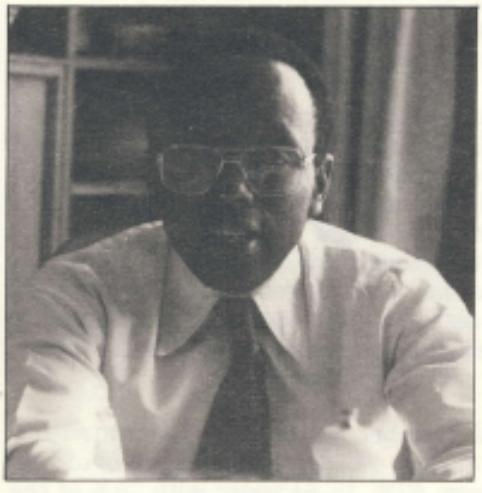
Priority health problems in a rural community

— E M Mankazana



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Curriculum vitae

Mxolisi Mankazana graduated from the University of Natal. After a spell at the Charles Johnson Memorial Hospital at Nqutu, he set up general practice at Flagstaff in Transkei where he worked for several years. He has been in London since 1976. He studied for the DTPH at the School of Hygiene and Tropical Medicine of the University of London. Subsequently he has served in the St George's Hospital, Community Health Services as Community Physician in Child Health for the Borough of Wandsworth.

Summary

A descriptive account of the occurrence of illnesses/diseases in a rural community derived from routinely collected data in general practice, is presented. It is shown that the young, 0 to 14 year olds, bear the major burden of communicable diseases in this community. The seasonal variation in the occurrence of these diseases (measles, pertussis, diarrhoeal diseases, respiratory infections, sexually transmitted diseases) is also revealed, as well as the temporal trends between 1970–1976. The preventive implications are highlighted.

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KEYWORDS: Disease patterns; Rural Health; Family Practice; Seasons; Preventive medicine

The availability of reliable morbidity data concerning *all* the South African peoples, is a pressing need to enable more effective prevention and treatment of those illnesses and diseases which constitute an appreciable burden on the communities concerned. It is highly commendable that specialists in Community Health, epidemiologists and others have responded to this need with analyses of nationally collected data[1, 2, 3, 4, 5] and formal surveys to establish what the disease patterns are[6, 7, 8, 9, 10, 11].

By and large, morbidity data on rural communities is not as readily available as that of its urban counterparts, to say nothing about reliability. The situation is even worse for Black communities[12]. Morbidity data available for rural communities is mainly hospital collected data and by its nature is highly selective and not very representative of the community it serves. Health care research has shown that, barring the influence of financial constraints to utilisation of health services, about 6 times more patients with more varied diseases consult general practitioners compared to the hospital[13]. The rural surveys[9, 10] were done over a 2-3 week period and aimed at being representative of a whole region or country. Consequently no information could be derived from such data about the seasonality[11] and temporal trends of the diseases/illnesses in these communities.

This paper aims to present information on the morbidity of a rural community using data routinely collected in general practice. It hopes, also, to demonstrate the seasonal variation and temporal trends (1970–1976) of the commonly occurring conditions in a defined population, and to draw some implications about prevention.

Setting the scene

A rural practice in Flagstaff, Transkei will be used as a case study to address the above aims. The Flagstaff magisterial district is in the Eastern Pondoland sector of the Transkei, about 82 km from Kokstad, 90 km from the popular sea-side town of Port St Johns. The nearest hospital to the Flagstaff village where the surgery was located, is Holycross Hospital which is easily accessible by road, 19 km away. Most of the iilali (locations) in this district are accessible by road giving patients reasonable access to the health care provided by a solo practice (EMM). The general practitioner also held clinics in some of the iilali to improve physical access to the health care provided. Some patients came on horse-back, some on foot and others were carried on sledges. Medical fees were the predominant constraint in seeking medical treatment. The doctor also worked as a part-time district surgeon whose job description included the monitoring and the control of communicable diseases within the district. The total population was about 65 000[14]. The total number of patients (not population – at risk) seen and analysed is 26 966.

