical and other wards, but the chief medical officers in these wards were general practitioners, whose main bent was for surgery, or medicine or some other aspect of medical practice. To appreciate the modern need for practitioners of social medicine it is necessary to glance back some years and see what these men did.

A doctor, once established as the medical attendant of a family, might for years remain their trusted friend and adviser, and treat all their ailments. He would treat the children for their measles and mumps, remove their tonsils, attend the mother during her pregnancy and confinement, advise on post-natal care and the baby's feeding, if necessary, operate on the father for gall-bladder disease or appendicitis,

and treat the older members for their "rheumatism," "high blood pressure" and heart disease. At the same time he would often know the father's occupation, financial difficulties, religious and political views, what school the children attended and how they were getting on in studies and games, and a host of other activities and personal relationships within the family, which all add their quota to the sum total of the family's health. His junior partner would be introduced to these families, and when the "old man" passed away, the younger would often continue the work with a personal knowledge handed down to him by his late senior colleague. So the practice would be carried on from family to family.

While many of us developed a strong sentimental attachment to our family doctors, it is obvious that their wide functions and type of practice could not be efficiently carried out to day. The rapid changes brought about by the achievements of scientific workers in all spheres of human activity have inevitably led to specialisation. Medicine, like other professions, crafts and trades, could no longer be practised by a single individual. Too many advances were, and are still being made for one individual to be able to keep pace with all aspects of the subject. Efficiency alone demanded specialisation. The process of specialisation was not planned and still progresses unplanned; but planned or not, the result was to remove one sphere of practice after another from the family doctor and place it in the hands of the specialist. The tonsillectomies he performed are now done by "Ear, Nose and Throat" specialists, the teeth he extracted are treated by the dentist, his care of appendicitis, cholecystitis, fractures, etc have become the province of the surgeon, the care of rheumatism, heart disease, and so on, are now attended by the physician, including even the many infant and child ailments, which probably formed the greatest part of his practice, which are more and more passing into the sphere of the pediatrician.

Nowadays many families have no special family doctor, and those that do are not necessarily treated by him for all their illnesses. During the course of a few years the family may be seen by many different doctors, each superior in technique in his own speciality to the old time family doctor, but none who has the same intimate knowledge of the family background. Even the present day general practitioner, busy and harassed as he is, does not fill the gap, for not only is he often concerned with "benefit society" and "insurance" patients, but runs clinics of fairly large size at his consulting rooms. The public, too, have become used to going straight to specialists' consulting rooms,

or to hospital out patient departments and clinics, staffed by specialists. Here, patients are seen completely divorced from their homes and families by doctors who have never met them before.

All attention is focussed on the physical condition of the patient, a diagnosis is made and treatment prescribed. No adequate analysis of social, mental, economic and other factors is made, either in regard to their etiological significance or the results which the illness has on the patient's family. Unplanned specialisation has thus produced a far higher standard of physical diagnosis and treatment, but has failed to replace the human understanding which can only develop with knowledge of the patient's background, family life, problems, etc. It is the function of social medicine to fill this gap, and improve on the methods used by the family doctor in the same way as other branches of medical practice have improved. The creation of a chair of social medicine at the University of Oxford, the appointment of medical social welfare workers to various hospitals, the increasing importance being played by psychosomatic medicine, all indicate a demand for a dynamic concept of health and disease.

Any dynamic concept must recognise that the individual is a product of his biological and environmental history, and to diagnose his state of health correctly it is essential to try to understand these factors. The diagnosis "appendicitis," "pellagra," gastric ulcer," "tuberculosis," should no longer satisfy us as being complete, for these clinical entities are but phases of whole processes set in motion by social and genetic forces. Furthermore, these ills in themselves set up a new train of reactions, not only in the patient's body, but also in his family. The illness may remove the family's source of income, it may in the case of a child lead to quarrels between parents as to who was responsible, and so on. Such disorganisation of the family produces other illnesses, mental, nutritional or infectious, and so the vicious cycle proceeds unless diagnosed and adequately treated. It is thus evident that there is a need for the application of medico-social knowledge leading to the practice of social medicine.

Professor Ryle succintly sums up the present trend. "More and more accurate assessments of local pathology, with the help of more and more colleagues and instruments, and less and less intimate understanding of the patient as a whole man or woman with a home and anxieties and economic problems and a past and a future and a job to be held or lost, have become the order of the day . . . There are notable exceptions, it is true, but their numbers dwindle. The sciences and techniques have come to dominate medicine to the exclusion of

the most important science of all—the science of man—and the most important technique of all—the technique of understanding. Science without humanism may work with atoms but it will not work with men."

Not only do Professor Ryle's words hold true for the practice of medicine regarding individual patients, but the whole approach to environmental services has been developed as an impersonal organisation. The separation of Medical Officers of Health from clinical services must produce a staff out of contact with the people it serves. The water supplies, housing, and refuse disposal systems are now mainly the concern of sanitary engineers and allied professions. This degree of specialisation is essential for efficiency, but in South Africa's rural and semi rural areas, inhabited by more than two-thirds of our population, these matters remain a personal service very inefficiently organised.

Not only is there an almost complete absence of sanitation systems, including latrines for humans and measures for disposing of household, animal and agricultural refuse, but in many areas (e.g. "Native Territories") the people have a certain set of beliefs regarding such subjects. Their way of living in scattered houses and their social organisation compels any health organisation wishing to bring about improvements, to take cognizance of these factors. There must be personal teaching of each family, an understanding of their beliefs, and an appreciation of their economic status before any real progress will be achieved.

Here the public health worker cannot be divorced from the clinical practitioner, for both constantly meet with opposition to progress by the same set of beliefs. An example of a very common belief among Bantu of South Africa will indicate the degree to which personal education must precede and be carried on at the same time as environmental services and medical practice, be it hospital, clinic or domiciliary. The belief is prevalent that an ill-wisher can "thakatha" his victim by various means, that is, can convey something to cause ill-health and often death. The means of conveyance vary from natural to supernatural, one common method being *via* faeces. The ill wisher is believed to seek out his victim's faeces and by mixing these faeces with a specially prepared "umuthi" (medicine) produces the latter's illness.

This belief of the sick person sets up a whole sequence of social and medical effects. Two important results are the following:— (1) It causes the patient and his family to regard his illness as an "isifo sabantu" (Bantu disease, i.e. peculiar to the Bantu). He, therefore, considers that modern or, as it is often called, "European medicine"

cannot help, and his belief drives him into the hands of the many "izinyanga" (herbalists who do not restrict themselves to treatment by herbs but include witchcraft in their armamentarium).

(2) It causes the people to fear construction of lavatories, for by this means one is advertising the site of one's faeces to any ill-wisher. In this regard it is of interest to note that several people in the Polela area, while opposing the pit latrine, would welcome water-borne sewerage, for by the latter means their faeces would be carried far away by the water.

This is but one aspect of a whole set of superstitious and animistic beliefs, held not only by heathen Bantu but by those converted to Christianity, among whom are to be found many teachers, ministers of religion, and even various health workers, including nurses. Mass demonstrations and lectures on the causes of various diseases do not undermine such beliefs. The scientific explanation must be constantly related to the thoughts in the heads of the listeners, and must thus be carried out with individual family groups, for no two groups of families are exactly at the same stage of development in their liberation from superstitious beliefs, and each family has its own particular problem about which it is worrying. The separation of "Public Health" and "Clinical Medicine," at any time far from ideal, is under such conditions wholly artificial. The beliefs of the people involve both, and do not in any way separate them. The practice of both must thus be included in a single organisation, a team of workers in a Unit practising Social Medicine.

There is a multiplicity of organisations, private, municipal, provincial and government which are at present active in one or other aspect of Social Medicine, e.g. Union and Municipal Health Departments, Departments of Social Welfare and Native Affairs, Trade Unions, Missionary Societies, and so on. Some interest themselves in control of environment, such as water supplies and sanitation, others in establishing sick benefit societies, others in workmen's disabilities, others in food and clothing relief for the dependants of a sick wage earner. While all this type of work is very closely related to the subject being discussed, no single organisation nor all combined serve the purpose required of social medicine.

Like other branches of medicine, the practice of social medicine requires instruments and well developed techniques. The practitioner of this type of medicine requires a thorough training in diagnosis, methods of examination, and technique of treatment of socio-biological factors influencing health. Like the curative practitioner of our day

he requires a staff of assistants trained as efficiently as are the other technical assistants, such as nurses, laboratory technicians, and midwives, and like the latter the trained social worker should always form part of a team guided by a qualified medical practitioner.

Unlike other branches of medicine, social medicine cannot be confined to one particular room, ward or institution. It pervades every activity of the human being and every branch of medicine. Its laboratory or theatre of work must follow people to their homes, at work, at school and at play. It is thus no speciality to be placed in a compartment of its own, divorced from other forms of medical practice. It should be closely interwoven with all other aspects of medicine, and the curriculum for training of medical students should not add another subject, Social Medicine, to an already overcrowded syllabus. Each subject taught from the first year of study to clinical work in the hospital should be placed in its social perspective, thus producing medical practitioners who are competent to understand and treat or assist in alleviating all the environmental and personal factors influencing health and disease.

The danger of departmentalisation is well seen in the "social follow up" system being used in various hospitals and clinics, the follow up being carried out by "almoners," "social welfare workers" or "medical social workers." In such systems the patient is first seen as a case of this or that disease. The home visit then follows and a social diagnosis is made. While this is a definite advance on what exists in most medical services at present, it tends to keep the picture static, by commencing study only after illness has supervened. It still does not influence incidence of disease sufficiently, for it is only concerned once a breakdown has occurred. It thus limits itself to but one aspect of therapeutic social medicine, namely, rehabilitation of the sick.

In our large urban areas we no longer wait for outbreaks of typhoid fever before the introduction of water purification and sewage disposal systems. The fundamental environmental factors conducive to the spread of typhoid and similar diseases are known, with the result that measures have been introduced to avoid these diseases affecting the people. The same concept must be applied to all diseases. It is true that in many cases the necessary knowledge is lacking, but this knowledge will only come with continuous study of social, environmental and biological influences over long periods of time. There are, however, many examples of disorders which can be predicted in certain families and groups of people by the field worker with knowledge of the family and its habits and problems.

Among these are to be found various nutritional deficiency diseases, anxiety states, accident proneness, asthma, peptic ulcer, hypertension and so on. Therapy must commence at this stage, and not wait for the admission to hospital of one or more members of the family as cases of hunger oedema, or pellagra, or multiple injuries resulting from an accident which might have been prevented had it been realised that the patient was accident prone and thus not suitable for a dangerous occupation. Examples of these types of disorders, relatively easy to prevent were the machinery available, could be multiplied indefinitely. The function of social medicine must thus not be confined to "hospital almoner or home visitor," but must include as its basic aim the study of all factors conducive or antagonistic to sound health in a particular community.

To meet the demands outlined above we require a Health Unit or Centre, serving a specific locality and keeping in close contact with all the activities of that community—its families at home, at work, at rest and so on. It should include all the families in its area, not only those who deem themselves sick enough to go to a doctor or hospital. It is only by this means that the Health Unit can plan to prevent, or at least introduce early treatment for those many illnesses which are to-day only the concern of the purely curative institution, and to which very little thought has been given regarding prevention. The Health Unit must thus practise both "curative medicine" and "public health," each being considered as essential in any organised socio-medical service. The team staffing the Unit should be under the direction of a qualified medical practitioner whose training suits him for control of an institution practising social medicine. The personnel will, of course, vary with different peoples and with the amount of money available.

The Polela Health Unit, established in a rural Bantu society of Southern Natal, has since its commencement in 1940 attempted to organise its health and medical services along the lines discussed above. The staff consists of a medical officer-in-charge, an assistant medical officer, "medical aids," nurses, health assistants, and general labourers. This team acts in an evergrowing closer co-operation with other social services of the area, more especially those interested in education and agriculture. The Unit runs clinics, curative and welfare, carries out a School Health and medical service, and routine visits to the homes of the people form the basis of all its activities. These home visits are not confined to follow up of cases diagnosed at the clinic, but are carried out from home to home in a specific locality by men and women health assistants each of whom is made responsible for

the homes of a certain area. The school service has been strengthened by the fact that the medical officer together with the head teachers of various schools in the area have formed a combined committee to organise and run the daily school meals instituted recently by the Government. More recent has been another accession of strength; the local agricultural authorities have instructed one of their agricultural demonstrators to work with the Unit's staff. He is to work with our Health Assistants and thus strengthen the Unit's "produce more vegetables" campaign. In a previous paper (1944), the author described some of the main features of the Unit's work. Here it must suffice to present the following summary table of work carried out at the Unit's headquarters and in the field (see table, pages 294 and 295).

This plan for a continuous programme of studies of family welfare coupled with intensive education regarding health, food production and general knowledge, was commenced systematically in January, 1942. During that year each Health Assistant was given 30-35 homes in a certain area. He gave each home an address, and then started a careful survey of living conditions combined with intensive propaganda. The important results achieved by the end of 1942, more especially with regard to our increased knowledge of social conditions, the increased use made of the Unit's clinics by these families, and the improvements in the homes and gardens, led us to expand this type of service as being superior to other methods. In 1943, over 400 homes were included, and in 1944 some 720 homes, i.e. at present this intensive family welfare service covers a population of approximately 5,000 people.

What this family welfare approach means to the Unit's understanding of the social factors related to ill health and the spread of disease is illustrated in the following family records. Limitation of space compels the presentation of only the more cogent points relative to the understanding of the illnesses in these families.

(A) A woman, aged 36 years, third wife of a polygamist aged 50 years, has for some time been known by the local community to be of a somewhat "loose character." She is the mother of two children, aged nine and seven years, and is somewhat attractive. Her record of adultery known to the Unit is as follows:—

(1) 1941—committed adultery with a married man of the area, for which the latter was found guilty and fined.

(2) 1942 or early 1943—believed to have had intercourse with a youth of about 22 years old. The latter was not tried as the case never came to the notice of her husband.

(3) February, 1943—committed adultery with an elderly married man of the area, who infected her with syphilis, which he had contracted in a town while away from home at work.

(4) 1943 (between March and May)—is believed to have committed adultery with another man in the area, who contracted syphilis from her and passed it on to his wife.

In no case did she charge any money, the intercourse not uncommonly following the drinking of beer when the parties were no longer fully sober. She is a heavy drinker and is commonly slightly drunk. All the cases of syphilis, mentioned above, are under treatment by the Health Unit. She, in fact, has become a very regular attendant, not only because she fears the disease, but more important is her fear of her husband again "finding her out." Fear, rather than respect or love, appears to dominate her attitude and hence her relationship with him.

He is a man who spends most of his time away from home, the Unit's records indicating the following:— Away during part of 1941, and did not return home until May 26, 1942. After spending a month at home, he left for Johannesburg on June 26, 1942, not returning until October 4, 1943. Thus of the two years of which the Unit has detailed records of his movements, he has been at home for some three months. It is also of interest to note that the adulteries on the part of his third wife took place during one or other time of his being away. On his return home he heard rumours of his wife's latest adultery and immediately came to see the Medical Officer of the Unit. His demeanour at first did not give any indication of the real purpose of his visit, which was of course to find out whether rumour was true in saying that his wife had contracted syphilis from someone in the area. Instead he stated that he had come to see if he was "well enough" to have intercourse with his wives, as the eldest had said she did not wish to be with him until the doctor had passed him as fit.

We took him at his word, examined him and found him to be free of syphilis. His next question was more direct—was it safe for him to have intercourse with his third wife? Fortunately for her she had attended regularly for the previous seven months, and the Medical Officer was able to inform him that there was no danger. Without the knowledge the Unit had regarding her adultery and his absence from home for lengthy periods, we might have been responsible for further undermining the stability of this family, as well as the others involved. The next stage had to be one of rehabilitation of the woman herself. This is, and will continue to involve endless discussions be-

THE SCOPE OF THE UNIT'S WORK

Activities at Headquarters.	*Nature of Service.*	*In field and away from Headquarters.*
Weekly meetings of M.O. with field staff—monthly meetings of whole staff.	*Family Welfare* (Intensive).	
Vegetable garden—Vegetable and Seed production Fruit orchard.	A. *Environment.* (i) Food Supply.	Survey of Food production; propaganda; vegetable seed distribution; planting; anti-soil erosion measures.
Demonstration compost pits (15 pits at work); demonstration pit privy; manufacture of pit privy squatting slabs.	(ii) Refuse Disposal.	Survey of methods in use; propaganda-pit privies and compost pits advised—with assistance in construction.
	(iii) Housing.	Survey of available housing; improved types of huts advised and measured, stressing height of walls and window space.
	(iv) Water Supplies.	Survey of existing supplies; advice *re* simple protection measures.
Maintenance and filing of all records	B. *Population Statistics* (i) Census. (ii) Vital Records. (iii) Movements of people— return and leaving of workers to town, etc.	Census of each family—addresses to homes registration of all vital records weekly.
Advice to mothers and children attending various clinics *re* schooling.	C. *Personal.* (i) Education and literacy.	Survey of standards of education. Propaganda *re* importance of sending children to school.
Infant Welfare Clinic and Curative Clinic. Nursery school.	(ii) Infant and preschool child health.	Propaganda and spotting of sick babies.
Ante- and post- natal clinic; Filing of maternal histories of all adult women in areas.	(iii) Maternal health.	Reporting of pregnant women —advice to attend Unit. Nurse Health visitor interviews all adult women, and records their maternal histories.
Treatment of sick children found at school medical examinations. See also Nutrition Clinic and recreation facilities. Monthly meetings with head teachers of schools *re* school meals, etc.	(iv) Health of the school child.	School medical and growth examinations; daily school meals; weekly talks at schools; examination of buildings—recreation facilities—sanitation—assistance ance with gardens.

Activities at Headquarters.	*Nature of Service.*	*In field and away from Headquarters.*
Nutrition and Recreation clinic for children — height and weight records of all patients —garden talks to staff. Treatment of cases of malnutrition. Administration of school meal service.	(v) Nutrition and growth.	Propaganda and advice re Survey of foods available.
Treatment; advice; immunisation.	(vi) Communicable disease.	Spotting; follow up and control.
Examination and treatment.	(vii) General Disorders.	Survey of all chronically ill or disabled persons; advice re medical treatment
Formation of a People's Club (social and educational). Establishment of a Library. Recreation field—games.	(viii) Recreation.	Survey Propaganda at schools and homes encouraging children to attend Saturday mornings for games and Nutrition clinic.
Meteorological Station at Headquarters.	D. *General Activities.* Meteorological Records.	
Recording of outbreaks; Venereal Disease clinics; diagnosis and treatment of infectious diseases; immunisation; meeting with chief elders and church authorities *re* Venereal Diseases control, etc.	*Communicable Diseases.*	Control and investigation of outbreaks.
Run weekly in front of clinic.	*Market.*	Propaganda to stimulate interest in sale of home-made products and foods.
All clinics open to anyone. Propaganda at clinic; examination of school children.	*Persons outside Welfare Plan.*	Impendle District clinic—home visits by M.O. in suspect infectious disease outbreaks.
Systematic course of instruction; theory and practice.	*Training of Medical Aid Probationers, Nurse probationers, etc.*	Field work—home visiting survey and propaganda.

tween the Medical Officer, Woman Health Assistant and the patient. The problem would be readily solved were the husband to remain at home, but economic necessity compels his return to the Witwatersrand in the near future. There were hopes of his remaining at home for some while, but recently his son who was carrying on his little business of selling snuff in Johannesburg, also returned home, very ill.

This case of syphilis thus unfolds an involved set of social factors responsible for immoral conduct which led to several people contracting the disease:— (1) The movement of men to the towns for long periods in order to earn money to support the family. (2) The consequent lack of sex life for a virile young woman, who has a partiality to beer and who, by her behaviour, has indicated that she requires firm handling and control. (3) The repercussions which the above two factors have on other families in the way of undermining their stability and spreading syphilis.

(B) The following story indicates the value of routine home visits in a specific area as compared with the system of case follow-up after attendance at a clinic:—

The head of a home with 15 people is an elderly man who practises as an "inyanga." During his routine visits to this home a Health Assistant noted that there was a sick stranger lying in one of the huts. This man had come from near the Basutoland border. He was suffering from a cough; examination of the sputum revealed tubercle bacilli. The man, the "inyanga," and the rest of the people at the home were convinced that this was a "Bantu disease" (*"Idliso esifubeni"* —poison in the chest)—the belief being that some ill-wisher of the patient had placed "poison" in his food and it had entered his chest). Discussions with the people regarding isolation of the patient, the need for examination of all contacts etc., were only partially successful. The patient continued to have visitors including most of the 15 members of the family. They were warned regarding the dangers. The patient died after being at this home for a little over two months.

The standard of education of the family is very low, no child being at school either in 1942 or 1943, and only one girl aged 14 years had ever been to school. She left in 1941 and she passed her second year (i.e. Grade II). In addition they are very poor, food production being well below average for the area. Furthermore, little effort was made by the family to fall into line with the Health Unit's campaign for vegetable production.