Six times more patients go to the GP than to the hospital

Method of data collection and analysis

A simple white record card, 10 cm x 20 cm which provided the following attributes for each patient was used:

First name and surname, age, sex
Area (iilali) of residence
Date of consultation
Clinical diagnosis
Treatment prescribed
Plans for further management

The data was then transferred to A4 size paper for easier analysis. A micro-computer was used to analyse some of the data after manual analysis.

Results

Of the total number of practice patients (not population – at risk) 43% were under 5 years of age; 11%, 5–14 years; 42%, 15–64 years with 75% of the latter being females since most of the able bodied men are labourers in the mining, building and manufacturing industries in the big cities. Only 4%

of the patients were over 65 years of age. The average attendance was found to be 0,67 per patient per year. The data relates to patients seen between 1970 and 1976.

The following information about morbidity in this rural community was obtained:

For the under 5 population (Table 1)

Respiratory Infections: About 60% of all illness episodes were due to respiratory infections.

Kwashiokor and other nutritional diseases accounted for 2%.

Communicable diseases accounted for 38% of the total illness episodes. Diarrhoeal diseases constituted 48,5% of the total number of episodes from communicable diseases in the under 5 populations. Measles, whooping cough, skin infections, and worms contributed 34%, 3%, 10% and 4% of communicable diseases respectively.

The top five diagnoses in this age group were:

1. Respiratory infections
2. Diarrhoeal diseases
3. Measles
4. Skin sepsis
5. Worms

For the age group 5-14 years (Table 1)

Respiratory Infections: Respiratory infections accounted for 46% of illness episodes in this age group.

Communicable diseases contributed 35% of the total episodes of which 31% were due to measles, 27% skin infections, 18% worms, 15% diarrhoeal diseases. Although typhoid accounted for only 1% of the communicable diseases, ¾ of the total number of typhoid cases seen was in this age group.

Ill-defined conditions contributed 18% of diagnoses made in this group.

The frequency of occurrence of these diseases was in the following order:

1. Respiratory infections
2. Measles
3. Skin sepsis
4. Worms
5. Diarrhoeal diseases

For the adult population 15-64 years (Table 1)

Respiratory Infections accounted for 36% of total number of illness episodes.

Genito-urinary Diseases, excluding sexually trans-

Table 1: Total number of illness episodes by age and diagnoses 1970-1976

Diagnosis	AGE (years) 0-	5-	15-	65+	Total
Measles	1615	369	0	0	2084
Typhoid	0	75	25	0	100
Pertussis	150	28	0	0	178
Diarrhoea	2298	180	255	9	2742
Skin Sepsis	493	320	119	0	932
Worms	179	219	53	0	451
Sub-total	4753	1191	452	9	6387
STD	0	19	730	0	749
Vitamin Deficiency	38	40	115	12	205
Genito-Urinary Diseases	0	0	2849	0	2849
Pregnancy and pregnancy related conditions	0	0	1706	0	1706
Respiratory Diseases	7505	1584	5305	614	15008
Hypertension	0	0	388	0	388
CVS Other	0	0	89	5	94
Mental Illness	0	25	111	7	143
Arthritides	0	0	128	7	135
GIT	32	0	32	0	64
Tuberculosis	3	12	338	10	363
Epilepsy	3	0	150	0	153
Cancers	0	0	47	0	47
Asthma	0	0	72	0	72
Kwashiokor	242	7	0	0	249
Other	42	550	1582	751	2925
Total Number of Illness Episodes	12600	3409	14601	1420	32030

mitted diseases, made up 20% of episodes.

Normal pregnancy and pregnancy related conditions contributed 12%.

Sexually Transmitted Diseases constituted 5% of total illness episodes in this age group.

Communicable Diseases accounted for 3%, *hypertension* 3%, while mental illness, asthma and epilepsy were least commonly seen. Malignancy was a rarity. Half of all cases of vitamin deficiency were seen in this age group. Ill-defined conditions accounted for 15% of all episodes.