Repeated visits by Health Assistants brought about little improvement in the home and no members of the family came for examination until December 1943, when a young woman aged 28 years was brought to the Unit's clinic in a very wasted condition—a case of pulmonary tuberculosis, with sputum containing tubercle bacilli. Unless we had known of the previous case, it would have been difficult to trace the source of infection. Furthermore, our knowledge regarding food production, housing (more especially sleeping accommodation), sanitation,

as well as the cultural and educational standard of the various members of the family, allowed for an immediate programme of action. While the family still did not agree with us regarding the nature of the illness, they were more inclined to listen to our advice, firstly because of our conversation of six months before regarding the tuberculotic visitor and the dangers of non-isolation, and secondly because we were able to discuss so many details of their home and their lives that they appreciated the fact that the Unit was interested in their welfare. Furthermore, we were immediately able to suggest plans for the removal of some of the younger children to various relatives, whose relationship, addresses and home conditions were known to us.

In December the family was starving, and at the time of the young woman's visit to the Unit's clinic one section had had no food for two days. Sharing the sleeping hut with our patient were seven others —her mother and father, two youths, and three young children between the ages of two and eight years. We were able to persuade them to bring some of the close contacts, especially the younger. The examination findings are summarised in the Table on pp. 298, 299.

In addition to examining and caring for the above contacts, the following arrangements were made:—

(a) Separation of the children from the patient; one, the youngest sleeping at a home near by, the others in a different hut; the patient and the mother left to sleep in one hut by themselves. This all had to be done as they refused to allow the patient to be sent to hospital.

(b) The family were supplied with mealie meal until such time as some of the youths were able to let them have money from work. In addition they are being supplied with "amasi" (sour milk) daily, and the Unit prescribed supplements of vitamin oil and dried skim milk with soya meal fortified with vitamin preparations.

(c) One of the young boys was found work on the roads.

(d) Attempt were made to persuade the family to allow the two little boys, aged five years and eight years, to go to school in 1944. Two difficulties arose:— (i) The elder of the two had to remain away, as he is their only herder of cattle. (ii) They had no suitable clothing; this was overcome by appealing to the local People's Club Helping Hand Fund (inspired by various members of the Unit's staff), and clothing was provided only to be used if the child went to school. The family agreed to this and as soon as he is well enough he will start school.

(e) The Health Assistant, after more than two years of visiting,

	Name.	*Age.*	*Sex.*	*Relationship to Patient.*	*Nutrition and Growth.*
1	Z. M.	Born November, 1941.	F.	Child. Shared sleeping hut with mother and possibly-under one blanket.	Small, puny baby. Weight : December 8, 1943 21 lb. 11 oz.
2	Z. M.	About 5 years.	M.	Child ; sharing sleeping hut with mother.	Fatigue posture marked pot belly. Thin. Dry skin. December 8, 1943 : Weight 36 lb 12 oz.
3	N. M.	About 8–9 years.	M.	Child ; sharing sleeping hut with mother.	December 8, 1943 : Somewhat thin pot belly. Height : 4 ft. $\frac{3}{8}$ in Weight : 52 lb 6 oz.
4	N. M.	13 years.	F.	Niece—in different hut from patient.	December 8, 1943 Fairly stocky. Height : 5 ft. $\frac{1}{4}$ in. Weight : 90 lb 9 oz.
5	H. F. M.	16 years.	F.	Niece—in different hut from patient.	January 10, 1944 Thin, small, round shoulders Height : 4 ft 10$\frac{1}{4}$ ins. Weight : 82 lb. 11 oz.
6	S. M.	Over 70 years.	M.	Father of patient.	Senility ; stooping gait. Rheumatoid and osteo-arthritis.

Signs of Infection.	*Other Conditions.*	*Progress and Treatment.*
Tuberculin Patch Test, no signs of active illness.	Wassermann Reaction : negative.	Now sleeping away from mother at another home. *Diet* Supplements of "amasi" daily as well as dried skim milk reinforced with Soya meal and vitamins, and vitaminised oil. Progress : good, putting on weight fairly rapidly. January 10, 1944 : 22 lb. 11 oz.
Dullness left apex, fine crepitations, breathlessness, cough. Temperature 101°F.	Wassermann Reaction positive.	Now sleeping in separate hut from mother. Receiving same additions to diet as No. 1. Treatment with Sulphapyridine relieved chest condition (acute pneumonia). January 10, 1944 : Weight 37 lb. 13 oz.
Nil.	Very dirty. Generalised scabies.	Now sleeping in separate hut from mother. Amasi daily and vitaminised oil. January 10, 1944 : Weight 52 lb. 14 oz.
Very harsh vesicular breathing at left apex. Coughs. Sputum 4 specimens : negative for tubercle bacilli.	Wassermann Reaction : negative.	Amasi and vitaminised oil. January 10, 1944 : Weight 95 lb. 8 oz. ; but still coughing.
Had pneumonia in March, 1942. Persistent coarse crepitations over the chest. Sputum repeated : Negative for tubercle bacilli.	Wassermann Reaction : Negative.	Reinforced dried skim milk, vitaminised oil. Breathing exercises.
Scattered rhonchi over the chest with a chronic cough.	Vision markedly impaired.	

was at long last able to persuade them to improve their vegetable garden. The family joined the vegetable seed co-operative buying scheme organised by the Unit, and they now have some ten or more varieties of vegetables growing.

It is as yet too early to report on the final results, but of importance is the approach to the problem—the case of active tuberculosis being regarded as the expression of a set of social, cultural and economic conditions of the family, each of which has to be treated:— the social by improving accommodation (especially sleeping accommodation) and personal habits (cleanliness, sanitation); the cultural by aiming to re-educate the family (a) in its concept of disease and (b) getting the younger children to school; economic by increasing production of food stuffs with use of more advanced methods (e.g. anti-soil erosion measures, manufacture of humus from household and animal refuse), and by encouraging and assisting the three youths of the family to find employment which will bring in some very necessary money.

This family will be watched, as are all others within the Family Welfare plan, and as the years pass by the story of this group should reveal some facts of major importance to the Health Unit.

(C) A somewhat more complicated problem than either of the above is presented by another family, of whom several persons have been seen at the Unit's clinic. In order to analyse the problems to be faced it is perhaps best to discuss each member of the family.

1 *M.M.*: Born about 1910. Present head of the family.

Clinical condition: He has never attended the Health Unit's clinic.

Education: He never went to school, and is illiterate.

Occupation: He is away from home most of the time. During 1942 he was home for a short while, and in 1943 he was again away, working in a town. If crops are good he returns home and does very little.

General: A somewhat lazy individual, unprogressive, and a heavy drinker.

2 *T.M.*: Born about 1916. Wife of 1. above.

Clinical condition: She has had three children (Nos. 3, 4, and 5 below). She first attended the Unit's clinic on January 25, 1941, when she was seven months' pregnant with her second child (No. 4). She appeared to be fairly well nourished; Wasserman Reaction, negative; slight goitre (endemic); somewhat constipated. She did not return again during her pregnancy. We afterwards saw her several times in 1941 and 1942 when she brought her baby. On June 28, 1943, she was again at our ante natal clinic, being about four months' pregnant this

time. She was very thin, looked tired, had a profuse cervical discharge (no gonococci were found), and Wassermann Reaction was still negative. This time she attended more regularly and on November 16, 1943, a live baby was born (No. 5).

Education: Passed first year at a local school; illiterate.

Beliefs: These will be discussed in detail under No. 4.

Occupation: A peasant-housewife, i.e. she does the work of maintaining the home as well as agricultural work such as weeding and reaping. She does these very poorly, her home is usually dirty, she and the children are dirty, and the family's food production is below average.

General: Although the Medical Officer and field staff have known her for several years it is difficult to place one's finger on the fault in her make-up. She comes from a family which, although not very progressive, is nevertheless one which has produced energetic, fairly clean people. Unlike her husband, she is not a beer drinker. She appears to be lazy, but this cannot be the underlying factor, for she looks tired on most occasions and often complains of not feeling well. She is at present a definite case of malnutrition, but whether this malnutrition results from her own laziness or whether it is the primary cause of the laziness is difficult to assess. Nevertheless, as far as her family is concerned it suffers directly from her state of "Malnutrition Inertia." She has little ambition to improve, and appears to consider her position as being satisfactory; in fact some members of our staff believe that she considers herself to be progressive and a person of some importance in the community.

3. *N.M.*: First child of 1 and 2; born September 30, 1938. A little boy who has attended the Unit's clinic only once in May 1942, when he was found to be very dirty, suffering from whooping cough and ringworm.

4. *J.M.*: Second child of 1 and 2; born March 17, 1941. It was noted above that her mother attended only once during her pregnancy with her.

Clinical history and mother's beliefs: The child was first brought to the Unit's clinic at the age of three months. She had severe scabies and impetigo. Treatment ceased on June 28, 1941, when the mother did not return with the child. It was not until May 1942 that she was brought again, this time with whooping cough and chicken pox. After three attendances she again left us, only to return again in April 1943, after considerable persuasion of the mother by our field staff. At this stage the child, now over two years old, was severely ill. She weighed

15¼ lb., was very thin and wasted, and had well marked classical pellagra with oedema. The diet consisted solely of mealie foods, and occasionally a "wild" spinach dish.

The mother had taken the child to several "izinyanga," who had diagnosed a condition known locally as "Isolo," a syndrome in a child, the main signs of which are green loose stools and a sunken anterior fontanelle. If sores supervene, the condition becomes known as "Mkhondo" (note the resemblance to infantile pellagra, nutritional diarrhoea, and infectious diarrhoea of infancy). The cause is presumed to be due to the mother having at some time been struck by lightning, or during her pregnancy having gone into a hut or walked over some spot which had been struck by lightning at some time. This presumption is interwoven with a common belief pattern, namely that some ill-wisher had either directed the lightning, or the woman had been tricked into walking into a hut or over a spot that had at one time been struck.

The mother was fully convinced of this, and no amount of reasoning at the time could dissuade her from her belief in the nature of the baby's illness. Treatment was started, but it was noted that the mother was not co-operating. On April 21, 1943, she stopped bringing the baby, who went downhill very rapidly and died during the first week of May.

In the case of this baby, we thus have a complex set of factors responsible for death due to pellagra. First and foremost the mother's belief regarding the inevitability of her baby getting "isolo"; secondly, the family's, and especially the mother's, low standard of education; thirdly, the mother's own state of malnutrition-inertia. The father's habits and lack of interest in his family supported the mother's attitude. In short there was no one in the family with sufficient interest or knowledge to prevent her from bringing about the baby's illness and subsequent death. We have here a clear example of the thesis of this paper, namely that the illness or death of one member of the family is but a phase in a sequence of events involving the family as a whole.

5. *S.M.*: Third child of 1 and 2; born November 1943. Within six months of the death of their second child, 1 and 2 had this little boy. The Unit's problem was how to avoid this child having the same fate as J.M. (No. 4). In some way we had to try to break the chain of events which experience had taught us was likely to add another sick child or a fatality. The work began during the mother's pregnancy and as shown above (No. 2) the mother attended our ante-natal clinic during the last five months of pregnancy. Following the birth

of the baby the home was visited by a woman health assistant, and problems of feeding were discussed. The child was first brought to the clinic, aged 16 days, weighing 6¼ lb., and continued to January 6, 1944, when at the age of two months he weighed 11¼ lb. This baby was the first case to have come to the Unit's clinic from this home when it was still fairly healthy. This marks a big change in the mother, who previously had refused to make use of the clinic unless someone in her family was seriously ill. The future only will tell whether our approach has been correct, namely, paying particular attention to the mother and discussing each problem and belief as it arises.

6. *Mb. M.*: Brother of head. Born 1915.

Clinical: Has never attended the Unit's clinic.

Education: Never went to school. Illiterate. A heathen, although his wife and rest of the family are Presbyterians.

Occupation: Works as a general labourer at a saw mill on a European farm not far from this home. He returns home every week-end and occasionally during the week.

General: He is, like his brother, a heavy drinker. Has little interest in his home and shows no desire to progress. After his wife (No. 7) died in October 1942, his children were sent to the late wife's parents' home nearby. He became friendly with a widow who has four children. This woman spends much of her time with him away from her own home, and her four children are showing the result of this neglect. They are dirty and malnourished. Thus not only has this man little interest in his own home, but he is also playing a part in undermining the stability and health of another home.

7. *Em. M.*: Wife of 6. Born about 1917. Died October 9, 1942. She originates from a very backward, uneducated home of the area. We have here the marriage of two people, both from very backward homes.

Clinical: She has had three pregnancies, the first and third are alive (Nos. 8 and 9), and the second was a miscarriage. She first attended the Unit's clinic on January 25, 1941; diagnosed as a case of latent syphilis and malnutrition. She appeared to be very dull and sad. Following this she attended very irregularly for treatment, receiving only 12 injections over a period of 18 months. She was reported to be extremely ill between November 1941 and April 1942, during which time her mother-in-law and her brother-in-law died. In May 1942 she had whooping cough. After June she did not return to the Unit until her death in October 1942, when she collapsed on the roadside while waiting for a bus.

Education: Passed Standard II, but can be considered as illiterate as she never read during the time we knew her.

Occupation: During the period 1941-1942 she did very little work as she was always ill.

General: She was a very difficult woman to get on with. While she was a patient of the Health Unit it cannot be said that she had any confidence in the attention given her. Almost always she was sulky and resented discussion regarding her illness and very irregular attendance. Health Assistants who visited her home found great difficulty in persuading her to come to the Unit, as apart from her general attitude to the Unit, she was convinced her illness was a "Bantu disease." Like her sister-in-law she was somewhat unkempt and dirty, while her children were also neglected and dirty. She did not drink beer.

8 and 9. *S.M.* (born October 4, 1936) and *R.M.* (born June 13, 1940). Children of Nos. 6 and 7.

Clinical Condition:

S.M.: She was first seen by the Unit on January 25, 1941; very malnourished, with diarrhoea. At this time the mother reported that they had no cattle, and could not afford to buy milk. She was seen again on April 29, 1942, a small, thin, pot-bellied child suffering from whooping cough and acute tonsillitis.

R.M.: He was first brought to the Unit at the age of six months in December 1940. At the time of examination he had a severe confluent impetigo of head, feet and legs, with a generalised scabies. At the beginning of January 1941, the skin condition was good, but the child had blood-stained diarrhoea stools. We did not see him again until July 1941, at which time he was very thin, hair light coloured, with blepharitis, an enlarged liver and a dry dull skin—a picture of advanced malnutrition. Attendance was far too infrequent to bring about any marked improvement, and when seen in November 1941, aged 17 months, he weighed only 16⅞ lb. In May 1942 he had whooping cough, and has not been to the Unit since June of that year.

General: As reported above, on the death of the mother, the children went to live with the mother's parents, where the environment was little better than at this home. The elder child is still not at school.

10. *Mnd. M.*: (born about 1909) was first married to brother of 1, who was killed by lightning in 1935. She then married another brother of 1, who died in December 1941.

Clinical: Has never attended the Unit's Clinic, but is reported to be a fairly healthy, energetic woman. Maternal history is not accurately known. She has three live children (Nos. 11, 12 and 13).

Education: Passed Standard I.

General and Occupation: Since the death of her second husband she has had very little support from her brother-in-law, the head of the home. She appears to be a fairly industrious woman, and works as a kitchen maid in Pietermaritzburg. Apart from returning home during ploughing seasons to see that her fields were planted, she was away for the most part of 1942 and 1943. In August 1943 she took her three children to her mother's home in the neighbouring magisterial district of Impendle.

11. *L.M.*: (born 1929).
12. *B.M.*: (born 1933). } Three children of No. 10.
13. *D.M.*: (born March 2, 1939).

Clinical:

No. 11, the only one of the three at school.

No. 12, a little boy, was not at school during the period 1940-43 and never attended our clinic.

No. 13 was first seen at our clinic on May 27, 1942. He was very thin, had a dry skin and raw lips, and in addition was suffering from whooping cough.

As stated above, all three children were taken away from their home in August 1943, and sent to live with their maternal grandmother.

14. *Mng. M.*: (born about 1886). Widowed mother of 1.

Clinical: Never attended Unit's clinic. Died January 19, 1942.

General: She was an illiterate, unprogressive person.

15. *B.M.*: (born 1924). An orphaned young girl, being the child of No. 10's first husband and his deceased first wife.

Clinical: She has a very large goitre, which the family refuse to allow her to have treated.

Education: Passed first year at school and then left.

Analysis of the above individual reports indicates several important features of this family's life, features which have to be taken into account if a co-ordinated plan of socio-medical treatment is to have any chance of success.

The family group of 15 people is seen to consist in the main of three relatively loosely linked sub-groups:—

(i) The head, his wife and three children (Nos. 1-5).

(ii) The head's brother, his wife (now dead) and their two children (now living with late wife's parents) (Nos. 6-9).

(iii) The widow of head's late brother and her three children (now living with mother's parents in neighbouring district) (Nos. 10-13 above).

The head's mother (now dead) and the young orphaned girl (No. 15) make up the remaining members.

It is possible that this loosely linked family group is in the process of splitting up. As will have been noticed, no fewer than three of the fifteen members in 1943 have now died; of the remaining twelve, five children are now living away from the home and one adult woman is away most of the time (No. 10). In fact it is quite possible that she will gradually break her bonds with the family group and return permanently to her own parents' home where she has sent her children. This would remove the whole of sub-group (iii) from this home. For practical purposes then we are left with a group of six people, namely, the head, his wife and two children, his brother and his orphaned niece. The head and his brother have been shown to be somewhat uninterested, and this lack of interest is not easy to overcome in view of their alcoholic habits. The key person of the home is thus the head's wife, *T.M.*, who is the only one of the adult men and women who spends most of her time at home. The process of education and direction to improved standards must therefore centre mainly about her, but it must be borne in mind that she is not the only person concerned and in discussing matters with her the whole family background must be remembered. The salient features of this background are summarised below:—

(a) *Illness*:— During the period under review (i.e. since January 1942), three persons have died. The home is known by the neighbours to be one which "death visits frequently." In the period 1941-43, the Unit has diagnosed the following illnesses in this home: —

Whooping Cough: five people (Nos. 3, 4, 8, 9 and 13).
Chicken Pox: one person (No. 4).
Measles: one person (No. 11).
Skin disease (severe): three people (Nos. 3, 4, and 11).
Gross Malnutrition: seven people (Nos. 2, 4, 7, 8, 9, 11 and 13).
Goitre: three people (Nos. 2, 8 and 15+++).
Acute Tonsillitis: one person (No. 8).
Syphilis: two people (Nos. 7 and 9).
Alcoholism with frequent drunkenness: two people (Nos. 1 and 6).

In addition it is known that a severe illness, possibly infectious, attacked three members of this home towards the end of 1941, resulting in two deaths.

(b) *Education and cultural standards*:— All the adults are steeped

in superstitious beliefs regarding various natural phenomena. None of them is literate, and the highest school standard passed by any one of them, was by the late No. 7 (Std. II). Of the children only one was at school.

(c) *Economic standard*:— They are very poor people, and the habits of the head and his brother do not alleviate the poverty of the home. The head rarely sends money home to his wife, and at present she has gone to town to try and get money from him as they have no food at home. It is the poverty of the home nad the head's delinquency which compelled No. 10 to go to work and send her three children away to live with her parents.

(d) *General*:— The home and the persons are dirty, and there is little desire for progress. Of the adults only one (No. 10) appears to be industrious. The first step in rehabilitation will thus be to awaken the interest of T.M., and assist her once this basic healthy sign manifests itself.

These three family case records are samples of the analysis made at weekly meetings of the entire Health Unit staff, including clinical, field and clerical personnel. It is these meetings which co-ordinate the activities of each staff member, each person contributing to the discussion. The relationship of social and clinical medicine is thus made evident and each week's discussion produces new angles of approach to specific problems, be they cultural, economic, clinical, or concerned with housing, food production, or sanitation.

The short period of time during which the Unit has been practising this form of Social Medicine has already indicated its value, for in not a few respects the families of the area have been stimulated to help themselves in maintaining health. The rapid progress made in the area is due largely to the intimate knowledge which the Unit has developed regarding the lives of so many of the people it is seeking to serve. This knowledge has encouraged and stimulated the personal interest of the staff in the day-to-day problems of the people, with the result that the Health Unit itself has come to be part of their daily lives, percolating as it does an ever increasing number of their activities in health and sickness ,at school, at work and in the home.

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THE NURSE IN HEALTH CENTRE PRACTICE:

HER FUNCTIONS & TRAINING

By

SYDNEY L. KARK

Medical Officer-in-Charge, Training Scheme for Health Personnel, Union Health Department

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IT IS WITH PLEASURE THAT I WRITE THIS article for your journal in reply to the invitation of the Organising Secretary of the Nursing Association. While I am sure that there are Health Centre nurses who would be more able to describe the details of their work, I am glad of the opportunity to review some of the features of their important contribution to the Health and medical care of the communities in which they serve. It is true to say that many Health Centres have become a vital part of the communities they serve and that this most desirable result has been considerably influenced by the nurses no less than by the other members of the staff.