The order of the frequency of occurrence of health problems in this age group was thus:

1. Respiratory diseases
2. Genito-urinary diseases
3. Pregnancy and pregnancy related conditions
4. Sexually transmitted diseases
5. Communicable diseases
6. Hypertension

Reliable morbidity data of all the South African peoples is a pressing need

Adult population 65+ years (Table 1)

Respiratory infections contributed 43% of the total morbidity seen and about 50% were due to ill-defined conditions.

Seasonal variations of illness episodes

Communicable diseases (Figs 4 and 5)

Measles: In view of the high level of endemicity of measles in this community (5,8/1000), this airborne disease is common right through the year, but significant peaks were seen during the 2nd, 3rd and 4th quarters of the year, the highest being during the cold winter months. All cases of measles occurred in the under 15, with 80% being under 5.

Pertussis: The highest incidence of whooping cough occurred during the last two quarters of the year. All cases were in the under 15 population and 80% being under 5.

Diarrhoeal diseases: The peak incidence for diarrhoeal diseases occurred during the warm months, the first and last quarters of the year; 80% of cases were children under 5 years.

Skin sepsis: Like diarrhoeal diseases, these tend to occur during the first and the last quarters of the year. About 50% of these cases were under 5.

Typhoid fever: The total number of typhoid cases seen was rather small to draw any inference about the seasonal influence on its incidence. From the few cases seen, there is a suggestion that the seasonal pattern is similar to that for diarrhoeal diseases. Similar seasonal variation was noticed in Egypt[15]; 75% of the total cases seen were aged 5-14 years of age.

Worms: Here again, the total number of cases was rather small but from the few cases seen seasons did not seem to be a function of their occurrence; 49% of the total number of cases seen were aged between 5 and 14 years.

The GP sees a more varied disease pattern than the hospital doctor

Sexually transmitted diseases

Urethral discharge: Among the men, the highest peak was during the first quarter and the last quarter of the year.

Syphilis: The peaks of the incidence of syphilis for men and women were during the 1st and the 3rd quarter of the year.

Other conditions

Respiratory infections: There was no significant variation in the seasonal occurrence of respiratory infections although the highest peak was during the 3rd quarter of the year. Children under 5 years contributed about 50% of the total number of cases.

Vitamin deficiencies: The total number of cases was too few to give any reliable seasonal pattern but there seemed to be a peak during the last quarter of the year.

Temporal trends of morbidity

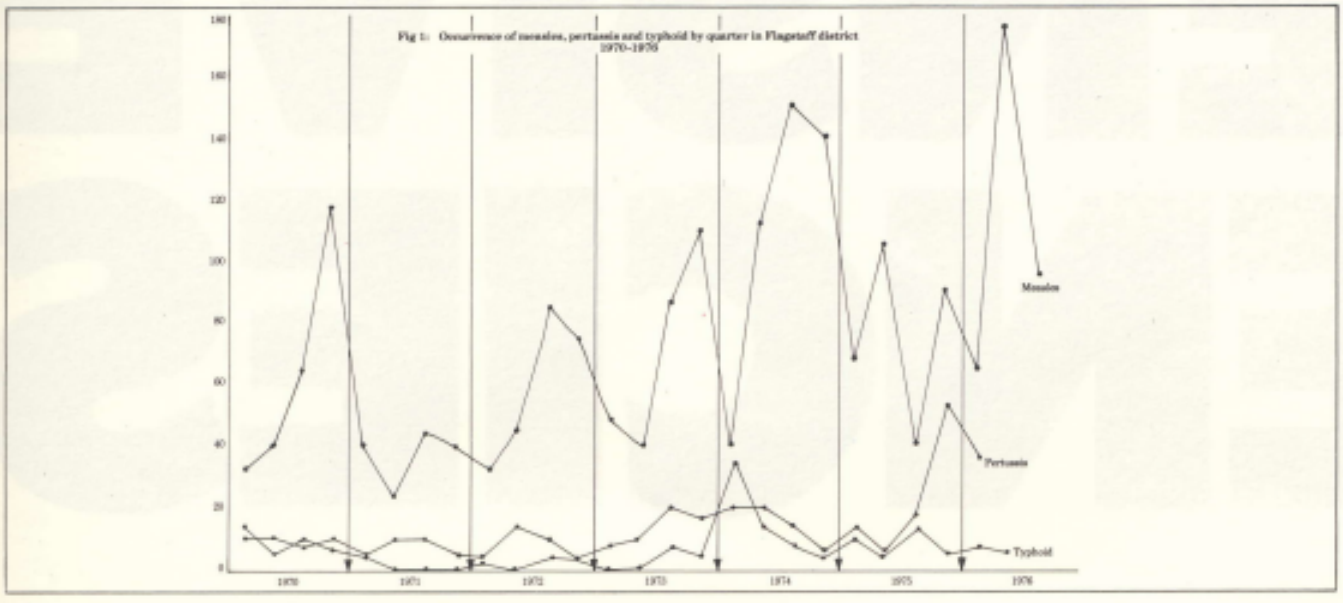
What remains to be described is what has been happening to the incidence of these health problems in this rural community between 1970 and 1976.