In order to appreciate the functions of the Health Centre nurse it is necessary to discuss briefly some of the more important features of Health Centre practice, more especially those Health Centres which are part of the Training Scheme for Health Personnel established by the Union Health Department.

Each Health Centre is essentially a district service in that it is oriented towards a neighbourhood community. A community of families living in homes of a particular neighbourhood are offered the facilities of the Health Centre which aims to provide them with the necessary knowledge and motivation to improve their own health, prevent disease and seek suitable care in illness.

The service includes treatment and care of the sick prevention of disease, and promotion of health through the development of a health education programme.

Medical care is confined to the poorer sections of the community who are unable to meet the costs of the treatment that is necessary. It includes care of those persons whose illness does not necessitate hospital admission, or who themselves refuse to proceed to hospital despite advice given. An increasing number of persons who would under ordinary conditions be admitted to hospital for treatment are now being treated at home. While this statement has general application it applies even more particularly to infants and young children. The Health Centres, with their full time medical staff, their home and district nursing service and other facilities, such as those provided by simple laboratory side-rooms, are able to provide the sick with a standard of medical care and domiciliary nursing which greatly reduces the need for hospitalisation of many cases.

The main feature of the preventive service is the periodic health examination which we aim to carry out for the various individuals comprising the families of the neighbourhood community served. The frequency of these examinations varies according to the needs of the individual, being more frequent in expectant mothers and nursing mothers with their babies than in other groups. By this means we hope to achieve early diagnosis of disease in the individual as well as an assessment of state of health of the family as a whole. Individual and family diagnosis is followed by a programme of treatment of the person in whom a diagnosis of disease has been made as well as discussion with various members of the family. They are encouraged to take an interest in their own health and by their own efforts to modify their way of life in such a manner as to maintain health, prevent disease or eradicate disorders. This preventive programme is very closely integrated with the treatment and care of the sick.

The nurse's place in this family health and medical care service has recently been defined by the Sister in-Charge of the Training Scheme for Health Personnel's nursing service as follows:—

> "She is a home and family nurse and as such is concerned with the family in health and disease. She is not a district case-worker in a service which is confined to the care of the sick, nor is she a Health Visitor limiting her programme to the preventive services usually carried out by a Local Authority's public health department. Like the medical officer of the Health Centre, she is concerned with the care of the sick, the prevention of disease and the promotion of the health of the families she serves. In her home nursing of the sick her aim is to develop an enlightened home nursing service carried out by members of the families themselves, and particularly by the mother or housewife upon whom the patient is largely dependent".

By combining the hitherto differentiated functions of home and district nursing care of the sick with those of the nurse in preventive and health education services, the Health Centre is establishing a home and family nursing service. This resembles the traditional functions of the Queen's Nurse in Great Britain, more especially in the rural areas. It is in the rural areas of Britain that the Queen's Nurse is seen as an individual combining the functions of the home and district "sick" nurse and that of the "health visitor". In the urban areas of Britain the Queen's Nurse functions mainly as a district nurse, whereas the local health and educational authorities employ health visitors. There is thus a division as between home care of the sick and health visiting services. Furthermore, there is a division of function in the duties of health visitors which is similar to that found in South Africa's larger urban areas.

With increasing specialisation in Medicine and Public Health and the development of specialised sections in Public Health Departments, it is natural that the nursing personnel should become specialised in function. There is also no doubt that this specialisation has increased efficiency in certain directions. The question that requires an answer is whether this increased efficiency in certain defined spheres has not made us blind to the possibilities of a fuller contribution which might be made by nurses to the community health.

In any of the larger urban areas of South Africa it might be possible to find nurses functioning in the following spheres:—Hospitals and Nursing Homes; in the employ of Provincial Councils; Local Authorities, central government, and private agencies.

(1) **Care of the Sick:**

- (*a*) In hospitals and nursing homes. Here a multiplicity of agencies is involved. Local urban authorities, provincial councils, and the central government, as well as private companies and mission societies are directly concerned, as each has certain responsibilities. The local authority would have a hospital concerned with certain infectious diseases, the provincial council would control the "general" hospital, the central government might have one or more of its hospitals in the town, such as a mental hospital, a tuberculosis, venereal disease or leprosy hospital.
- (*b*) At various clinics, such as those organised by local authorities in Native locations and other areas in which poorer sections of the population live. Nurses employed in factories are similarly concerned with a factory clinic service for the sick and injured.
- (*c*) In nursing care of the sick in their own homes, either in a district nursing service organised by a "general" hospital, or by a local authority clinic, or as nurses in private practice.

(2) **Preventive Services:**

The qualified Health Visitor is the nurse who is mainly concerned with this broad sphere of practice. She may be found in one or more of various sections of a local authority public health department, with the

trend towards specialisation of function, confining her work programme to that of a particular section. The number of specialised sections within the department would probably depend upon the finance available to the department. An expansion of services is usually organised on the basis of the development of specialised sections to deal with this or that aspect of the public health. In this way a larger urban health department may be found to have specialised divisions of tuberculosis, venereal disease, other infectious disease and immunisation, maternal and child health and so on. In each of these divisions health visitors may be employed full time and the "T.B.", "V.D.", "I.D.", or "M. & C.W." Health Visitor thus emerges.

Another service of considerable importance to the public health is that of the school nurse. Because of the fact that the provincial councils are the responsible authorities for school education, the school medical service is a part of the education department. The school nurse, with child health, is thus separated from the health visitor whose speciality is that of maternal and child health.

Many of the families which I have known in my ten years of association with health centre practice would offer a difficult problem if a full nursing service were provided to the individuals requiring nursing care. A hypothetical family, typical of many, which I have in mind consists of six members. A husband, his wife and three children, aged seven years, four years and two months, together with the husband's mother lived together. During the course of a short period they needed nursing advice or care for the following:—

The Husband:	Diagnosed as having 'latent' syphilis and an attack of dysentery.
The Husband's Mother:	Diagnosed as in congestive cardiac failure.
The wife and her young baby:	The wife required advice in the care of her young baby. She had not received a post-natal examination and in addition was malnourished.
The young child aged four:	Diagnosed to have helminth infestation, and primary tuberculous infection which, because of the child's state of malnutrition, threatened to become a progressive disease.
The child aged seven	Was at school, and in addition to having helminthic infestation, had signs of chronic middle ear disease and scabies.

Each of these individuals requires medical and nursing care. They are relatively poor people and have other difficulties not commonly dealt with by nursing services. Relationships between the parents themselves, as well as between them and their children are of such a nature as to render provision of nursing care and advice difficult. They also manifest personality problems in the parents and evidence of maladjustment in the children. In short, the individuals of this family are, or are likely to be, in a state of physical, mental and social ill-health.

The question which was posed earlier on becomes a real live issue in regard to the management, including health education of this family. How would the individuals of this family receive the nursing care that is required? Could the various specialist nursing services, or for that matter the various specialist medical practitioner services meet the situation? I submit that they could not provide an adequate service even if the effort were made. Not only would each member of the family be seen, advised and treated by different 'specialists', but the individuals would also be in danger of being divided into "bits and pieces", attended by different specialists depending on what "bit" was being cared for at the particular moment.

On the other hand, if the family had its family physician and family nurse, adequately trained for their respective functions, the answer to their problems becomes more practicable. Specialised medical and nursing services could then be used as ancillary to the main programme of curative, preventive and promotive care and advice of the family 'team'. I submit, with due deference to the contribution at present being made by specialised medical and nursing personnel, that the very success of these services has made us blind to their less promising results. There is as urgent a need for the family nurse as there is for a family physician. She should function in a neighbourhood of families, preferably in association with other health personnel, including the doctor. In this way she meets individuals in health and in sickness, and develops an acute awareness of the manifold personal health problems of the individuals who compose the families and the neighbourhood community which she serves.

It is the translation of this deal into nursing practice that is the function of the Training Schemes's nursing service. It should incorporate the best features of the health visiting system that has grown up in the field of "public health" as well as those features of home nursing care of the sick that have been illustrated so admirably by many rural district nurses of South Africa and the Queen's Nurse of Great Britain. Like the nursing service of a hospital, which is integrated with the medical and ancillary services, the home and family nursing service of a health centre is an integral part of the health and medical care programme. The health centre nurse is thus seen as a member of a team, the central core of which consists of the family physician, the family nurse and the neighbourhood health educator (health assistant), associated with ancillary specialised personnel.

The training which a nurse receives in her preparation for nursing is today largely confined to the hospital. In this respect the student nurse resembles the medical student of today, but she is even more confined to the hospital than is the medical student. She receives little, if any, training and experience in the home nursing care of the sick or in the field of preventive nursing care and educational nursing. The family and home nurse has her ingenuity taxed to a very great extent in her daily work—be it in organising a home for the care of a patient or in attempting to advise a change of habit which is producing ill-health in various members of the family. In addition to commonsense and a goodly store of initiative she requires knowledge of the fundamental processes which maintain health as well as of the factors responsible for ill-health. The attitudes, knowledge and activities of individua members of the family, the relationship of these individuals to one another, their home economy and the nature of their house and its environs, are all important aspects of the lives of her patients and families which she needs to understand if she is to fulfil her functions adequately. In the communities served by health centres common causes of ill-health are faulty dietary habits, exposure to infectious diseases, and disturbed or maladjusted personal relationships. The nurse must be able to assess these factors and relate them to her programme of nursing care. While the main responsibility for diagnosis rests upon the medical officer, the nurse can and should be an active participant in the diagnosis, as well as in the programme of management and education which is decided upon.

After appointment to the Union Health Department's Health Centre Service, nurses are sent to the Training Scheme for Health Personnel for a period of approximately six months before being posted to a government health centre. During this time they are guided in their work in such a way as to make the six months an

intensive training period. Before outlining the training given to nurses, it is necessary to refer briefly to the constitution of the Training Scheme itself.

This institution consists of a group of practising health centres and special divisions. Each of the centres has been located in an area which provides experience of health centre practice with a particular type of community. The multi-racial structure of South Africa requires separate facilities for various racial groups and the Training Scheme centres include provision in different centres or sections of a centre for each of the four main racial groups in and around Durban—European, Coloured, Indian and Native. In addition, it was necessary to apply the practice to people living under differing conditions of housing, neighbourhood etc. Rural, peri-urban and urban communities are thus included, ranging from the rural Native reserve of Pholela, to communities in urban housing schemes, slums and factory workers.

The special divisions were created to direct particular attention to certain aspects of family health and medical care. The divisions of family and home health (which includes psychology), occupational health (which includes a factory health centre,) nutrition, environmental hygiene and the control of communicable diseases, oral hygiene and dentistry, clinical pathology, health recordings and statistics, have each a specific contribution to the overall programme of the institution. This programme is the development of a demonstration project in personal health services, including care of the sick, prevention of disease and promotion of health, and the training of personnel in the methods evolved in this demonstration project.

The staff of the various divisions and practising centres are concerned with the training of nurses. The system of training of nurses which has evolved over the past four years since the establishment of the institution has resulted from the experience gained with each succeeding nurse as well as by consultation with various teaching authorities in this and in other countries. The nursing staff includes persons with widely varying experience and qualifications. The majority are registered general nurses and midwives and several are qualified health visitors and school nurses. The nurse in training does not receive all her experience under the direction of the nursing staff alone, but is also closely associated with the medical and other professional staff of the various divisions and practising health centres.

We do not consider that the present system of training meets all the requirements demanded for the preparation of a family amd home nurse. The period allowed is too short in view of the "hospital" emphasis in the undergraduate training of nurses as distinct from community nursing. Furthermore, experience of health centre services of this kind is limited and the development of the full potential of various categories of personnel requires continous review of what we are doing and whether we are moving towards the ideals we have in mind. It is therefore with reservation that I include here an outline of the present training provided.

The course is organised to cover a six months' period for each nurse appointed to the health centre service and sent to the institution. It includes the following subjects:—

(1) Home and Family Nursing,
(2) Special subjects —(*a*) Nutrition.
(*b*) Nursing, treatment and control of communicable diseases.
(*c*) The home and its environs.
(*d*) Clinical pathology.

After an introductory period of one week in which she is introduced to the general principles and methods of health centre practices, the nurse spends a period of three weeks with the Division of Clinical Pathology. The aim of her experience in this division is to provide her with an understanding of the laboratory procedures which are of value in determining the state of health of an individual and in the diagnosis, treatment and control of various diseases. The relevant procedures are demonstrated and she has an opportunity to appreciate the importance of correct techniques in collecting and preparing specimens for laboratory examination.

This short intensive experience with the Division of Clinical Pathology, is followed by a block period of 16 weeks during which the foundation teaching in home and family nursing is associated with three special subjects—(2a, b and c above). A limited number of families in a health centre practice area are allotted to the nurse for home nursing study and care. These families are so allotted as to include a tuberculous family, one with a chronically ill or aged person requiring care, and one each with an expectant mother, a mother with a young baby, as well as families in which problems of diet and nutrition are important aspects and at least one in which social maladjustment is a major feature. During this sixteen week period the Division of Family and Home Health supervises the home nursing procedures carried out by the nurses in these families. In addition, the study families provide material for guided work in the subjects: Nutrition, Treatment and Control of Communicable Diseases and The Home and its Environs. The nurse is required to present a detailed report with comments on the families she has studied and cared for, over the period of 16 weeks. In this way she is introduced to methods of recording and reporting of sick individuals and family health.

With this foundation borne of an intimate nursing association with diverse individual and family problems, the nurse spends her last period of six weeks in a practising health centre, taking an active part in its nursing services. Her work is so directed as to include the various aspects of nursing in that centre. Throughout the period of her training the care of the mother and child in health and sickness is emphasized as a vital element in her family and home nursing programme.

At the end of her six months the nurse has been given an introduction to the theory and practice of home and family nursing as it is being developed at the Training Scheme for Health Personnel. She has an appreciation of the methods of assessment of family health, associated with experience in care of the sick in their homes, care of the mother and her child in health and sickness, and nursing administration at a health centre. The reports submitted by nurses in respect of their family studies and the nursing are provided to those families have reached a high standard. This has been most encouraging in that it reflects an intense interest on the part of many nurses for this type of nursing service.

The interest of nurses in this field of service is to a considerable extent a result of the appreciation shown by many families in having a family nurse. Like the family health centre doctor, the nurse acquires an intimate understanding of many families, and their day to day problems and worries are seen as important elements in the health and sickness of the individual members. Born of this understanding is a relationship between nurse and family which is mutually appreciated —the family, because of the sympathetic interest shown in their well-being as well as at times of sickness and distress; and the nurse because of the warmth with which she is met and the success which attends her efforts.

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THE HEALTH CENTRE *

A SOUTH AFRICAN EXPERIMENT IN FAMILY HEALTH AND MEDICAL CARE

The health centre is a relatively recent development in the field of service to the individual and the community. The functions which are carried out at health centres vary according to the concepts which have motivated their origin and to the structure of the health and welfare services available in a particular country. Among the important factors determining the development of health centres are the nature and scope of the curative medical services and those provided by public health authorities. Both clinical medicine and public health practice have developed a number of administrative mechanisms for the successful performance of their functions. Hospitals, public health clinics, and private medical practice, ranging from a single doctor consulting room to a group practice clinic or centre, provide a multiplicity of medical service agencies. The place of each of these varied services in a total health and medical care programme is difficult to define although each has a particular function in the communities served.

Health Centres of various countries have evolved as a result of the increasing recognition of needs which were not being adequately met by the existing agencies. This recognition is related to advances in various fields of study having a direct influence on Medicine. Among the more important of these have been the rapid advance made in nutrition, psychology and the social sciences. Not only have they made us more aware of various requirements

for health, previously not understood or often not recognised, but in doing so they have indicated the necessity for modification of the approach to meet these needs. The neighbourhood health centre is one of the administrative mechanisms which may well make a large contribution to this process of change.

Historically the predecessors of the varied types of modern health centre services would appear to have been the free dispensary and the preventive clinic. The earliest examples of the latter type of service are the first tuberculosis clinic originated in 1887 by Sir Robert Phillip in Edinburgh and the French infant welfare clinic of Budin in 1892. The earliest free dispensaries preceded these preventive services by more than a century. Among the earliest were those in London and other centres in Great Britain and the Philadelphia dispensary established in 1736 in the United States of America. The neighbourhood location of these dispensaries which provided clinic and domiciliary care of the sick-poor allowed for intimate understanding of the factors conducive to ill-health in these communities. In this way the free dispensary may be regarded as pioneering the organised clinical practice of what has today become known as Social Medicine (1).

The term health centre has only become popular during the present century. The concept of the health centre as a neighbourhood service arose in the United States of America as a direct answer to the problems created by the increasing specialisation in the preventive services of public health departments. In the place of centralised control of each particular service the neighbourhood health centre, co-ordinating the hitherto separated clinics and services, was inaugurated. This development in the United States has been followed by the establishment of similar services in various countries. In the United

States itself the health centre is essentially a part of public health administration, the greatest part of curative medical practice remaining outside the sphere of work of the health centres. (2-6)

In Britain a number of similar health centre services as part of the local authority public health department had already been well established before the introduction of the National Health Service in 1948. The Act of Parliament which introduced this service made allowance for the housing of general practitioner and local authority preventive services in the same building, to be known as a health centre. The local authority was to be responsible for providing the building, administering the nursing service and continuing with its previously developed services such as those for the mother and child. The general practitioners, although they might use the buildings, were not to be an intrinsic part of the local authority services. They would continue to function independently of these neighbourhood preventive services although the possibilities of future closer co-ordination exist in the contiguity of the two services as well as through the nursing service which the local authority would provide. These provisions of the National Health Service Act are as yet mainly at the discussion and exploratory level and it is therefore not possible to evaluate their actual influence on the nature and scope of health and medical services in that country. (7-21)

In South Africa the health centre had a somewhat different origin. Recognising the defects of the administrative division between preventive and curative personal services, the South African National Health Services Commission report of 1944 recommended that the administration of personal health services should be unified.

The implementation of this recommendation would have involved a radical departure from present practice. The central government and local authority public health departments have developed their personal health services along with their non-personal public health activities. The Commission's proposal was that these personal preventive services should rather be linked with curative services hitherto provided by private practice, private and semi-official agencies and the hospitals which were a part of the four provincial administrations of the country. By co-ordinating all personal health services within a single administrative mechanism it was hoped that distribution of health and medical care would develop according to the needs of the various regions of South Africa. At the same time the provincial councils and various local authorities would be relieved of the direct financial responsibility of providing these services and thereby be enabled to improve their essential non-personal services.

In considering the organisation of the recommended National Health Service the Commission recommended "the health centre as the foundation of the national service". It's definition of the scope and function of the health centre in this service is quoted extensively for the reason that it is a clear and precise statement of modern trends in medical thought:

> " The National Health Service in being should not be merely the mechanical projection upon a passive public of some scheme worked out to the last detail by a central bureaucracy; but that it should be rather the sum total of the activities of the Health Centres throughout the country, each of them autonomous to the utmost extent possible, and each allowing for and expressing in its local arrangements, the almost infinite variety of the needs, and best methods of meeting those needs, in different areas.
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> The Health Centre is the practical expression of two of the most important, and universally accepted, conclusions of modern medical thinkers. The first is that the day of individual isolationism in medical practice is past, and that medical practitioners and

> their auxiliaries can make their most effective contribution to the needs of the people through group or team practice. The second is that the primary aim of medical practice should be the promotion and preservation of health. Hitherto, whilst medical men everywhere have subscribed in theory to these views, in practice they have as yet found only very imperfect expression. General practitioners confine themselves almost entirely to curative work, and medical officers of health to preventive work. The Commission believes that the Health Centre can provide an effective meeting place for both these branches of medical practice.
>
> The proposal is that all extra-institutional medical practice in future should be based upon Health Centres, each serving the population within a clearly defined area. General practitioners will there be supplied with adequate technical diagnostic equipment and will be assisted by nurses, radiographers, laboratory technicians, physiotherapists, etc. .....
>
> The doctor chosen by a family will have the primary responsibility for the health of all its members. The foundation of the practice of the Health Centre will be the periodic medical examination, resulting in a continuous process of health education, in which the family physician will play the leading part, rather than in the writing of prescriptions. But when ill health does overtake any member of the family, the initial responsibility for his treatment will lie with the same physician, who will have at his command the entire specialist and institutional resources of the National Health Service."

(Report of the National Health Service Commission, p. 14. Government Printer, U.G No. 30 - 1944).

The publication of the report of the National Health Service Commission and the Government's decision to implement it in part, resulted in the institution of a health centre service by the Ministry of Health. Some years before this Commission had been appointed the Union Health Department had begun an experiment of a similar kind. In 1939 it was decided to carry out an experimental project in health services in the Native reserves of the country. In order to determine the form of service likely to be most useful in such areas the original plan authorised the establishment of three health centres, or health units, as they were then termed. At the outbreak of the world war it was decided

to proceed with only one of these experimental centres and the district of Pholela was chosen for this purpose. This centre recently celebrated its tenth birthday and as the pioneer of health centres in this country its development is worthy of further study. (22-34)

The Pholela Health Centre.

Pholela is situated in the foothills of the Drakensberg. It is a magisterial district in South-West Natal. The people are separated into two main communities, the European farmers and the Native population. The area, too, is divided into European and Native areas. The former consists of extensive farming land interspersed between areas reserved for Native tribal communities. The greater part of the Native population lives in the reserved areas, but a moderate number are to be found living and working on the European owned farms. The areas reserved for Native occupation are known as 'Locations'. There are four of these in the Pholela area, and it is in the Location 2 area that the health centre was established.

At the outset the concept of the service was that it should combine curative and preventive services, including the following essential functions:-

(i) The prevention and treatment of disease.

(ii) Health Education, with particular reference to the organisation of maternal and child welfare services.

(iii) Local co-operation and community responsibility was to be developed wherever possible. The activities of the health centre were to be co-ordinated with those of other local agencies such as the authorities responsible for agriculture and education.

With this broad directive the Union Health Department's first health centre was started in Pholela.

Health and Medical Services.

Medical services of which the people availed themselves at that time included large numbers of diviners and treaters of disease. Some of these confined themselves to divination only. In Pholela the diviner ('isangoma') is often a woman. Having divined the nature of the illness, (mainly in terms of its magical and witchcraft content), she would refer the patient to a treater of disease ('inyanga'). The 'inyanga' does not, however, confine himself to treatment of diagnosed cases referred to him by an 'isangoma'. He combines diagnosis and treatment in his practice.

No less important than these purely curative functions are those carried out by these practitioners in regard to purification ceremonies and prevention of misfortune following such events as a home being struck by lightning, the establishment of a new home and so on. Some gain local fame for their management of particular syndromes, whereas others confine themselves to the treatments of certain disorders. Many live in the area itself and have their main practice in the neighbourhood of their homes, but the travelling 'inyanga' is not uncommon. He may be a man of another district or even from a town such as Durban or Pietermaritzburg who visits the area and is welcomed at one of the homes in which he stays while carrying out his practice. After a while, varying from a week to several months, he leaves the district and carries his practice to another area.

These practitioners play an important part in the life of the community and few are the persons who will not consult an 'inyanga' during the course of their lives. Other medical services introduced by Europeans, be they private general medical practice or hospital facilities,

were seldom consulted alone. It was much more the usual practice for those who availed themselves of such service to consult an 'inyanga' as well. In this way it was hoped that the best of both worlds might be had and that the 'European medicine' would be combined with that of the 'inyanga' which would ensure diagnosis and treatment of so called 'isifo sabantu' (Disease of the Bantu - that is, a wide range of disorders considered to be peculiar to the Bantu, often involving sorcery and witchcraft).

By comparison with the large numbers of 'izinyanga' and the extensive use made of their services, European medical practice was very limited. In the Pholela district there was only one general medical practitioner. He had been in practice in the district for over 20 years and was well known to the people of Pholela as well as in the neighbouring magisterial districts. Of the latter, the district of Underberg also had one general practitioner, and that of Impendhle was similarly served by one man. Apart from the well-developed medical services in the city of Pietermaritzburg, those three men were the only qualified medical practitioners serving the extensive areas of South-Western Natal. The practice of the doctor in Pholela was typical of that which pertains in similar areas of South Africa. It included a large private medical practice for the Europeans and Natives of Pholela and neighbouring areas. He had consulting rooms and limited facilities for in-patients in the grounds of his home in the main village of the district. In addition he carried out an extensive domiciliary service requiring long distance travelling, often very difficult because of the mountainous nature of the country, to European farms and to homes in the 'Native Reserve areas'.

Associated with this onerous private practice were

his duties as a part-time district surgeon. As district surgeon his duties involved a variety of services including (1) medical, surgical and obstetrical services to indigent persons, certified as such by the Magistrate of the Pholela district, as well as to prisoners, police and gaol officials. (2) Medico-legal work, including autopsy examinations, and examination of suspect or known assault cases, mentally disordered persons, applicants for tax exemption and so forth as required by the Magistrate.
(3) Public health work such as the investigation and institution of control measures in cases of infectious diseases. This would include control of epidemic diseases during outbreaks as well as routine examination and certification of suspected lepers and probationally discharged cases of leprosy, tours for the vaccination of the population against smallpox, and the holding of routine sessions for the treatment of venereal disease; the last involved specially arranged tours and district clinics at which other cases were also treated.

Furthermore, as the only medical practitioner of the area he had agreed to act as medical adviser and, when needed, as doctor to some of the large boarding school establishments of the mission societies. There was also a very well built modern Mission hospital in the southern part of Pholela. The qualified staff consisted of one nursing sister. It had at one time its own medical officer, but at the time the Health Centre was established there was no medical officer and the hospital relied on regular periodic visits of the district surgeon. This institution was little used by people of 'Location 2', the greatest number of whom lived some 25-30 miles away from the hospital.

Grey's General Hospital, Pietermaritzburg, was well known to many people and although some 40-50 miles away from different parts of 'Location 2 reserve' it was more accessible than the mission hospital. Motor bus, taxi and railway services and the possibilities of 'lifts' on traders' lorries or occasionally in passing cars made Pietermaritzburg and its hospital relatively easy of access. Not only did many sick persons attend the hospital there, but several private medical practitioners were known to the people as were a number of 'izinyanga' who had large practices in that town. Durban with its two large hospitals for non-Europeans, the King Edward VIII general hospital and the McCord Zulu hospital provided facilities which were used, but owing to the distance (over 100 miles), not many were able to avail themselves of these facilities.

Apart from the very limited qualified medical practitioner services, other health services were almost completely unknown. There were no health inspectors, health visitors, district nurses or midwives. In short, the modern services considered essential for health and medical care were absent and the people of Pholela had, therefore, little knowledge of the advantages to be gained from such facilities.

The Development of the Health Centre Service.

The main initial problem of the health centre was to introduce itself to the people it had come to serve. The staff consisted of one European (the medical officer) and seven Zulu speaking Bantu, (a 'Medical Aid' graduate of Fort Hare University, five health assistants who received their training on the job, and one qualified nurse). The voluntary services of an additional medical practitioner were also available.

The responsibilities which devolve upon a Local Authority under the Public Health Act are assumed by the Magistrate in districts like Pholela. In addition the Magistrate is also the Native Commissioner of the area. His functions therefore include those of a judicial nature as well as being in charge of the local administrative mechanism involving political, economic, agricultural and various other duties pertaining to the welfare of the people.

It was the magistrate, therefore, who first introduced the medical officer to the tribal chiefs of the area and subsequent to that introduction a number of meetings were held with these chiefs and their advisors. At the same time contact was being made with the district surgeon, mission institutions and their schools, the teachers, and agricultural and veterinary officers. Meeting the people themselves was a little more difficult. By attending many of their own gatherings and visiting their homes a contact was begun which in a relatively short time grew into the acceptance of the health centre as a vital part of the life of the people.

During the first two years the main service developed was that of a general curative clinic, preventive services such as maternal and child welfare sessions, a school health service, and a health education programme based on the home visit by health assistants. By these various means the staff was able to assess some of the main health problems of the community. These may be briefly summarised as follows:-

(1) Severe illness and death were very common phenomena in almost all homes. Pneumonia and gastro-enteritis in infancy, measles and whooping cough in children, infectious skin diseases, dysentery and typhoid fever, syphilis and tuberculosis, were commonly diagnosed at the health centre. Associated with their occurrence there was evidence of advanced malnutrition as well as an apparently high incidence

of maladjustment of the individual in the family and community.

The people's own felt need for treatment when sick and their ready appreciation of the importance of seeking advice and medical care in the early stages of illness was indicated in the use they were already making of the services available at the centre.

(2) Early routine health examinations of expectant mothers, nursing mothers and their infants, and of older children at school, revealed a number of diseases of which the mothers and children were unaware. Among the most obvious of these were various signs of nutritional failure, which were found to be associated with a poor diet and the very common occurrence of latent syphilis, scabies and impetigo contagiosa. The need for an intensive programme of medical care and health education of the mother and her child was thus apparent.

(3) Among the most important deleterious factors was the noticeable progressive soil erosion. Soil erosion has progressed so far in the Pholela district that it constitutes the most serious immediate menace to maintenance of community health. Its apparent influence is manifested in the common occurrence of syndromes of nutritional failure in plant, animal and human life. Pellagra, infantile pellagra, (kwashiorkor or malignant malnutrition), signs which are possibly the result of rickets, and the common occurrence of stigmata of malnutrition of the skin, mucous membranes and eyes, are all very common in Pholela men, women and children. (35-41)

(4) Housing in Pholela does not constitute the same problem as it does in many of South Africa's urban and peri-urban areas. Each family constructs its own huts as it requires them and overcrowding, although not uncommon, is not of the intensity noted in these other areas. An important defect is that of insufficient entry of natural light due to the absence or inadequacy of window space. The absence of foundations and the earthen floor and walls maintain a dampness throughout the summer season.

The major health hazards are provided by the failure to dispose of domestic, animal and human refuse in a sanitary manner. Domestic refuse was littered about the immediate environs of the living huts, poultry houses were congested and unclean, cattle kraals were laden with manure, and there were no lavatory facilities for the people. Flies abounded and noxious smells in and about the homes were all too common.

With all this, water supplies from exposed springs were unprotected and tests for purity indicated a high degree of pollution.

(5) An outstanding feature of daily family and community life was the absence from home of the vast majority of young and middle aged men. They were away at work in the towns, leaving the care of their

homes to their wives and elder kinsmen. This feature of Pholela family life was manifest in a variety of ways including difficulties in the adjustment of husbands and wives to one another for the greatest part of their wedded lives, problems of discipline of children, more especially of young boys, and the heavy burden placed on the housewife in all spheres concerned with home economy and management. The introduction of infections, such as syphilis and tuberculosis, was a major problem resulting from the return of the worker to his home. (42-46).

(6) The very common occurrence of the neurotic personality was for some time masked by the way such malaljustment manifests itself in this society. Sorcery, witchcraft and the power of the ancestors to exert an influence on the welfare of the home, have a significant role in the life of the people and most illnesses are attributed to one or other of these agencies. The manifestations of tensions, unsatisfactorily resolved, are influenced by this way of thinking and well defined culture-determined syndromes are the overt expression of the neurotic personality. The significance of these syndromes can only be understood when the social function of supernatural processes, such as witchcraft and the ancestor cult, has been appreciated. In fact it is by study of such patients that much light is thrown on the fundamental social determinants of the way in which disease is expressed and often initiated.

The accepted responsibilities to one's ancestors and the well defined place of the individual in his kin group and tribal society have been undergoing rapid change as a result of the various contacts being made with western civilization and urban society. The advent of Christianity, the school, work in town, the European farmer and various state agencies such as the magistrate, the agricultural officers and the health centre itself, have all wrought profound changes in the social structure and daily lives of the Pholela people. Maladjustment of the individual is frequently produced by this changing social process. It is expressed in a variety of ways which are interpreted as signs of possession by malevolent spirits sent by an evil wisher, being affected by his magic, or being punished by one's ancestors. Through these culture-determined syndromes one can diagnose disturbances in human relations which are associated with tension situations for the individuals concerned. Individuals often fail to resolve these tensions and anxiety states associated with depression and anorexia nervosa are common as are other manifestations of malaljustment.

It was decided that a health education programme for Pholela could not be developed without an understanding of witchcraft and the ancestor cult as vital forces in human relations. The implications of these factors were, too, of direct significance in clinical practice. (47-56)

Following this review the Health Centre began a research programme which was eventually to change its methods of practice. The first principle to be tested was whether an integrated and comprehensive family health and medical service was likely to be more productive than modern segmental and differentiated curative and preventive services. As a research technique it might lead to a greater understanding of the factors responsible for maintenance of health or for producing disease, but it might be found not to be a generally useful method of medical practice. This was the fundamental problem which required elucidation if not for Medicine as a whole, at least for its application to communities such as that of Pholela.

Pholela was particularly suitable for such an experiment. The Pholela community was not yet as heterogeneous as is an industrial urban community. Furthermore, and perhaps even more important for the purposes of this study, was the absence of highly developed medical, health and social welfare services. With all their divisions of work and multiplicity of personnel these services would have represented vested interests in fields of work which the Centre would have had to take into consideration in its plan of study. This would no doubt have resulted in a series of compromises as to legitimate fields of practice which would have vitiated the very principles which it was seeking to test.

The initial plan of study involved the integration of home visit findings and community health education with the clinical examinations and treatment of the members of these particular homes. This was done at team meetings at which the staff members concerned in the project were present. At the outset these team meetings were held

once a week, but as time went on and knowledge of the people increased, more frequent meetings were held, until daily discussions on the family study became a routine feature of the programme.

The first area of study was one in which the homes of the people lie on the slopes of a mountain range overlooking the Umkomaas River. It was given the name "River Valley Area". The clusters of huts are scattered along the mountain sides for a distance of some six miles, all overlooking the river in the valley below.

The initial mapping of the area indicated that there were 130 homes, each of which was given an address number. It must be remembered that in areas such as Pholela there is very little information available in respect of vital statistics such as births and deaths. The study was so planned as to include a registration system which would provide the health centre with this essential information.

In addition to descriptive information of events in various homes, the minimal information required was:-

(1) Census of the home. This was to include the name, age, sex, religion, occupation and family relationship of each individual.

(2) Education survey. The standard of school and institutional education attained by the adults was to be recorded together with the name of the institution and year of attaining this final standard. The children were recorded as being present at school or not. If the former, the name of the school and standard were noted. This information was checked with the school register.

(3) Food Production. A quantitative assessment of the main foods produced and qualitative periodic surveys of vegetable gardens were to be carried out. Measurements of crop yields, such as maize, 'mabele' and beans, as well as the milk yield at various seasons were carried out.

(4) Livestock census. A complete livestock census of each home was to be made at the mid-year.

(5) Surveys of housing, sanitation and the water supplies of each home were undertaken.

(6) Personal data. Registration of births,

marriages, sicknesses and deaths was introduced. Registration of pregnancies was added subsequently. Movements of the population, including migratory labourers' time of departure and return were notified. Important events and ceremonies were described, and a weekly record kept of the main activities - occupational and ceremonial - of the community. A family file was introduced and within it were kept various confidential reports regarding intra-familial personal relations and various problems of individuals within those families.

The findings at periodic health examinations and the examination of patients who attended for treatment of their complaints were related to this information on the family and home. This integration constituted the foundation of the family diagnosis, which it was hoped would develop as a basic technique of practice.

It is obvious that a complete examination involving these various aspects cannot be accomplished at one and the same time. This is especially true during the introductory phases of such an experiment. Not only did the staff have much to learn regarding methods of carrying out such comprehensive examinations and integrating the various findings into an inclusive diagnosis, but the families required most careful and tactful education regarding the aims and the possible benefits to be derived from such a service.

At the stage of development of the Pholela Health Centre and the people it was serving the most common starting points of the programme were usually to be found in the families who had someone requiring treatment of an illness. In this regard it was soon found that persons seeking treatment for disease consisted of two main categories. There were those who felt unwell and were conscious of the need to become patients, and would either consult an 'inyanga', or the health centre, or the other medical agencies previously discussed. On the other hand there were many who, although objectively assessed

at a health examination to be requiring medical care, did not in themselves feel sufficiently unwell to see the need for becoming patients. This class formed by far the majority of persons in the study area, and included many with varying degrees of malnutrition, from those with minor manifestations to those with frank syndromes of nutritional failure, as well as a large number with latent syphilis. Many others, while appreciating the discomfort caused by a disorder such as that produced by scabies or other infestations, accepted it as being a normal occurrence. This last category reflected the fatalism of a people whose standards of what constituted normal health had been influenced by the general standard of ill-health in their community. The acceptance of one's lot in life and of various diseases which went with this was to be one of the major problems of the health education programme.

These general considerations led the Centre to expect slow development with the periodic health examination aspect of the programme. The fact that it was serving a community with a high incidence of severe illness inevitably led to considerable attention being paid to its treatment. So much of the sickness treated by the health centre was a direct result of unhealthy home and family living that the home visit findings and health education were directed towards elucidating this relationship. The treatment and care of individual patients by the doctor and nurse, at the health centre and in the home, was thereby closely associated with a family and community health education programme carried out by the health assistants. This was not based on a follow-up home visit of a patient seen at the health centre, although this kind of work was undertaken. It was more in the nature of a total approach to the community based on the major needs as diagnosed in

clinical practice and by discussions and observations in the field. Gradually it was found that the previous practice of 'curative medicine' and 'public health' as more or less distinct entities, was merging into a form of practice which included the basic methods of both as applied to personal health care.

The science and art of diagnosis has always been the basis of the clinical practice of Medicine. It remained the basis of the health centre's practice of social medicine. It is, therefore, necessary to deal with the diagnostic problems that emerged from the work.

Diagnosis in the traditional practice of curative medicine has concerned itself largely with a sick individual who presents himself complaining of a set of symptoms. Such symptoms more often than not include a cardinal symptom which points the way to a differential diagnosis.

Let us consider a particular patient with the complaint of breathlessness on exertion. A medical history is obtained and the physical examination is then carried out, and while the history and examination are proceeding, the diagnostician is assessing the signs which this patient presents in relation to his knowledge of the possible causes of the cardinal symptom.

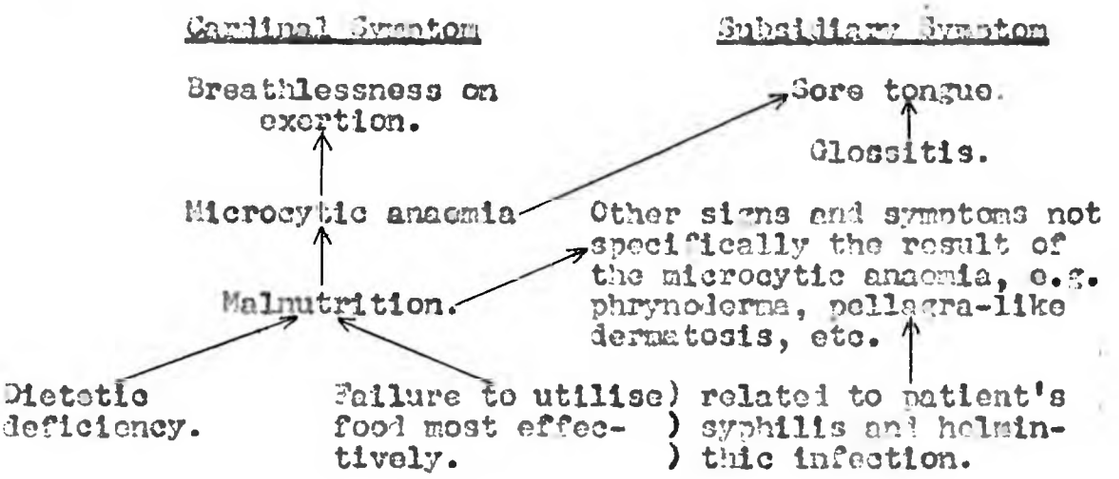
It may, for example, be established that the cause of the breathlessness on exertion is a severe hypochromic microcytic anaemia, and this was the diagnosis in this particular case. It is necessary to explore further, and such exploration must proceed on at least two broad lines.

1. The influence which the anaemia has on the functioning of the rest of the body is assessed in terms of the subsidiary symptoms and signs elicited in the history and physical examination. In this way the patient's sore mouth due to a glossitis associated with his anaemia is explained.

2. The cause of the microcytic anaemia requires elucidation. If the diagnosis is to be sufficiently comprehensive to allow for an adequate therapeutic programme, this further diagnostic procedure is just as necessary as was the initial diagnosis of the cause of the patient's cardinal symptom. In the same way as we were faced with the problem of differential diagnosis of the complaint of breathlessness on exertion we now have to examine the possible etiology of the microcytic anaemia itself.

In the particular case studied it was found to be associated with dietetic deficiency and chronic infection, namely syphilis and helminthiasis. The initial diagnosis, microcytic anaemia, thus becomes a sign of a syndrome of malnutrition associated with syphilis and intestinal worm infestation.

This stage of the diagnostic problem presented by the patient can be represented by the following diagram:-



The diagram indicates that the whole process of diagnosis has been one of etiological definition of each particular symptom or sign noted. Each stage of the process represents a diagnosis at a particular level of investigation and the further the investigation proceeds the more complex does the inter-relationship of the various manifestations of disorder become. It is this complexity that indicates each diagnosis to be a sign of disorder of a more fundamental process. Not only is microcytic anaemia a manifestation of malnutrition due to dietetic deficiency but once established the anaemia itself influences the nutritional state of the individual.