Epidemiological data collected routinely in a general practice, is extremely helpful

Communicable diseases (Fig 1, 2)

Measles: This viral airborne disease has 2 year natural epidemic cycles with crests during the even years. From 1973 the incidence of measles showed an increasing trend with the 1974 and 1976 crests being more than one and a half times, and over twice the 1972 peak respectively.

Pertussis: Whooping cough demonstrated troughs of 1 year and crests of two years duration. An increasing trend in the height of the epidemic curves can be observed from 1972 and 1976.



Typhoid: The pattern observed of this food-borne disease in this population was a 3 year trough followed by a one year crest. The few numbers seen do not permit of a reliable assessment of the trend between 1970 and 1976, but there is a suggestion that there is an increasing trend.

Diarrhoeal diseases: The incidence of diarrhoeal diseases has increased three fold between 1971 and 1976.

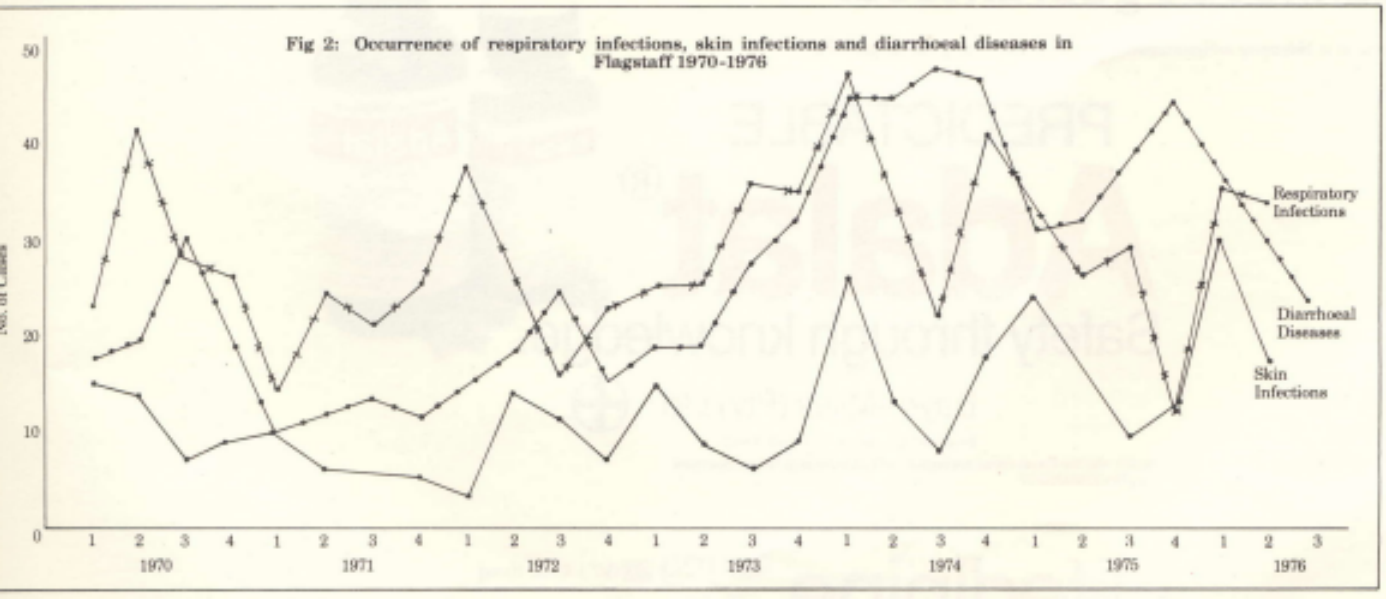
Skin infections: The peaks in the incidence of skin infections are every two years and here again during the even years. No significant increase has been observed between 1970 and 1976.