Iron therapy alone is likely to be of assistance in that it might remedy the microcytic anaemia. In doing this it not only relieves the signs and symptoms immediately related to the anaemia itself but it also has a more general non-specific effect. This effect is presumably due to the influence which the anaemia has on the total nutritional state. Thus treatment of what in reality is a sign of a more complex syndrome can be of considerable assistance to the patient. Such treatment, based on this level of diagnosis, is only alleviative in the sense that it does not embrace a programme likely to meet the needs of the broader pathology which our diagnosis of malnutrition and its etiological factors indicate to be necessary. It is necessary, therefore, to remedy the dietetic deficiency and to treat the endogenous disease factors which may be influencing food utilisation adversely, namely, syphilis and the helminth infection.

In more advanced institutions and in some cases of general medical practice treatment of the individual patient is based upon the complex diagnosis so far established. Dietotherapy associated with specific food factors such as iron, is combined with treatment of syphilis and the intestinal helminth infection. Dietotherapy is however usually restricted to cases in hospital or those who, while being treated at home, can afford to buy the food considered necessary for their treatment.

While such individual case management frequently produces desirable effects for the individual concerned at the time of treatment, it not uncommonly fails to achieve lasting results. The reasons for this failure are many, perhaps the most important being the fact that the syndrome diagnosed was an expression of the way of life of the individual concerned. It therefore becomes

necessary for the medical diagnostician to proceed further with his investigation. It is only when such further investigations are carried out that prognosis can go beyond the immediate possibilities of life and death and be concerned with estimating the effectiveness of the individual as a social being.

The instruments required for these further diagnostic procedures are rarely to be found at the bedside in the hospital. They are far more commonly found in the usual immediate environment of the patient. In the case quoted, dietetic deficiency was indicated to be one of the main causes of his malnutrition. Diet of an individual is more often than not shared with other people, more especially with one's family, in certain cases with one's co-workers in industry, or with colleagues at school and other groups with whom the individual might be associated. Investigation of the nature and cause of dietetic deficiency thus leads to a type of enquiry which elicits several important facts. The first question to be answered was whether the patient had a diet peculiar to himself or whether his diet was a reflection of that of the rest of his family. If the dietetic problem is found to be one peculiar to the individual, it is then necessary to investigate the reasons for his differing from other members of his family, and diagnosis then depends upon further examination of the individual himself. This would include the study of possible psychological factors, more especially as they affect his habits. In this way a psychosocial etiology of his condition may be diagnosed. The dietetic habits which led to malnutrition and the various signs of this state are then seen to be the result of a psychological state with social maladjustment. This same maladjustment was a factor in determining

his exposure to and infection with syphilis. The treatment programme has, therefore, to include this more basic etiological diagnosis.

On the other hand it may be found that his diet was a reflection of that of the rest of his family. If it has produced obvious signs and symptoms of malnutrition in one member of the family it is likely that other members will manifest similar or related signs of disorder. The examination of other persons in the family becomes necessary and the findings in each one of them compared and contrasted with one another and with the original patient. It is unusual to find exactly the same manifestations of disorder in each member. Each individual because of his own peculiar genetic endowment, stage of development, sex, and previous life history and environment, is more likely to manifest his or her malnutrition in somewhat specific form. Nevertheless, a pattern of individual syndromes emerges on analysis and this pattern constitutes an essential element of the family diagnosis. By its very nature a family diagnosis invariably consists of a series of interacting processes involving the way of life and state of health of each individual member of the family. One's concept of what constitutes pathology requires to be expanded from that of physical pathology to one which includes psychopathology and social pathology.

This type of clinical practice became a feature of the programme of the study area. The development of periodic health examinations emerged from this practice. Once an individual member of a family presented himself or herself for treatment of a complaint the next stage was to persuade other family members to attend for examination. This involved intensive health education on the part of all members of the staff at the Health Centre itself and during

visits to homes. References to the social nature of disease and the possibility that disease did not always make itself manifest to a person until late in its development were among the features of such discussions with the various families concerned.

In this way an ever increasing number of people, more especially women and children from infancy to school-leaving age, received periodic health examinations. As these increased in number so the incidence of grossly diseased patients decreased. Not only were more people being maintained in relatively good health but the early diagnosis of disease resulting from the health examinations led to earlier management and treatment. This in turn prevented a number of disease processes from becoming very advanced before treatment was sought. It was this feature which led to the centre seeing fewer very sick people from the study area than had previously been seen at the general curative clinics. This trend was ultimately to manifest itself in a dramatic decrease in the mortality and sickness rate in the community thus served. The service had become a preventive-curative one and was on the way to becoming a joint promotive-preventive-curative personal service. The defining lines between these previously separate services were gradually disappearing and in the place of public health practice as one entity and curative medicine as another, there was developing an intensive practice of social medicine.

At the end of the first year of this experimental project a detailed review of progress was undertaken in the light of previous experience and in comparison with the services to the district in general. While progress had been slow there were several features which indicated the value of this new approach. First and foremost was

the increased understanding and knowledge which the staff had of the people in the study area. They were becoming intimately acquainted with an ever increasing number of individuals and families, and with this went an understanding of their worries and day to day habits of living. Furthermore, it was possible now to analyse some of the fundamental health problems of the area in terms of their direct effect on the lives of the people. This was a result of the increasing accuracy and care taken in recording observations. The social structure and culture of the community was becoming defined and could be related to the families who constituted the basis of the network of relationships within the structure. Problems like soil erosion, food production, sanitation, water supplies and housing appeared in an almost new light when considered in relation to the society and the persons of that society. The whole process of the health centre's development was one which reflected an increasing understanding of the individual in terms of his family situation, of the family in its life situation within the local community, and finally the way of life of the community itself in relation to the social structure of South Africa. By this detailed study the centre had moved from the plane of vague generalisation about the importance of various social forces to an increasing understanding of those forces in relation to health and disease as manifested in individuals.

It was not so much that the experiment had led to the discovery of the connection between social relationships and health. This has been a well established thesis and has for many years been an accepted fact. Nor was it that the centre had been able to establish such a correlation. Sociologists and epidemiologists have developed

methods for such studies and many have been the reports during the past century indicating the importance of such correlations. (57-67) The significant feature of this year of experimental study was rather the fact that it had been possible to evolve a technique which included such concepts as an integral part of its daily practice. It was felt that further developments of the methods used would lead to a satisfactory health and medical care programme.

In addition to this fundamental contribution which the experiment made to the centre's orientation and techniques of practice other encouraging features were noted. Although progress had been slow there was a significant difference in the study area as compared with other areas. Reference has already been made to the increased attendance of persons with relatively early manifestations of disease and the associated decrease of the previously large numbers of very sick patients from the area in question. In other respects, too, changes were occurring. More homes had compost pits in this small study area than in the rest of the district; several had commenced constructing pit latrines whereas no progress had been made in other areas. Vegetable gardens showed rapid signs of improvement in the study area. Not only did more homes establish gardens but an increasing variety of vegetables were being planted. Much remained to be done but the progress made there was far greater than had been the case in the previous two years and in the rest of the district during this year. These were some of the material manifestations indicating the value of this method of intensive practice. They were to be added to in the years which followed.

There was sufficient evidence to warrant the expansion of the experimental project to more homes and to include the methods used as the basis of future practice. The health centre has now expanded its original intensive service for 130 homes, with their population of less than 1000 people, to a considerable practice, which includes an intensive service for 10,000 people. It also provides a general out-patient and preventive service for a further 25,000 people.

As the family health and medical service expanded, the techniques of practice became more comprehensive. In order to provide services which were found to be necessary, sessions were organised on a basis of age and social groupings. In the place of previously organised special disease clinics, such as those for the treatment of venereal diseases, scabies, and malnutrition, the services were provided for members of the family in a way which reduced as far as possible the need of an individual person to attend different clinics for the management of various complaints. The defects of the special disease clinic system are perhaps best illustrated by reference to a typical case with which the health centre commonly had to deal. A young adult woman who was the mother of a baby aged 6 months was found on examination to have the following pathology:-

Malnutrition - the signs being mainly of a pellagra-like nature;

Syphilis.

Scabies.

In addition to these three chronic disorders she complained of cough and pain in the chest of acute onset and also required dental care.

In a system which provides separate facilities for these various disorders her treatment might require

attendance at the following clinics at different times:-

(1) Medical out-patient section for her acute complaint. After that had been relieved she would then proceed as follows, that is if she could keep up with the various clinics -

(2) Venereal disease clinic.

(3) Scabies treatment centre.

(4) Malnutrition clinic.

(5) Dental clinic.

(6) The infant welfare clinic where her baby was being cared for.

In the event of her requiring vaccination against smallpox, or being agreeable to immunization against enteric fever, and diphtheria immunization for her baby, she would attend the special clinic for this purpose.

Matters had not reached this stage at the Pholela Centre but if it had continued with its previous programme, based on modern public health and curative services of urban communities, there could be little doubt that that is what would have happened. The Pholela service would then have had the same features as that presented in many more advanced urban areas.

Special sessions were organised for mothers and their young children. These included the mother referred to above. During her visits to the session a programme of treatment and health care for both mother and baby was developed. It included treatment of scabies and syphilis in both, and in this respect was associated with home treatment of scabies in other members of the family, as well as the examination and treatment where necessary of other members of the family found to have syphilis. The malnutrition of the mother was related to the home findings and at her visits to the health centre she would be given supplementary dietotherapy and specific food factor treatment. She would also visit the garden where,

with other mothers present at the same session, she would be given a demonstration of vegetable gardening. At other times cooking demonstrations might be given and so on. This health centre educational programme reinforced the general community health education programme being developed by the specially trained health assistants. She might be encouraged to join the vegetable seed co-operative buying group as well as being supplied with seeds grown in the health centre's garden.

At each session she attended, her baby was weighed and problems of management discussed, and at least once a month the baby had a health examination by a medical officer. Once again this programme was co-ordinated with the home visit, more especially after women health assistants were introduced in addition to the men with whom the centre had started. Home demonstrations in baby management, including discussion of various ways of rearing, preparation of feeds and sewing demonstrations, were an important feature of the programme.

Similarly there developed a programme of special sessions for expectant mothers, pre-school children, school children, adolescents, and adult men and women who were not otherwise catered for. All records were gradually incorporated in a family file with the result that there was ready reference to the progress of various individuals in the family and the home as a whole. Periodic reviews of progress were made and the aim was to have periodic consultations and interviews with the family on lines similar to those initiated by the founders of the Peckham Health Centre of England. Owing to the fact that so many men were away from home for considerable periods this was not always practicable and meetings with mothers and their children were more common than with both parents present. In fact

when men did attend such conferences they preferred to do so alone or with their kinsmen rather than in the company of their wives and children.

The frequency with which periodic health examinations were to be done depended upon a number of factors including age, state of health and special considerations of pregnancy and post-natal care. The following table illustrates these aims:-

First year of life	: Once weekly by nurse; once each month by medical officer.
1 - 2 years	: Once each month.
2 - 5 years	: Once quarterly.
6 - 14 years	: Every 3 - 6 months.
15 - 25 years	: Annual examinations.
25 - 45 years	: Once every 12 - 18 months.
45 years and over	: At least once each year. It must be remembered that in Pholela many persons of 45 are already "old".

Expectant mothers were encouraged to attend weekly sessions. In a healthier community this frequency of attendance, at least during the first 6 months, might not be as necessary as it was in Pholela.

The mother of a young infant was seen each week with her baby, and the feature of these sessions was the stress upon the unity of the nursing mother and her baby. Such sessions were, therefore, always mother and baby sessions and not infant welfare clinics.

During illness of any persons the periodicity of examination would be determined by the nature of the illness and was obviously more frequent than those outlined above. In addition at puberty, and more especially the climacteric, periodicity of examination was advised at shorter intervals than for the age group as a whole.

It is important to appreciate that each of the sessions provided facilities for care of the sick and

preventive personal services.

Home visits for study of the way of life in the home and the related health education, were also carried out at periodic intervals. It was aimed to have contact with members of each home in the neighbourhood at monthly intervals. More frequent visits were often required when the family had decided on a particular programme such as initiating a new hut, a pit latrine, compost manufacture, or a vegetable garden. Informal meetings and discussions with groups of people were a feature of the health assistants' work and public opinion was influenced in this way. The monthly visits to homes ensured a continuous contact with all the people in the area served. They allowed for the planning of systematic surveys of special problems of importance to health as well as assessing the changes which were taking place in response to the health centre's programme.

Neighbourhood schools were also regularly visited by health assistants. The process of health education which was being developed in the schools was thereby fully integrated with that for the community in their homes, in groups and at the health centre. Health examinations of schoolchildren were often carried out at the schools and discussion of relevant findings took place with the children themselves, their parents and the teachers. In this way the health centre had a profound influence on the health of the schoolchild. It reduced the very high incidence of extensive scabies and impetigo contagiosa to negligible proportions within 2 - 3 years; planned the school meal service; immunized the children against enteric fever and smallpox; encouraged the schools to build latrines for the children's use; stimulated and furthered interest in school vegetable gardens; conducted many of the "hygiene classes" prescribed in the school

curriculum.

Members of the staff were not only elected to school parents committees but also became active members of the churches which were so closely related to these schools. The informal influence thus exerted in community affairs was at least as profound as that of the more organised programme of work carried out as part of official duties. The Pholela experiment has thus succeeded in unifying the two administratively differentiated approaches to the individual - namely that of curative medicine and of public health preventive services. It has done so in its family health and medical care service and in so doing is developing a modern general family physician working with a family nurse and a community health educator (health assistant).

In order to provide such a service to an increasing number of families it was necessary to develop methods of practice in such a way as to ensure accuracy and reliability of findings and diagnosis. Facilities were required which would allow for adequate care, attention and treatment being given to the community as well as a system of recording of data and progress. Each of these aspects needed careful study and throughout the development of the service changes and modifications in each activity and method were being introduced. Some of these have become relatively well established and have proved to be sound. Others require still further modification before being satisfactory. Yet others will no doubt be replaced entirely by better methods.

It is not possible to include here the many advances which have taken place in Pholela since the advent of the health centre. In many ways the life of the people has been modified and most encouraging have been the "self-help"

plans that have evolved. Among the more important of these may be mentioned the considerable increase in home vegetable gardening, the construction of water protection devices and advances made in methods of infant care. Associated with these changes there has been an encouraging fall in mortality rates and an increasing use made of the services available.

During the period 1942-1950 there has been a steady decline in the infant mortality rate, from 275 per 1000 live births in 1942 to 117 in 1950. Over the same period the general mortality rate has decreased from 33.33 to 13.30 per 1000 of the population. These encouraging trends are reflected in the use made of the centre's services by expectant mothers and mothers with their babies. The percentage of expectant mothers who receive skilled ante-natal care has increased from a negligible number when the centre first started to 66% in 1945 and 94% in 1950. The use made by expectant mothers of the services offered will reduce the hitherto grave problem of congenital syphilis to a minor one in Pholela. The care of the nursing mother and her infant has shown similar advance and the health centre facilities are now frequently used by well over 80% of mothers and their young babies.

The Pholela health centre is now associated with the Institute of Family and Community Health, an institution created by the Union Health Department in 1945. This followed the Government decision to establish Health Centres in various parts of South Africa on lines similar to those recommended by the National Health Services Commission of 1944. After this decision it was considered that Pholela might form a useful pilot project in this service and medical officers and other staff appointed to

the new service were in the first instance sent to Pholela to gain experience in health centre practice, and study the methods which had been evolved there.

It was soon realised, however, that Pholela could not alone offer the wide experience required for such a developing service. Its field of action was more or less confined to that of the 'Native Reserve Areas' and important as these may be, they do not offer facilities for study of the kind of service that would be required for the varied racial and social structure of South Africa. For this reason there was established an Institute of Family and Community Health, originally known as the Training Scheme for Health Personnel.

An Institute of Family and Community Health. (The Training Scheme for Health Personnel).

This institution has its headquarters in Durban. It consists of a number of practising health centres and special divisions. Each of the centres has been located in an area which provides experience of health centre practice with a particular type of community. The multi-racial structure of South Africa requires facilities for the various groups and the Institute's centres include provision of a service for each of the four main racial groups living in and around Durban - European, Coloured, Indian and Native African. In addition it was necessary to apply the practice to people living under differing conditions of housing and type of neighbourhood as well as showing differences in respect of occupation and other social conditions. Rural, peri-urban and urban communities are thus included, ranging from the rural Native reserve of Pholela to communities in urban housing schemes, peri-urban and urban slums, and factory workers. For this purpose seven health centres have been established as part of the institution.

The special divisions were created to direct particular attention to certain aspects of family and community health. The divisions of family and home health, occupational health (which includes a factory health centre), nutrition, psychology, environmental hygiene and the control of communicable diseases, dentistry and oral hygiene, physiology and clinical pathology, epidemiology and statistics, have each a specific contribution to the overall programme of the institution.

In addition to these health centres and special divisions, the Council for Scientific and Industrial Research has recently established a Social Medicine Research Unit at the institution.

In this way there has developed an institute concerned with:-

(1) the development of demonstration projects of health centre practice among different types of community;

(2) investigation of special aspects of the varied health problems which emerge in these communities;

(3) research in respect of some of the more important fields of social medicine in South Africa, such as those of the growth and development of infants and children.

By bringing these various health centres, special divisions and the research unit into a single administrative unit, a co-ordinated programme of service, teaching, and research is possible.

<u>The Essential Nature of the Neighbourhood Family Service.</u>

Each of the health centres is essentially a district service in that it is oriented towards a neighbourhood community. A community of families living in homes of a particular neighbourhood are offered the facilities of the health centre, which aims to stimulate their interest and provide them with the necessary knowledge to improve their own health, prevent disease and seek suitable care in illness. The one exception to this family approach is

that of the institution's industrial health centre. Here the programme includes the workers of factories in a particular area. Where these workers have their families in one of the neighbourhoods served by the other health centres, an integrated community service is being developed with its field of operation in both the neighbourhood family centre and the factory centre.

The service provided by the health centres of the Institute varies as between the different communities served. There is, however, a basic concept which pervades the practice in each community. The differences between them result from the translation into practice of this broad concept.

The Pholela experiment demonstrated that it was not only desirable but that it was possible to integrate important aspects of curative, preventive and promotive health services within the framework of a single institution. It has shown that a doctor, nurse and health educator (health assistant), functioning as a closely knit team, could together become family doctor and health advisor of a community. In doing so a number of techniques of practice have evolved and these have received further consideration since the training institution and its associated centres have been established. Application of this form of practice to communities which differ widely from that of Pholela requires a clear appreciation of its nature.

Health Needs

The scope of the service will depend upon the needs of the particular community. It is therefore desirable to have available a mechanism for their assessment. Various needs which may be obvious to the external observer may or may not be felt by the community itself. A

common example of the result of a felt need is that in which a person becomes the patient of a doctor. It is the desire for relief from pain or discomfort which provided the motivation for the individual to seek medical care. The traditional case history is a mechanism which encourages the patient to express his feelings. In like manner family and community needs may be felt and the case history may be replaced by planned surveys or by discussion groups. Such surveys and discussions will indicate that a number of people have similar needs. These are fundamental to motivation for group action whether they involve a particular family, a small community group or the whole community. The action resulting from such motivation in so far as it is related to health needs may well be fruitless without expert guidance. The health centre should be as prepared to assist in such group health problems as it is in that of the individual patient with a pain. (60-71)

During the course of a clinical examination it is not uncommon to find evidence of disorder not directly related to the patient's complaint and of which he is unaware. The investigation of such unfelt needs is the basis of many case finding programmes of which those for tuberculosis and cancer are notable examples. They have been developed as a result of the knowledge that it is possible and desirable to diagnose the disease process before the person himself has discomfort. Similarly, a survey of a particular community may reveal evidence of disorder of which the people themselves are unaware. This lack of awareness is related to their way of life. Nutrition and sanitation surveys, in which the survey includes a personal health examination associated with study of the habits of the community, have revealed many such unfelt needs.

In carrying out a survey of methods of refuse disposal

in a rural 'Native Reserve', it was found that there were no more than 2 homes with latrines in the sample of 10,000 people studied. Defaecation took place in 'dongas', bushes, and in the case of children, in the immediate environs of the home. Despite the high incidence of diseases like dysentery, diarrhoea of infants and enteric fever, the people felt no need for modifying their ways of disposing of refuse. Not only were they unaware of the etiological relationship between these diseases and the pollution of water supplies and food which results from their way of life, but they had their own decided views on the relationship between human faeces and disease. Faeces, being an intimate personal product, were regarded as most suitable for treatment by an ill-wisher. If an ill-wisher was able to obtain a specimen of faeces from the person he wished to harm he could utilise it in a magical mixture and thus render his curse effective. This is not uncommonly thought to be the way in which a person becomes ill. It is, therefore, not surprising that these people had few latrines. They thought it more important to conceal the site at which they defaecated rather than defaecating in a latrine. This fact is of interest in that many of them were in favour of water-borne sewage disposal systems. These would remove their faeces to a distant place at which the individual's excreta could not be distinguished from that of others. The pit-privy on the other hand was rejected as being dirty and unwholesome.

The importance of community motivation in any programme designed to treat the sick, prevent illness and promote health becomes more meaningful when people's feelings about their various needs are understood. It is these feelings that stimulate the desire for change.

The advance made in public health services during the past century is a most illustrative historical example of how government and people were made to feel the need for change of their unsatisfactory living conditions. One of the major difficulties facing the pioneers of this movement was that they were aware of the need for a change which was not felt by most of their contemporaries. Conversion of an unfelt need to that of a felt need resulted in the modern achievements of public health administration. (72-75).

The contribution which a neighbourhood health service can make to the community it seeks to serve is thus likely to be profoundly influenced by its approach to the problems of the individuals who constitute the community. This approach must include a careful evaluation of both the felt and unfelt needs of the individual if the service is to appreciate the motives and knowledge necessary for the people themselves to achieve a higher state of health.

Assessing the Health Needs of an Individual.

The nature of the health review which reveals these needs and the way in which they are to be met constitutes the programme of the service. In the health centre service being developed by the Institute of Family and Community Health, the methods of practice are based on a dynamic concept of the individual.

The individual is viewed as an integral part of his environment. A most important element of this environment is the network of human relationships within which he lives. These relationships are expressed in the various social institutions which have developed to meet the needs of the individual. The technological skill, developed by a particular society in its use and modification of the biological and physical environment, affects the nature

and functions of these social institutions.

An interesting illustration of this kind is provided by the changes which have occurred in countries influenced by the Industrial Revolution. In Europe the home manufacture of a wide variety of articles has been increasingly replaced by the factory. This previously important economic function of home production by the family is today the function of organised industry. In South Africa industrial urban developments have considerably modified the extensive kinship systems which permeate the structure of various native tribes. The single family unit persists, but extended kin relationships are becoming less significant and play a smaller part in the general social fabric than they do in tribal society. The changing economic structure is reflected in the changing home economy and with it the structure of the domestic unit and kin obligations are modified. (76-81)

The way of life or culture of any society is an historical process, constituting the social heritage of each individual. It influences the nature of his development through the personal relationships established within the institutions of that society. This human environment into which the individual is born and reared and through which he expresses himself, is so integral a part of each individual that separation of individual and environment is not conducive to understanding. Instead, a single entity, individual-in-environment emerges as a reality facing the diagnostician, therapist and educator. (82-83).

In the health centre service being discussed, the individual-in-environment is the nucleus of the health and medical care programme. We have seen how this social orientation led to the disappearance of special disease clinics at the Pholela Health Centre. Classifying

individual persons according to the major disease problem they present, is a process which frequently leads to increased technical skill in the management of the particular disease, and has been a main factor in determining the trend of specialisation in Medicine. While there can be no doubt of the advances achieved by this approach, it seems possible that these very advances have made us lose sight of other less beneficial results of this fragmentation of the individual.

Among the more important of these has been the lack of attention given to the individual-in-environment as an entity capable of study and even more important as a unity susceptible to curative, preventive and promotive health care.

This institution uses methods of health examination and programmes of health and medical care which focus attention on the individual in different situations. In order to diagnose the state of health of an individual it is necessary to extend the clinical examination to include observation of the individual in his daily activities. Equally important is his personal interpretation of his own actions and those of others in these situations. Such extension of the health examination involves an understanding of the personality of the individual and the social structure within which he functions. Psychology and the social sciences have at least as great a contribution to make to this widened horizon of medical practice as has been made by the natural sciences in the past.

Among the more important situations in which an individual lives his life are those constituted by the family and the various community groups in which his daily occupation and his interests find him. A health review will thus usually consist of at least three basic elements,

examination of the individual at the health centre itself, interview and observation visits to the home, and group discussion and observation. These three aspects will now be considered in further detail.

1. The Individual at the Health Centre.

The importance of the individual health examination is that, within the limits of present day knowledge, it provides a picture of the state of health of the individual at a particular moment of time. When related to his way of life it provides a foundation diagnosis of his needs, on which a programme of treatment of disease and health promotion can be developed. If carried out at more or less regular intervals of time it provides a serial story of the individual's growth and development and has its main value when such periodic examinations are evaluated. Although most of the techniques used are similar to those employed in the examination of a patient with a complaint it differs in several important respects from this examination. In dealing with a patient the main objective of the examination is to elucidate the nature of the disease process which has produced the complaint. The health examination is not 'complaint oriented' and has the somewhat different function of assessing the individual's state of health. This being so, the type of history approaches that of the life history rather than the history of a complaint, and the physical examination is one in which signs of health and those of ill-health are explored and recorded. (89-91)

The general life history introduces the physician to the unity of the individual-in-environment by the developmental story that unfolds the individual's relationship with his family, friends, school and work associates, as well as the places in which he has lived. The history may, however, be directed towards special aspects of

development in order to elucidate certain specific fields of behaviour. The individual's story of his schooling, his occupation, his diet and similar habits, may receive particular attention. Directed discussion of particular life situations is also of considerable use in both the clinical and educational aspects of health centre practice. Mother-child relations, as revealed in the feeding situation, may for example be better understood following the mother's story of how she managed with her previous babies. Her story may reveal a deviation from her usual procedure in respect of the present baby. On the other hand her present management may be consistent with that of the previous children and yet be quite different from that of other mothers in her particular social group. Failure to feed her child satisfactorily may thus be found to be due to a specific problem arising in relation to this particular child, or it may be a reflection of a persistent failure in respect of each of her children. In the second alternative the failure may be due to a personality phenomenon peculiar to this mother or to mothers of the particular social class or culture group to which she belongs. Correct diagnosis can result only when one becomes aware of each of these various aspects - the present life situation, the life history of the individual person, and the comparison of these findings with those of other mothers of the community.

The difference between the life history and the complaint oriented case history is also reflected in the physical examination. In the examination of a patient the aim is to elicit physical signs, which in relation to the symptoms elicited in the case history, are expressed in the form of a diagnosis. This diagnosis is in reality a summary statement of the nature of the person's illness

and treatment is directed towards curing the diagnosed disease process or of alleviating the discomfort which it has produced. In the physical examination of a health review the aim is not directed towards diagnosing a pathological process which may explain the person's complaint. It is rather to elicit a series of findings which are expressive of health and departures from health. These findings are not readily expressed in terms of a single diagnosis as the relationship between various signs is not always readily assessed. It must be appreciated that the factors determining an individual's state of health at any one moment of time consist of a large number of variables which cannot in the individual person be subjected to scientific measurement. Correlations established in group studies should not be directly interpreted at the level of individual diagnosis. With caution they can be applied, but their application is dependent upon the experience and judgment of the examiner. It is for this reason that serial examinations of the same individual, as represented by the periodic health examination, are so important. By comparing the findings of two or more examinations it becomes possible to assess change in the individual; it is the measure of this change which is of considerable value in reaching a diagnosis of the person's state of health. This procedure has become a well established feature in infant welfare work, where periodic examinations of the infant allow for a more accurate assessment of its growth and development than is possible at a single examination. The periodic health examination used in the health centres of the Institute aim to apply this principle to the individual during his total life span, and in so doing expand the traditional consulting room examination to study of the individual in some of the more

important situations in which he functions. (92-109)

2. The Individual-in-his-Family.

This is one aspect of the study and care of the individual-in-environment. The family is generally accepted as one of the most important of human associations in any society and yet it is amazing with what frequency it is neglected by health workers. For this reason it is perhaps advisable to consider some of the features of the family which make it so useful an association in health centre practice.

A number of closely related vital needs for health are met through the personal relationships established within the family, the home economy, and the house in which the family dwells.

Intra-familial relationships: The personal relationships between parents, parents and children, and among children themselves, are of such an intimate nature and of such fundamental importance that every society has developed a code of expected behaviour for members of the family. Marriage places certain defined obligations on the contracting partners, as between one another, and in respect of the family which is formed on the birth of children. Related to the various codes of expected behaviour is the fact that within the family a great part of the social heritage is passed on to the child. In this way the family nurtures the developing personality as an integral part of the culture group. The extent to which it succeeds is represented by the social adjustment of the individual. Even in societies in which the nursery school and school have been established, the process of acculturation of the growing child is predominantly influenced through the informal learning experience which he has in his home. It is here that he develops his moral values and his religion, his obligations to others,

his way of feeding and clothing. In short, it is within the family that he develops his way of life which is intrinsic to the culture group, community and social class into which he was born.

The family is the main context of the emotional development of the individual. The extent to which it meets fundamental attributes for health, such as the need for security, acceptance and self-expression will determine the state of health and adjustment of the individual. If inadequately met states of conflict and tension, which produce the anxiety fundamental to neurotic behaviour, may result. The incapacity of the individual thus affected may be manifest in his poor relations with others, his failure to meet his obligations in his home, school, workplace or other situations, as well as in various overt signs of ill-health such as the many localised somatic expressions of the neurotic personality. Whatever the particular manifestation of this failure in emotional development the result is a state of ill-health or maladjustment.

Domestic Economy: No less important a function than the nurturing of the developing personality within the family is that of providing an adequate nutritional state during growth and development.

The extent to which the family is concerned with the economic functions of production, distribution, and consumption of material needs varies considerably in different societies. Mention has already been made of the way in which the industrial revolution has so profoundly affected the domestic economy of an increasing number of communities, more especially by the removal of many economic production functions from the home. In South Africa there is a wide range of variation in the nature

of the home economy. In many 'Native Reserve Areas' it includes construction and maintenance of the dwelling by the family itself, the production and storage of food, the manufacture of furnishings and clothing, as well as the distribution and use of various requirements of family members. In other areas, more especially industrial urban communities, the money earner enables the family to purchase or hire many of its requirements. Home production is still significantly represented in such practices as cooking for family, the making of various garments, home vegetable gardening, and in a limited number of home industries and commercial ventures.

Differences in the domestic economy are often reflected in the structure of the dwelling group, which may vary from that of a single simple family unit to a more extended kin group. Personal relations within a home are influenced by the functions of each individual in its total economy. The provision of material requisites, such as that of food is thus seen to be an intrinsic function of the system of intrafamilial relations. The extent to which this economy meets the nutritional requirements of the family is measureable in the state of nutrition of the individual members. Sooner or later failure to meet these needs results in malnutrition.

<u>The House in its Environs</u> The dwelling place itself has a profound influence on the health of the family; its siting, construction, water supplies, refuse disposal system, ventilation, lighting, constitute the immediate physical environment of the individual members. If unsatisfactory in these respects the inhabitants are exposed to a variety of disorders among the more important of which are many communicable diseases.

More important perhaps is the fact that the physical

dwelling, together with the social relationship system which is the family, constitutes the home of each individual member of the domestic unit. The home, therefore, represents an integration of personal relationships, domestic economy and the house in its environs. As such it is a most important part of the individual's total life experience and is the main determining factor of his physical, mental and social well-being. (110-117)

For the reason that the family is so significant an institution in respect of the healthy development of the individual, the Institute's programmes of study and service have focussed considerable attention on the individual-in-his-family.

The extension of the health examination to include an appraisal of the family and home involves the health centre staff in home visiting. These visits are not restricted to homes in which there is someone ill but include all families in the neighbourhood which the Health Centre serves.

The visitors have no rights of entry into the home and are completely dependent upon the good will of the particular family. Friendly relations between staff and families are therefore a prerequisite of the service.

The nature of these visits is determined by the needs of the family. General discussions and planned surveys are the main diagnostic procedures and both are conducted in the friendly informal atmosphere of the home.

The confidential relationship between patient and doctor, so fine a tradition of medicine, is thereby included in this service. The programme of the health centre is dependent upon a relationship of this kind. This being so, it would probably be inadvisable for a health centre to become an executive authority in respect

of the requirements of public health laws. The right of a access to homes given to public health authorities under certain conditions should not be extended to the Health Centre. While the staff of a health centre may be employed by an official state service, they should not have the power of inspection and compulsion for the control of disease. Their relationship with those authorities having such powers should be no different from that which the State expects of any registered medical practitioner, nurses and other health workers.

The appraisal of the health of a family in its home includes knowledge of the domestic unit structure of the family, the age and sex distribution of the people in the home, their religion and education, and a number of habits of family members which are of importance to the health of each individual. Interpersonal relations, more especially as they affect the rearing and development of the child, receive attention, as does the home economy, with particular reference to the diet, clothing, and other facilities for healthy living within the home. The use which the family makes of various material resources available include study of the house and its environs. The use of rooms and the facilities for ablution, refuse disposal, home food production and preparation of meals, each receives attention in a study of the structure of the house.

The history of the family is so closely related to the life histories of the individuals comprising it that it can only be understood in terms of the history of the relationships between these individuals. These changing individual relationships in the family constitute the main feature of the family history.

3. The Individual-in-Community-Group.

The choice of the family as a situation in which to further the service to the individual-in-environment should not exclude study of the individual in other situations of importance to his health. The entity, individual-in-community group includes such important fields of activity as the school, the factory and work place.

These extra-familial activities of individuals are important elements of the network of human relationships which, as have already been discussed, constitute society. They influence home life and in their turn are influenced by home life. A father's occupation in a factory not only often determines the economic status of that family and thus its home economy, but his relationships with others in the factory influence his personal relations with his wife and children. His state of nutrition is influenced by his home and his work; any infection which he may acquire in either place may be carried by him to the other, exposing his family and work associates. His behaviour will reflect his adjustment in both situations. (118)

Similarly the child links his home with the school. His home experiences are reflected in his school activities and vice versa. A to-and-fro association between school and home is thus established by the child. (119)

It is by following the individual in his various daily activities that we begin to appreciate the network of relationships within which he functions. Leisure time activities and recreation are important fields of individual behaviour which are not often confined to the home itself. Groups having common interests form various associations often determined by age and sex, such as men's and women's groups, boys' and girls' clubs and children's play groups.

A community of interest is the foundation of many such group activities in which the individual is to be found. He shares his religious observances with others who adhere to the same faith and he shares with them a number of activities not directly concerned with worship. Through his church he may find interest in various clubs or guilds consisting of persons of the same church or of like beliefs. Among the more important of his associates in this experience are usually the other members of his own family. His religious ritual and practice finds expression in his own home, being a potent determinant of the way in which the children are reared.

The individual in environment is thus seen as an individual functioning in these various community groups - at work, at play, at school, at church and in various other associations.

Each of these associations therefore represents a possible means of extension of the health examination of an individual; the relative importance of each to his health will determine the extent to which a health service interests itself in these group activities.

The main methods of examination which have so far been applied by the Institute of Family and Community Health in respect of the individual-in-community group have been the group discussion, the planned survey and direct observation of the individual in various activities. These include discussion groups consisting of housewives, workers in industry, and of boys and girls in various clubs. The discussion groups are led by a trained health educator (health assistant) of the staff and are occasionally attended by the staff doctors and nurses. Examination of records of these discussion groups has been a most fruitful method of determining knowledge and attitudes of these

various groups in respect of their health needs. Associated with planned surveys in respect of specific aspects of health they constitute a basis for action as well as a measure of the success or otherwise of this action programme. (120-122)

The direct observation of group activities include those of the worker in industry and children at play. The latter takes place not only in the informal neighbourhood play groups but also at the health centre where special group observation facilities are available. By these various means an approach has been made to the elaboration of methods of examination of the individual in various situations of importance to his health. (123-126)

The periodic examination of the individual at the health centre extended to include the individual in his family and in various community groups has been reviewed. It will be appreciated that this approach, when fully developed, will allow for appraisal of health as an expression of the way of life of the individual.

The Health and Medical Care Programme.

Not only does this orientation allow for a comprehensive appraisal of the health needs of the individual, family and community, but each of the situations used for diagnostic purposes is invaluable in the development of the health and medical care programme. The whole process of evaluation of these needs, involving the various types of examination which have been discussed, is one in which the individual is himself an active participant. The object of each procedure, be it a discussion group on the rearing of children or a planned survey directed towards elucidating a specific health problem, is carefully explained to the participating individuals. By this means active co-operation is most often ensured and it is co-operation in such diagnostic procedures that provides

so useful a learning situation for those involved.

In becoming aware of the social structure and culture of the community, the health centre staff can the more readily appreciate the way of life of the individual in his environment. The staff soon learns that its programme must be directed towards motivating the people to action in their own interest where their health needs so indicate this. By assisting them to meet their felt needs in the first instance and gradually making them aware of the hitherto unfelt needs in respect of their health, the health centre becomes an intrinsic part of the neighbourhood. An authoritarian approach associated with dogmatic assertions as to THE right way of life has little place in such a programme. Advice and guidance there must be, but these are usually more acceptable when sought for and it is to this end that situations like the informal interview and the discussion group are directed. They create the necessary situation for the development of self-help towards better health.

The Health Centre is staffed and equipped to deal with the vast majority of sick individuals who seek medical care. Treatment of the sick constitutes a very important part of the service, being completely integrated with the preventive services at the centre. In addition to medical facilities there is a dental service, and domiciliary care of the sick constitutes a major function of the family and home nurse. The importance of this home care of the sick cannot be too emphatically stressed. In the first place, the vast majority of sick people do not require admission to a hospital; secondly, they prefer treatment at home where possible, and in the case of children particularly, care at home by their own mothers is highly desirable; thirdly, it is an economic proposition, more especially in

a country like South Africa. In one of the centres of the Institute, facilities are available for a mother to bring a sick baby directly under the skilled attention of a doctor and nurse without removing the child from its mother. It has been found that under such guidance mothers make very good nurses for their own children and the cost is nominal. It follows that education in home nursing directed more especially to women and girls is a feature of the nursing programme. (127-128)

No special disease clinics are organised, as this practice is considered to direct more attention to the diagnosed disease per se than to the individual suffering from the particular disease. Instead, individuals are seen by appointment for their health examinations or treatment of a complaint, and in addition special sessions are organised for various groups of the population, such as the expectant mother and her baby, the child of pre-school age, the school-age child, the adolescent and the adult. For the last category a special health centre has been developed, concerning itself with the worker in industry.

These special group sessions include curative and preventive care of individuals by the doctor and nurse and also provide the opportunity for the health educator to organise group education. In this way treatment of the sick and prevention of disease take place within the framework of a programme of health education which aims to promote the health of the group.

The health centre team has developed a number of associations with other agencies that have an important contribution to make to the health of the community being served. When specialist opinion or treatment is required, the patient is either referred to a hospital or seen by

the specialist at the health centre. Close liaison is maintained with the local authority, more especially its Health, Native Affairs and Housing Departments, allowing for action in respect of persons with communicable disease, as well as in the field of housing, sanitation and other matters concerned with the welfare of an individual, family, or the community as a whole.

Social Welfare agencies concerned with such problems as maintenance and disability grants, poor relief, and special voluntary organisations are most important contacts of the health centres. They represent as important a consultation service as do hospitals and specialist medical services. Through their various assistance schemes they facilitate the treatment and rehabilitation of the individual patient and, to some extent, the prevention of illness.

The Community Centre.

One of the outstanding developments in the short history of the Institute's health centre service has been the establishment of community centres. These community centres have been formed in the various neighbourhoods served by the health centres.

It will be appreciated that the health centre service functions within the Union Health Department and as such does not have executive authority to carry out a programme of social services which fall within the scope of other State departments or voluntary agencies.

The development of a feeling of community interest is an essential prerequisite to the growth of a neighbourhood self-help project for better health. This community of interest may manifest itself in the establishment of various types of clubs including sporting and study groups, nursery schools, benevolent societies for the assistance of the community and so on. Each of these represents an

important contribution to the health of the community, although not the executive responsibility of the health centre.

The absence of a neighbourhood sense of community has been a striking feature in several of the areas where these centres were established. Associated with this was the lack of such promotive organisations as those previously mentioned. Realising the importance of community action in health education the Institute stimulated the formation of community centres in the areas served by its health centres.

At Pholela, the community centre takes the form of a club which has catered for several of the varied interests of the community over the past seven years. It has organised concerts, tribal dancing, debating and literary societies, sporting activities, a women's society, and a bursary fund for school children from money raised in the community itself. It also sponsored a co-operative buying group, more especially for the purchase of agricultural equipment and seeds for vegetable gardening, as well as for material required to protect water supplies from springs. Local markets of the type originally developed by the late Dr. Lewis A. Hertslet, have been established for some years, allowing for the sale of home produce and other articles, thus encouraging production and more effective distribution of local products.

At Springfield, Durban, the David Landau Community Centre, serving the same Coloured, Indian and Native population as that served by the Health Centre, was inaugurated shortly after the establishment of the Health Centre. Like the Pholela Community Club, it was a direct result of the need for such a service being felt by the health centre staff. Its range of activities include special feeding

and clothing schemes for need groups, boys' and girls' clubs, literacy classes, vegetable co-operative clubs and library services. It frequently represents the needs of the people to various authorities and is becoming a means of expression for the different groups which constitute the communities it serves.

A similar community centre has been established in the Lamontville Native Village by the National War Memorial Health Foundation on the recommendation of the Institute. Here too, there is close liaison between the community centre and the health centre. Other growing community centres which have been stimulated by the health centre serving the community are the Clairwood Coloured People's Welfare Association and the Merebank Indian Community Centre where similar programmes to those at Pholela, Springfield and Lamontville are being initiated.