Other conditions

Respiratory Infections: The incidence of respiratory infections seems to be taking the pattern of two year cycles with the peaks during the even years. In 1976 the incidence had increased by one and a half times the 1971 level.

Discussion

We cannot be sure how representative these morbidity patterns are for this rural community. Results are biased, among other things, by the financial barrier to seeking health care. Also, help concerning some illnesses is sought rather from the indigenous health care system than from the western trained doctor. Such is the case with epilepsy and mental illness. In Flagstaff 0,5% and 0,5% of total diagnoses were attributable to epilepsy and mental illness, an incidence of 34/100000 and 33/100000 population at risk respectively. In a tropical practice Holmes[15] found that only 2,3% of total prescriptions were for psychotropic drugs. WHO Health Statistics concur, showing levels for epilepsy of 0,6/100000 and 0,3/100000 respectively[17]. The extent of under-reporting for epilepsy and mental illness in a tribal community becomes evident when a comparison is made with communities who seek help primarily from the general practitioner for epilepsy and mental illness in



which the rates are 370/100000 and 6050/100000 respectively[18].

The predominance of respiratory infections is consonant with that found in similar rural hospital based surveys[10, 11], except that the extent of such predominance is much bigger in this data, being 47% of the total number of episodes. This data collected in general practice is more representative in this community since hospital collected data is from a highly selected patient population. A similar survey in general practice[18] revealed that such infections contributed 37% of total morbidity (and for a Developed Country at that), being much higher than the 19%, 23% for the rural hospital surveys of a Third World Country[10, 11].

Communicable diseases which are easily preventable accounted for 20% of the total burden of illness and disease for all ages. But the contribution of communicable diseases in the age group 0-14 is about 40%, suggesting the immense scope of improving the health status of the young in this community through preventive measures.

Communicable diseases which are related to the availability of water (diarrhoeal diseases and skin infections) have the same seasonal variation, suggestive of the appropriate method of intervention ie adequate availability of clean water[20].

The information provided by the seasonal and temporal trends could be helpful to embark on immunisation campaigns more timeously, in order to maximise the cost-effectiveness of prevention. Such data can also be used as proxy measurements of the health status of this rural community from 1970 to 1976.

Other illness episodes (symptoms or ill-defined conditions) for the total population accounted for 9% of the total illness episodes compared to the rural hospital survey of 4%[10] due to the effect of special investigations in elucidating the underlying cause of symptoms hitherto undiagnosed.

How helpful is such epidemiological data collected routinely in general practice?

1. It could make general practitioners more aware of the pivotal role they can play in combating airborne communicable diseases in the young by increasing the uptake of immunisation. It needs to be pointed out, however, that the effectiveness of such a role would depend on how appropriately organised the system of health care delivery is, particularly primary health care. There could be a substantial reduction of toddler mortality and morbidity from measles.

The role of the general practitioner in water washed diseases (diarrhoeas and skin infections) can only be curative at best ie intervention after the act. Such action would be less cost-effective in the long term compared to the provision of clean water for the community concerned.

2. Within a well defined geographical area, if general practitioners were to pool their data, the resultant information would be more representative of the incidence of communicable disease than any other source of similar data. Such an exercise at data collection could serve as a monitor of the health status of people in a small geographical area. It can also serve as a measure of the effectiveness of immunisation campaigns.

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