Special mention should be made of the community centre which has been developed by the European community of Woodlands in association with the staff of the health centre serving this community. Here, the need for such a project was first felt by the community following the health centre's programme directed towards child health. Discussion with mothers following the attendance of their children at the Institute's pre-school diagnostic centre led them to appreciate the need for a community project concerned with the welfare of their children. They held a number of initial discussions and finally decided they would form a community centre, the initial programme of which would be the building of a nursery school. The men of the community became interested and they volunteered to build this school themselves in their leisure time. This nursery school, built by the people and maintained through community funds, caters for almost a third of the two to

six year old population at any one time. It has been an outstanding example of self-help on the part of a community motivated by the neighbourhood health centre. Its effects have gone beyond that of the nursery school itself for by this joint effort, a sense of neighbourhood community feeling has developed.

This initial project has been followed by the formation of a library in the neighbourhood as well as a boys' and girls' club. Health education discussion groups are attended by a number of the women of this community. Not only are they concerned with the personal health problems of their husbands and children, but they have extended their interests to the health of their Native servants. At their request the health centre has provided a trained Native Health Assistant to meet with groups of servants in the neighbourhood. These meetings are organised by the women who facilitate the attendance of their domestic servants.

Perhaps the most significant feature of the development is that the Institute has succeeded in stimulating these various communities to an appreciation of their own potentiality for a happier and more wholesome way of life. Within such a setting promotion of health, prevention of disease and treatment of the sick eventually become a community responsibility felt as such by the individuals comprising the community.

<u>General Considerations.</u>

In considering the implications of this recent venture in providing health and medical care, it is perhaps advisable to review the services provided by Medicine at present. These services are divided administratively into two broad spheres - curative medicine and public health administration.

Curative medicine is concerned predominantly with

patients, that is with persons who are sick. Public Health administration, on the other hand, has as its main aim the prevention of disease. It is often involved in care of the sick and general measures promotive of well being, where either of these have a direct bearing on the prevention of disease. The practitioner of curative medicine is always concerned with an individual person and has thereby established a highly personal service. A relationship which has become known as the patient-doctor relationship is an outstanding feature of this service. On it depends much of the success in diagnosis and treatment of the individual patient. The public health practitioner is not necessarily involved in an intimate personal relationship of this kind. In certain situations his duties are of a nature which preclude such an intimate relationship with an individual patient. Such situations are provided by his executive and advisory functions in connection with government measures which seek to prevent disease by the introduction of public health laws.

Increasing knowledge and the complexity of modern society have been accompanied by an increasing degree of specialisation of personnel and the institutions within which they function. In both curative medicine and public health administration this is manifest in their sub-division into further special forms of practice.

The organisation of both the modern hospital and public health department is a direct result of the progress of specialisation and each is to be seen as a mosaic structure of special sections. These special sections become the growing points for still further segmentation. With the extension of this process of segmentation in both fields there has occurred an increasing number of points of convergence between them.

In few aspects does this convergence appear more evident than in that concerned with the health of the mother and her baby. Specialists in diseases of women and of children, on the one hand, and maternal and child health officers on the other, provide much the same service in certain respects and use much the same skills in their care of the expectant and nursing mother, and the young child. Their points of contact have not yet reached the stage where there is no longer any distinguishing feature between the two groups. While the pediatrician performs the same preventive service for his clients as does the health officer, he proceeds further and cares for the child who is sick. Perpetuation of the division between curative and preventive personal services becomes increasingly difficult in such circumstances and can only result in the arbitrary division of the unity that is the individual person.

Early in the development of modern public health practice it was hoped, and expected, that the advances which were taking place would influence the training of the future medical practitioner. It was realised by the Royal Sanitary Commission (1869-71) of England that special qualifications would be required of an officer of Health, but it "might be assumed that, within moderate time, improvements in medical education would supercede the necessity for special enquiry whether a legally qualified medical practitioner had learnt preventive, as well as curative, medicine; for this degree of completeness of education would surely in future be assumable of all persons registered as qualified practitioners."[x] It is needless to add that the history of medical teaching of the past 80 years has not justified the hopes of these pioneers.

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[x] Sir John Simon: English Sanitary Institutions (1890) p.335. Published by Cassel and Co., Ltd., London.

The influence which the process of specialisation in both curative and preventive services has had on the training and function of the general practitioner has been profound. In considering future developments in medical practice it is necessary to distinguish between certain aspects of the functions of the doctor, more especially that aspect concerned with general practice and that of the family physician. Specialisation has provided for improved diagnosis and medical treatment of an ever increasing number of diseases. As such it has rightly superseded general practice in these fields and should continue to do so. The day of general practice in the old meaning of the term is passing. Realisation of this fact might have a most stimulating and challenging effect on the future of medicine, more especially in the training of future doctors and in the organisation of services to the community.

The attributes which the doctor had as a family physician have not as yet been adequately replaced by any specialty. The advances in knowledge of preventive medicine and health promotion might possibly have added to the functions of the old time general family doctor. This was, however, not to be. Instead, public health departments, initially concerned with improving environmental sanitation, expanded their programmes to include direct personal services of a preventive and educational nature, including the management of minor ailments. Thus, instead of the family doctor being trained to carry out an efficient maternal and child health service to his families this became a function of public health departments. In this way he was not included in this fundamental advance in family health and medical care.

It would seem that the time is ripe for a revitali-

sation of certain outstanding features of the practice of the general practitioner. Most important of these is the function of a community family physician. The fulfilment of this particular function demands a re-orientation in training and organisation of services. In the same way as the various specialties already established have improved upon particular facets of work of the general practitioner, so too a family physician of the future would more adequately meet the need for family health and medical care.

The provision of a health and medical care service to the individual in his family and community is not, and cannot be, carried out within the confines of the modern hospital; nor can it be adequately taught in an environment that does not provide the student with experience in the diagnostic and management problems involved in such care. There are definite signs that this fact is being appreciated by an increasing number of institutions. Teaching in the social and environmental aspects of disease, short periods of apprenticeship to general practitioners and public health departments, and the establishment of Institutes of Social Medicine, are among the more important of these signs in countries like Britain and the United States of America. More important, however, is the need for an integrated community service of the kind that has been discussed in this chapter. The development of such services as an integral part of University teaching, will eventually provide the facilities required for the special training of the various students who will constitute the team for such services.

The health centre service which has been described is an experiment in this direction. The orientation towards the unity of the individual-in-environment has led to an

integrated personal promotive, preventive and curative health service, seeking the assistance of various other specialised agencies wherever necessary. The dynamics of family and community life are expressed in the health and adjustment of the individual, and as such must be understood by the team providing such a health service. The training of the family physician, the home and family nurse, and the community health educator, must take cognisance of the major contribution which Nutrition and Psychology, as well as Education, Social Anthropology and Sociology, can today make to such understanding. The integration of these disciplines within the framework of the present curriculum for the training of medical practitioners and nurses is a challenge to medical education, both of the present and of the future.

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THE PHOLELA HEALTH CENTRE

A PROGRESS REPORT

SIDNEY L. KARK, M.B., B.CH.
Institute of Family and Community Health, Durban
and
JOHN CASSEL, B.SC., M.B., B.CH.
Pholela Health Centre, Bulwer, Natal

The origin and early development of this Centre, which was the first Health Centre to be established by the Union Health Department, has been described by Gear,[3] by Kark and Kark[4] and by Kark.[5, 7, 9] Following the Report of the National Health Services Commission in 1944, the government decided to establish Health Centres in various parts of South Africa. Pholela was considered a useful pilot project in this new service. Medical Officers and other staff appointed to the various newly created Health Centres were first sent to Pholela to gain experience in Health Centre practice and to study the methods evolved there. At the same time it was realized that Pholela could not remain the only teaching and investigation base in a service to be provided for various types of community in South Africa. As a result the Pholela Centre became the rural section of an Institute of Family and Community Health which was established with headquarters in Durban.[1,2,9] Established in April 1940, it is the oldest section of the Institute. After 11 years of work a further report of progress will be of interest.

THE NATURE AND EXTENT OF THE SERVICE

The essential features which have developed include care of the sick and prevention of illness by the doctor and nurse, associated with a programme of health education carried out by specially trained 'health assistants' acting under the direction of the doctor. The result has been a very closely integrated curative, preventive and promotive health service in which there is an ever increasing appreciation of the community's health needs and an understanding of the various families served. During the past year the Centre has been fortunate in having a dentist on the staff; the preventive and curative service has thus been expanded to include this most important aspect of health care.

The Health Centre's practice consists of a general service and a more defined family health and medical care programme.

1. *The General Service.* This is available to all who wish to use it regardless of their domicile. It includes out-patient treatment of the sick and special sessions for the care of the expectant mother and the mother with her baby. However, many patients who come to the Health Centre from neighbouring magisterial districts are encouraged to see the district surgeons and other medical practitioners in their immediate neighbourhood.

In addition, Health Centre staff are often asked to assist in the control of outbreaks of epidemic diseases in neighbouring districts.

2. *The Family Health and Medical Care Programme.* This relatively intensive service was started in 1942, including 130 families with a total population of a little less than 900 persons. By gradually extending the area of this service the Centre now provides a family health and medical care programme for a population of some 8,500 people in the district of Pholela.

THE RESPONSIBILITIES OF THE VARIOUS MEMBERS OF THE STAFF

1. *The Medical Officers.* Each doctor on the staff is responsible for between 400 and 500 families living in a defined area. Thus each doctor, in addition to the general out-patient service, is responsible for between 2,500 to 3,500 people included in the programme. His functions in respect of these families include:

(a) The treatment of the sick at the Health Centre and, where necessary, in their own homes.
(b) Preventive services, of which the foundation is the periodic health examination.
(c) The direction of the nursing service and health education programme that is carried out by the nurses and health assistants working with their families.

2. *The Nurse.* Like the doctors, each nurse is con-

cerned with both curative and preventive aspects of nursing in the families she serves. The main orientation of the preventive nursing service is towards the care of the expectant mother, midwifery, and the care of the mother and her baby. Special sessions for expectant mothers and mothers with their babies are organized at the Health Centre and at suitably located homes in the district.

3. *Health Assistants.* Their main function is health education. By means of home visiting, group discussion and practical demonstration, an intensive educational programme for better health is carried out. The major aim is to stimulate the people so to modify their own way of life as to lead to better standards of health. This persistent personal health education of men, women and children is directed towards the following objects:

(a) Reduction of the high incidence of preventable communicable diseases by explaining the nature of these diseases and their spread. Improvement in the home and its environs, more especially in respect of the sanitary disposal of refuse by the making of compost, the construction and use of pit latrines, the protection of food stored in the home, the protection of water supplies and improvements in the structure of the huts built by the people. This programme of improved environmental hygiene is associated with one directed towards raising the standards of personal hygiene.

(b) Improvement in the state of nutrition through improvement in the diet. This involves increased knowledge in regard to the relationship between diet and health in general as well as in regard to the special needs of different age groups and the expectant and nursing mother.

(c) An appreciation of the value of periodic health examinations and the need for treatment of disease in its early stages. This requires fundamental education as to the meaning of health and the nature of various diseases. The people's own concepts have to be carefully studied in a programme of this kind and their own experience related to the various aspects of health and disease which are discussed.

While the health education programme is presented in simple form, it requires considerable skill and patience and to this end the specially trained health assistants are directed by the medical officers in charge of the Health Centre practice.

In this way a clinical and preventive service provided by family doctors and nurses is integrated with a promotive service carried out by health assistants trained as community health educators. More specialized services (provided by the dentist, and special laboratory diagnostic facilities) considerably enhance the scope of work of the Health Centre.

During the course of a year the Health Centre has some 26,000 attendances for curative and preventive care; in addition some 14,000 home visits are carried out.

SOME IMPORTANT FEATURES OF THE SERVICE

The very common occurrence of various communicable diseases and the extent of chronic malnutrition, associated with frequent episodes of acute nutritional failure, inevitably resulted in considerable attention to these problems in the Centre's programme. Maladjusted and unhappy relationships with emotional tension and neurotic conflicts are major features of the various illnesses believed to be due to witchcraft. Clinical practice and health education require an understanding of these processes if the needs of the people are to be met by the Health Centre.

1. *The Control of Communicable Diseases.* Preventable communicable diseases are among the most important causes of ill health and death in the Pholela community. Among the more common diseases are syphilis and tuberculosis, typhoid fever and dysentery, typhus fever, smallpox, diphtheria, measles, whooping cough, and skin infections, viz. scabies and impetigo contagiosa.

(a) *Epidemics.* Serious epidemics of typhoid, typhus, smallpox and diphtheria are by no means uncommon, and the Health Centre has assisted in the control of outbreaks of these diseases in the neighbouring areas of Himeville, Richmond, Ixopo, Impendhle and the Swartkops Native Reserve area of the Pietermaritzburg district.

In the early days of its existence (before the creation of a family health and medical care programme) several major epidemics occurred in the immediate vicinity of the Health Centre. The development of a family health and medical care service to the people living in a defined area has had interesting results in this regard. As previously stated, the defined area which was begun in 1942 with less than 1,000 people has steadily expanded to a very much wider area in which some 8,500 people are now included.

Since the introduction of this combined preventive and curative service no epidemic of various major communicable diseases, such as typhoid and typhus fever, smallpox and diphtheria, has occurred in the expanding defined area. On the other hand, the Health Centre has been called upon on an average 3-4 times each year to assist in the control of such epidemics in areas as far as 50-60 miles away from the Centre itself.

In order to keep this defined area free of outbreaks of these diseases, the people are given instruction about these diseases, and methods of their prevention. Strenuous efforts on the part of the health assistants to interest the families in improved home and environmental cleanliness and in personal cleanliness have met with a good deal of success over the years. Over 150 families now have compost pits in which their household refuse is deposited, and some 100 to 120 families have co-operated in buying material to protect their water supplies. The labour for this purpose is provided by the people themselves; the Health Centre, having stimulated the desire, then provides the necessary technical advice. In this way also a number of pit latrines have been built and improved methods of food storage introduced. The progress is slow but each year the momentum increases.

People are encouraged to be vaccinated and immunized as part of their routine care by the Centre, and all huts are regularly dusted with DDT powder to kill lice. For the last few years this routine dusting has been carried out by the families themselves.

The efficacy of this programme is indicated by the frequency with which families served by the Health Centre have been exposed to infection without a local epidemic resulting. Patients suffering from typhus, typhoid fever or diphtheria have come to live in homes in this area, in order to get treatment from the Health Centre. In no case has there been any spread of the disease. The health assistant has not only proved a most useful health educator but, by his knowledge of the community, has been able to report on the arrival of a sick person to a

particular home. This has led to early recognition of such cases by the medical officers and medical aids, with consequent early treatment and preventive measures.

(b) *Scabies and Impetigo.* When the Health Centre first commenced work, scabies and impetigo, while seldom causes of death, were major causes of ill health in this community. A minority of homes were without one or both of these diseases, and in infants and children the condition was often generalized and very severe. Records for 1942 show that 17 per cent of patients attending the Health Centre were grossly infected, while 82 per cent of school children examined had either scabies or impetigo.

Initially attempts were made to control this disease by treating all the school children. After a year of intensive effort the results were not satisfactory, as most of children became re-infected at home. Home treatment, both curative and preventive, was then instituted. This involved education on the role of personal cleanliness in the prevention of the disease, and persuasion of the whole family of an infected case to undergo treatment.

As a result of this programme carried out over the years, only 3.6 per cent of patients attending the Centre in 1950 were found to be infected (the infection usually being of a mild nature) and 7.8 per cent of school children examined had either scabies or impetigo. Severe generalized scabies with superimposed impetigo is now not seen in school children and babies of this area.

(c) *Syphilis.* It is difficult to give an exact figure for the incidence of syphilis in this community, as most male migrant labourers do not attend the Centre on their brief visits home from town. The Health Centre figures indicating an incidence of between 85 and 100 cases per 1,000 population are probably an understatement of the true state of affairs.

Because of the common occurrence of the disease in the community, and more especially its very high incidence in expectant mothers and babies,[8] attempts to raise the standard of health of the people have included an intensive educational programme related to the early treatment and prevention of syphilis.

Early diagnosis of infection and case finding is an essential part of this programme, and the Wassermann test is routine in all health examinations. Of more importance in the control of the disease is the extent to which infected persons and their immediate contacts appreciate the need for full and adequate treatment. To achieve this, doctors and nurses spend much time explaining the nature of the disease and the need for treatment to individual patients. At the same time a community health education programme is carried out, in which the spread of the disease, its effects on the child, and its natural history are discussed. This education has always to take into consideration prevailing concepts of the people in regard to the disease and the relationship of these concepts to culturally accepted theories on etiology and methods of spread of illness. Where such thought processes are in direct conflict with the ideas of modern scientific medicine, and are likely to impede efforts to control the spread of the disease, great patience and tact has to be exercised by the educator in an effort to bring such concepts more into line with modern ideas. The programme is likely to be more successful when commonly accepted attitudes towards illness and specific concepts concerning the particular disease are intimately understood.

In this way a more enlightened public opinion is being developed so that not only is an increasing use being made of the health examination service offered, but patients diagnosed as having syphilis also co-operate very well in the necessary treatment. Here it is important to mention a feature of the family service. There are no special disease clinics, with the result that patients who have syphilis are not segregated at special sessions. They attend the Health Centre with others and the treatment of these syphilitics is included as part of a programme directed towards improving their health. The health education of the community by health assistants associated with that of the individual case by the doctor and nurse, can be seen in the very good response of patients to the treatment advised.

The treatment for cases of congenital, primary and secondary syphilis, as well as for syphilis in expectant mothers, has been for an initial course of Penicillin (6,000,000 units, consisting of 600,000 units daily of Procaine Penicillin with Aluminium Monostearate in oil), followed by arsenic and bismuth therapy (5 courses of 8 injections each, given weekly). The response of 55 patients advised to undergo this course of Penicillin treatment is shown in Table I.

TABLE I: RESPONSE OF PEOPLE TO PENICILLIN THERAPY

No. of Injections (600,000 *Units per day*)	*Males*		*Females*		*Total*	
	No.	%	*No.*	%	*No.*	%
10	11	61·1	25	67·6	36	65·5
9	1	5·6	3	8·1	4	7·3
8	—	—	3	8·1	3	5·5
7	—	—	—	—	—	—
6	—	—	—	—	—	—
5	2	11·1	2	5·4	4	7·3
4	1	5·6	2	5·4	3	5·5
3	1	5·6	—	—	1	1·8
2	2	11·1	1	2·7	3	5·5
1	—	—	1	2·7	1	1·8
0	—	—	—	—	—	—
Total	18	100·0	37	100·0	55	100·0

Thus 65% of the patients advised to have daily Penicillin injections, completed their course in spite of the long distances they had to walk over mountainous country, while a further 16% had 8 or more injections. Over 80% of these patients therefore received 4,800,000 units of Penicillin or more.

The attendances for the further arsenic and bismuth injections are, as might be expected, a good deal more irregular, but the majority of the patients received 16-24 injections of arsenic and bismuth following their Penicillin treatment.

Despite the continued re-introduction of active infection by migrant labourers on their return home, there has been a marked drop in the frequency with which new cases of syphilis are diagnosed. In 1945, 347 new cases of syphilis were diagnosed in persons who came from homes included in the family service, which at that time involved a defined area with a population of a little less than 6,000. By 1950, the defined area in which the family health and medical care programme was applied had expanded to include some 7,500 persons. Nevertheless, during the course of the year the number of new cases diagnosed was considerably less than that of 1945, viz. 176 new cases.

(d) *Tuberculosis.* Tuberculosis is a serious public health problem in this community. In a survey carried out in one section of the district, consisting of 150 homes, no fewer than 26 (17.3 per cent) were found in which there was, or had recently been, an active case of tuberculosis. The known case incidence in the defined family service area is 15.7 per 1,000 population. This figure is probably an understatement; in the absence of X-ray facilities at the Centre, the majority of cases are diagnosed by the finding of positive sputum or a positive tuberculin reaction in babies, supplemented by radiological findings in a limited number of cases. Furthermore in 1950, 10.6 per cent of the known causes of death were due to tuberculosis.

The Health Centre's programme in controlling the spread of the disease may best be discussed under 2 headings:

i. The care of the adult 'positive spitter'.
ii. The care of primary tuberculosis in infants and children.

i. *The Adult.* As soon as a diagnosis of active pulmonary tuberculosis is made, the patient and his family are met by the doctor and nurse concerned and the nature of the disease is discussed. This talk is aided by the use of the microscope and posters. Attempts are made to get agreement to hospitalization (either in Springfield Hospital, Durban, 100 miles away, or at a Mission hospital 40-50 miles away). If hospitalization is refused, as it often is, the patient and his family are then shown how isolation can best be maintained in the home. The sleeping arrangements, disposal of sputum and ventilation of the hut are discussed, and arrangements made for regular attendance at the Health Centre of all other members of the family. In addition, attempts are made to improve the diet of the patient and regular supplements of dried skim milk powder and vitaminized oil are made available. More recently PAS has been introduced in the treatment of suitable cases.

ii. *The Infant and Child.* The main approach consists of attempts to remove the child from the active source of infection and to improve his nutritional state.

The intimate knowledge that the Health Centre has of these families often facilitates the placement of such children with relatives away from the active source of infection. If the patient's condition warrants it, an initial period in hospital is advocated.

The family is then urged to take advantage of the Health Centre's nutrition programme to improve the dietary resources of the home. Regular attendance at the Centre ensures, among other things, regular therapeutic supplements of dried skim milk powder, vitaminized oil and vegetables from the Health Centre demonstration garden.

Integrated with this case work is the education of the total community, by the health assistants, of the nature of the disease, the methods of prevention and treatment in adults and in children. The role of good diet, fresh air and isolation of active spitters is particularly stressed.

In association with Dr. B. A. Dormer, of the Department's tuberculosis service, plans are being carried forward to establish a tuberculosis settlement at the Health Centre. This, together with the community health education programme, will reduce the tremendous resistance that exists at present towards hospitalization of patients so many miles away from home.

This resistance is influenced by the belief that the symptoms of cough with blood-stained sputum and loss of weight, result from poisoning by an ill-wisher and can be cured only by a witchdoctor (inyanga), while a diagnosis of 'tuberculosis' carries with it a death sentence. In addition to this widespread belief, the very poor nutritional state of the people facilitates the spread of the disease as does the inward flow of new cases returning from the towns.

It can therefore be appreciated that control of tuberculosis is at present dependent upon the nutritional state of the people being vastly improved, mainly through soil conservation (a national problem) the reduction of the numbers of migrant labourers (another national problem) the provision of adequate diagnostic and isolation facilities, and the education of the community about the nature of the disease and methods of prevention and treatment.

2. *The Nutrition Programme.* Adequate nutrition is never the concern of a health service only. In a community such as that of Pholela it is an agricultural and general economic problem as well as the concern of sociologists and health workers.

The Health Centre's programme is thus a contribution to what should be a broadly based community development plan, and it is in this light that the following description of the Health Centre's nutrition work must be read.

Clinical nutrition studies have revealed that over 80% of the population exhibits obvious and often gross stigmata of malnutrition. Dietary surveys have indicated that the diet is on the whole monotonous, often insufficient in amount and always lacking in milk and milk products, animal tissues, fresh vegetables and fruit. Even in the best

season of the year (late summer) from 50-65% of the families are without any cows in milk, while during the dry winter months approximately 90% of the families have no milk at all. In the early days of the Health Centre this resulted in the relatively frequent occurrences of such gross instances of nutritional failure as classical pellagra in adults and infantile pellagra (malignant malnutrition, kwashiorkor) in children.[4]

The Health Centre has concentrated on attempting to improve the knowledge of the people in the relationship of diet to health and to increase the home resources of the families. In addition, special programmes for the mother and infant and for children were developed.

(a) *The Family.* By home visits and group education people have gradually begun to realize the importance of diet in health. This teaching has been associated with attempts to encourage families to start their own home vegetable gardens, and to modify some of the food taboos.

Various methods have been used to increase the consumption of vegetables, e.g. the establishment of a demonstration vegetable garden at the Health Centre, from which vegetables are prescribed for patients; the establishment of a daily market (run by the people themselves aided by members of the Health Centre) at which surplus vegetables can be bought and sold; various cooking demonstrations using vegetables, and the creation of a very successful seed-buying co-operative society. In addition, periodic vegetable garden competitions have created a great deal of interest in gardens. In all these endeavours close co-operation with the Native Affairs Department through its local Agricultural Officer and Demonstrator has been maintained. In addition, once the desire for a vegetable garden has been awakened, full use is then made of the technical knowledge of the Agricultural Demonstrator. The results of this programme have been very encouraging.

In January and February 1941, of 145 homes surveyed, except for pumpkins (63 homes) and potatoes (45 homes) which were fairly common, only 5 homes had any green vegetables (beans and/or cabbage). In addition 5 homes had sugar cane, 4 had melons (*bece*) and 2 had sweet potatoes; 37 homes (25.5%) had no vegetables at all.

In the same months of 1950, of 917 homes surveyed 722 had vegetable gardens and more than 25 varieties of vegetables were being grown. These included potatoes (383 homes), pumpkin (341 homes), tomatoes (125 homes), beans (192 homes), cabbage (141 homes), carrots (97 homes), turnips (91 homes) as well as lettuce, peas, onions, cauliflower, spinach, beetroot, kale and many other varieties of vegetables.

(b) *The Mother and Infant.* Expectant and nursing mothers with their infants have been singled out by the Health Centre as the groups most in need of an improved diet. At the ante-natal sessions expectant mothers learn what particular foods are necessary for their own health and that of the unborn child. Special cooking demonstrations show them how to prepare these foods. When necessary, therapeutic supplements of dried skimmed milk powder, vitaminized oil, iodized salt and vegetables are prescribed. The attendances at these sessions have risen from a negligible number in 1942 to 90% of the pregnant women in the area in 1950.

Facilities are now available for women to be delivered at the Health Centre. They are encouraged to come and live in huts on the Health Centre property about a week before term, bringing with them an attendant, their own blankets and cooking utensils and their family if necessary. After being delivered they spend a further week at the Health Centre, and the period before and after delivery is utilized in further intensive education and demonstrations on the feeding and care of the mother and the new-born baby. Thereafter mothers are encouraged to bring their babies regularly to the weekly mother-and-baby sessions. Here they meet their own doctor and nurse again. The periodic health examination of mother and child is an intrinsic element of this essentially educational service. Demonstrations on infant feeding supplement the education given each case and, as 80% of all mothers with babies attend these sessions, the general pattern of infant feeding is changing markedly in this area. Fewer women are introducing mealies (in the form of *incumbe*) into the diet of the neonatal infant, as was the custom, and by the time babies are 8-12 months old most of them are on a more varied diet than was the case when the Health Centre began its work in the area. The most significant change has been the increased appreciation of the value of foods other than the mealie. Hence a variety of vegetables, eggs, milk (when available) and cereals other than mealies are now commonly used in infant feeding. Breast feeding remains the foundation on which these other foods are introduced.

While the nutritional state of these children is still not good, particularly after weaning, the Centre now attends to a very much more limited number of children in acute nutritional failure, such as infantile pellagra (kwashiorkor). The number of cases of this syndrome now seen by the Centre does not exceed 10-12 per year. In the early days of the Centre's establishment this number of cases might be seen in 1-2 weeks during the main season of occurrence.

Should expectant or lactating mothers or infants become ill, they are treated by the same doctor and nurse who have been attending them at the ante-natal and mother-and-baby sessions. The efficiency of this service has also been markedly increased by the recent authority to admit a limited number of ill babies to huts on the Health Centre property, as is done for pregnant women at term.

As far as the pre-school and school children are concerned, the Health Centre has developed various approaches to improvement of their nutritional state. Supplementing the family health education programme are special sessions at the Health Centre for children of pre-school age when they are introduced to various foods through play and specially prepared meals. The Health Centre staff is also associated with the government school meal plan. A special committee, consisting of the head teachers of several schools and the medical officer in charge of the Health Centre, organizes a combined school meal service for these schools. Not only has it been possible to improve the diet of the school children in this way, but the meal and the school vegetable gardens have also proved important as educational situations in which the children learn the value of various foods.

Periodic health examinations of the children has allowed for further discussion with the children and their parents about their needs for better nutrition and growth. Analysis of the material from such studies has also formed the

basis of various community nutrition surveys and the health education programme based on these findings.

3. *The Changing Mortality Rates.* The encouraging response of the people to the Health Centre's nutrition programme and the results of its efforts to control communicable diseases (discussed above) would be expected to influence the mortality rate of the community involved.

One of the difficulties in assessing the mortality rates in Pholela is the lack of comparable findings in other Native Reserves of the country. The maintenance of an accurate census of each family served by the Centre, with a system of birth and death registration, has enabled the Centre to measure various changes in the community, not the least important of which is that of mortality. We have previously referred to the way in which the family service was expanded from the time it was first introduced. It is necessary to refer to this expansion in more detail.

The family service which began in 1942, included an area in which there were 130 homes with a population of 887. After a year the defined family service area was expanded to include an additional 5 groups of geographically defined homes, making a total of 425 homes and 2,937 people. Of this number, 909 were people living in the area first incorporated, the remaining 2,028 people belonging to the new homes. In the years that followed the area of service was expanded in a similar way, although with each succeeding year the relative number of newly incorporated homes decreased. These facts are important when considering the changing mortality rates because the indices of the newly incorporated areas are likely to affect adversely the total picture. Table II indicates the mortality rate for the population included in the defined family service area in the years 1942-1950. The very high mortality rate found in the small group of families in the year 1942 may possibly be a true reflection of the state of affairs in the Pholela area at the time, but this cannot be assumed from this limited population study. In fact, it appears that the year 1942 was a particularly bad one in this particular neighbourhood. In the following year the death rate in this group was 20.9, whereas that of the additional 2,028 people included in the family service in 1943 was very little different, namely 21.7.

TABLE II: THE CRUDE MORTALITY RATE (1942-1950)

Year Ending	*Mid-year Population in Family Service Area*	*Deaths Recorded*	*Crude Mortality Rate per 1,000 Population*
31 December 1942	887	34	38·33
31 December 1943	2,937	63	21·45
31 December 1944	5,184	116	22·38
31 December 1945	5,926	168	28·35
31 December 1946	5,919	126	21·29
30 June 1948 ..	6,524	140	21·46
30 June 1949 ..	6,622	127	19·18
30 June 1950 ..	7,481	102	13·63

The relatively static period in the mortality rate between the years 1943 to 1948 requires further discussion. Apart from the year 1945, in which the rate reached the figure of 28.35, the widest difference was that between 21.29 (1946) and 22.38 (1944). The factors which might explain this period of little change include the rapid expansion of the family service in the earlier years. In 1943, the area was expanded to include more than 3 times the number of 1942; by 1945 it was almost 7 times the size of the initial group of families, and more than double that of 1943. After 1945 the additional number of people included each year was very limited, the total increase being from 5,926 in 1945 to 7,481 in 1950. Improvements which were taking place in the community were thus probably masked in the earlier period by the large increase in the size of the population, which was included in the family health and medical care programme. This is evidenced by the figures available for the group of families included in the first year of the family service. During the years 1942-1946 the death-rate figures were as follows: —

1942	38.33
1943	20.90
1944	18.07
1945	15.55
1946	13.11

Of importance in this respect is the same encouraging trend in mortality reduction that has become manifest for the very much larger community of 7,481, included in the family service area by 1950.

Infant Mortality. One of the most important influences on the reduction in the general mortality has been that of a marked diminution in the infant mortality rate (Table III). In considering the findings presented in this Table it is of importance to remember that figures for each year include the new areas added in that particular year. In the absence of a defined control area of measurement these added areas assist in 2 important assessments which are required. The first is that of a measure of the extent to which the reduction in the infant mortality can be ascribed to the presence of the Health Centre. The second, and perhaps more important assessment required, is whether the particular kind of programme carried out by the Health Centre has made a contribution.

In Table IV we have analysed the records of 5 areas during the first year in which the particular group of families was incorporated in the family service. These records were available for the years 1942-1944 and 1950-1951. The differences in the infant mortality rate between each of these 'new' areas is not significant. Testing this further by combining the findings in the added areas of 1942-1944 inclusive and comparing them with those of 1950 and 1951 combined, the difference found is not significant. It may well be that this is due to the limited population and hence the limited number of births with which the infant mortality index is measured.

Comparison of Infant Mortality in 'New' Areas with those Incorporated in the Service for Longer Periods (i.e. 'Old' Areas). Comparison between Tables III and IV indicates that 'new' area infant mortality rates are con-

TABLE III: THE INFANT MORTALITY RATE (1942-1950)

Year Ending	*No. of Live Births Recorded*	*No. of Deaths of Infants Under 1 Year of Age*	*Infant Mortality Rate %*	*No. of Deaths in Neonatal Infants*	*Neonatal Mortality Rate %*
31 December 1942 ..	40	11	27·50	3	7·50
31 December 1943 ..	110	27	24·55	10	9·09
31 December 1944 ..	194	37	19·07	10	5·16
31 December 1945 ..	232	49	21·12	13	5·60
31 December 1946 ..	258	40	15·50	15	5·81
30 June 1948	275	36	13·09	13	4·73
30 June 1949	296	38	12·83	11	4·04
30 June 1950	269	31	11·52	11	4·09
30 June 1951	368	37	10·06	15	4·08

TABLE IV: INFANT MORTALITY FOUND DURING FIRST YEAR IN WHICH PARTICULAR GROUP OF FAMILIES INCORPORATED IN FAMILY SERVICE

	Number of Live Births	*Number of Infant Deaths*	*Infant Mortality %*	*Comparison of 'New' Areas included in First 3 Years with those of Last 2 Years*	
				Infant Mortality %	*Difference* / *S.E. of Difference*
New Area 1942	40	11	27·50	25·63	
New Area 1943	81	23	28·40		
New Area 1944	78	17	21·79		6·76
New Area 1950	19	4	21·05	18·87	6·20
New Area 1951	34	6	17·65		Not significant
Total of 5 Groups of Families during their First Year in Family Service	252	61	24·20		

sistently higher than those for the total family service area in each year. Comparing the total infant mortality in the 'new' areas with those in the 'older' areas in the same 5 periods, we find that there were 61 deaths in infants 0-12 months of a total 252 live births in the 5 'new' groups. The corresponding figures for the 'old' areas were 82 infant deaths of 729 live births. Table V indicates the infant mortality of each group, the difference being significant:

TABLE V

	'New' Families	*'Old' Families*
Infant Mortality (expressed as a Percentage of Live Births)	24·20 (S.E.2.70)	11·25 (S.E.1.17)

Difference Between 'Old' and 'New':	12·95%
S.E. of Difference:	2·94
$\frac{\text{Difference}}{\text{S.E. of Difference}}$:	4·40

The superiority of the 'old' areas which is demonstrated here was already becoming apparent in the early years, as is evidenced in Table VI:—

TABLE VI

	1942-44 *'New' Families*	1943-44 *'Old' Families*
Number of Live Births ..	199	145
Number of Infant Deaths ..	51	24
Infant Mortality (Expressed as a Percentage of Live Births)	25·63 (S.E.3·09)	16·55 (S.E.3·08)

Difference Between 'Old' and 'New':	9·08%
S.E. of Difference:	4·37
$\frac{\text{Difference}}{\text{S.E. of Difference}}$:	2·08

It seems likely that the reduction in infant mortality noted in Table III is related to the existence of the Health Centre.

The second question posed above, whether the particular kind of programme carried out by the Health Centre has influenced this trend, is also partly answered by this analysis. In discussing this question it is necessary to review the differences between the service provided to those persons included in the defined family service area and that which is available for those not yet included in the family service.

The essential difference is that which exists between the neighbourhood family health and medical care programme on the one hand, with that which may best be called a polyclinic service. Table VII is a summary of the main similarities and difference between these 2 kinds of service provided by the Health Centre.

It is thus seen that all services at the Centre itself are available to those in the family service as well as to others not included. The main difference between the service received by the patients is not to be found in specific technical aspects of diagnosis and therapy. It is essentially in the nature of the relationship which exists between doctor and nurse on the one hand, and the patient on the other. The family doctor and nurse have a very much keener appreciation of the needs of individual patients from homes included in their family health and medical care programme, than of those whose families are otherwise unknown to them. The patient, too, develops a different relationship with a family doctor or nurse from that with one who is not so favourably situated, e.g. doctors and nurses in hospital outpatient departments, polyclinics, and general practitioners other than those who are at the same time family doctors. It is this feature that distinguishes the care given to the 2 groups of patients at the Health Centre itself.

The outstanding difference between the 2 groups in respect of the services provided in their homes or in the immediate neighbourhood of their homes is that which has been referred to as health education in the above summary. This programme, carried out by specially trained personnel, is an integral part of the neighbourhood family service and is not provided for other areas, except in exceptional circumstances, e.g. when the Health Centre is asked to assist in the control of an epidemic. Another, but very much more recent difference, is that of the neighbourhood sessions for the care of the mother and baby conducted by nurses. These sessions are at present held in homes within the family service areas, although mothers not living in these areas are welcome to attend and have done so.

In the light of this brief review we can now discuss the findings of Table IV and our analysis of difference in infant mortality between 'new' and 'old' families. Since 1940 all the families considered in this analysis have had free access to all facilities of the service which have

TABLE VII

	'Neighbourhood' Family Service	*'Polyclinic' Service*
1. Facilities Available at the Health Centre Itself—		
General Curative Service	+	+
Antenatal, Midwifery, Postnatal, Infant care	+	+
Immunization and Vaccination — Smallpox, Enteric, Diphtheria, Whooping Cough	+	+
Periodic Health Examination of Persons Other Than Mother and Baby	–	+ (limited number of School Children)
General Health Education of Those Attending Centre for Health or Medical Care	+	+
2. In the Home and Neighbourhood—		
General Curative Service	–	+ (limited to emergencies and epidemic control)
Control of Epidemic Diseases Outbreaks	+ (outbreaks of severe epidemic diseases are very rare)	–
Health Education in the Home and in Neighbourhood Group Discussion. (Carried Out by Health Assistants Trained as Health Educators)	+	–
Neighbourhood Sub-Centres for Mother and Infant Care. (Carried Out by Nurses Who Have Had Additional Training in Family Nursing)	+ (since 1950)	+ (see Text)

been gradually developed at the Centre itself. After incorporation in the scope of the family service they have continued using these facilities, but a change has taken place in their own homes. This change is due to the health education programme carried out by health assistants. By this programme the emphasis of the service is modified from what is done for patients to what the family or community does for itself, assisted by the Health Centre staff. The interest of the community has been developed slowly with the result that an increasing number of families is participating actively in improving standards of health. This is a distinctive feature of the family service.

DISCUSSION

While the progress towards better health which has been achieved by the people in association with the Health Centre's programme has been most encouraging, there are aspects of life in Pholela which militate against the attainment of health. These include important adverse influences on which the Health Centre service in itself has little effect. Among the most significant is the accelerated soil erosion which is obvious to the most unskilled observer, and the system of migrant labour whereby a very large proportion of able-bodied men spend a large part of their lives working in the towns while their homes remain in Pholela. The effects of these 2 related phenomena have been studied in some detail, more especially in their relation to the health of the community. It is not proposed to present the details of these findings in the present discussion but it is necessary to indicate the more immediate results.

Soil erosion and migrant labour have resulted in:—

(a) Failure to produce sufficient food for the needs of the community, with evidence of gross malnutrition in plant and animal life as well as in the people.

(b) An instability in family life and maladjustment in family relationships, associated with a high incidence of emotional disturbances in which witchcraft has a significant role in this community.

(c) The continuous introduction of fresh foci of infection by those returning from work in the towns. A high incidence of tuberculosis and syphilis is maintained by this process.

Malnutrition, maladjustment and diseases like tuberculosis and syphilis, are features in the vast majority of patients who seek medical care at the Health Centre. By means of its clinical and health education programme the Centre has been able to make a significant contribution to improved family health. However, the fact that these diseases are so closely related to soil erosion and migrant labour indicates the need for a broader programme of development. A family health and medical care service of the kind described in this progress report should be a feature of this development plan, functioning in close liaison with other services concerned with the general welfare of the community. It would seem that the effective liaison of such a health service with services concerned with agricultural improvements, soil conservation, industry and education offers an opportunity for improving the health of the people, for increasing the productivity of the area and at the same time conserving the soil for future generations.

SUMMARY

1. A progress report of the Pholela Health Centre has been presented, including a further review of the aims, methods and extent of the service which has been developed.

2. This Health Centre has now been incorporated as the rural ('Native Reserve') project of the Institute of Family and Community Health established by the Union Health Department in December 1945.

3. A team of family doctors and a dentist, functioning together with family nurses and specially trained health educators, provides a combined curative and preventive service within the framework of a neighbourhood family health and medical care programme.

4. The team is assisted by the provision of clinical laboratory side-room and health-recording facilities, for which special personnel have been trained.

5. This type of 'general practice' is discussed in relation to some of the more important needs of the community, and the results achieved during the past 10 years. Among the more important changes noted are:—

(a) The increasing interest and active co-operation of the people in the project, demonstrated by improvements effected in their own homes.

(b) The marked reduction in the occurrence of cases of gross nutritional failure, e.g. pellagra and kwashiorkor, associated with changing dietary habits more especially in the feeding of infants.

(c) The absence of any epidemic of typhoid fever, typhus fever, smallpox and diphtheria, in the area over the last 8 years in spite of repeated outbreaks of these diseases in the surrounding areas and the occasional introduction of single cases of these diseases from town or other affected areas.

(d) A steady decrease in crude mortality and infant mortality rates, the significance of which is discussed in some detail.

6. Reference is made to some of the more important adverse influences on the health of the community, e.g. soil erosion and migrant labour. The need for a broad development plan and the relationship of the Health Centre service to this plan is mentioned.

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