The patient improved on treatment and was followed up at the medical outpatient clinic. Three years later his condition deteriorated with a recurrence of his symptoms. The medical officer reviewing the patient checked the blood count and the differential white cell count showed 60% myeloblasts.

Question 4 *What does this blood count indicate and what is the prognosis?*

See page 130 for answers and discussion.

Viewpoint

How can the impact of PHC be evaluated?

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The concept of Primary Health Care (PHC) developed from the wish to implement the World Health Organisation's goal of "Health for all by the year 2000."

The principles of Primary Health Care include:

(1) PHC services must be related to the needs of the population served, based on community participation and be problem orientated in nature.
(2) PHC services can never be totally self funded, so will require outside donor funding, but the community must not become dependent on such funding.
(3) PHC programmes must include teaching and training of "local" workers i.e. Village Health Workers (VHWs).
(4) PHC must include changes in attitude and thinking for reorientation of policy and practice from the traditional, hospital-based medical services provided by highly trained medical staff.
(5) PHC must be an interdisciplinary/multisectorial team effort.

Methods of evaluation

Evaluation is always difficult, as statistics can be manipulated to prove almost anything, especially where many measurements and basic monitoring of PHC are not related to an actual improvement in health. PHC monitoring "targets" can be measured "objectively" or "subjectively". Target outcomes can be either "direct" or "indirect".

Evaluation of PHC must be people orientated, showing improved health based on reduced morbidity, disability, infant mortality (IMR), under 5 mortality (U5MR) and maternal mortality (MMR) rates. The measurement of these death rates is a standard way of measuring health and health improvement by the World Health Organisation. However this poses another problem in that many developing countries do not have accurate recording of births and deaths.

It is useful to know base line indicators of development e.g. data on static facilities and training of health personnel. Progress in these areas can be linked to person orientated PHC factors to give a total PHC evaluation.

The worldwide "Child Survival" programme is a selective PHC programme run on cost effective lines rather than a programme trying to "empower" the communities involved, which would probably give better long term health improvement. It is based on many factors, which are interrelated: Growth Monitoring; Oral Rehydration Therapy; Breast Feeding; Immunisation; Female Literacy; Family Planning; and Food Supplementation.

PHC can be seen as the seeking out of the "At Risk" families in the community by the community; and together they can assist and educate each other, and remove those specific and general problems that keep the poorest in the community from better health. PHC must be affordable, accessible and appropriate.

How often do we as medical personal bother to find a **"Community Diagnosis"** and find the com-

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munity's **"Felt Needs"**? Often we practice community **oriented** PHC rather than the more important community **based** PHC.

Indicators used for "PHC monitoring" at Ekwendeni

Several different indicators have been used at Ekwendeni for monitoring PHC. These indicators cover a whole range of factors within the community, although they are oriented more towards the under 5 year child who is at greatest risk.

(1) REGULAR WEIGHING/GROWTH MONITORING OF U5 CHILDREN
Weighing of under 5 children within the community will detect early malnutrition. Community based growth monitoring can rapidly increase the number of children weighed. Although it is important to give food supplementation in order to reduce the percentage of malnourished children under 5 years in all communities, malnutrition will also decrease with improved nutritional education and adequate supplies of food.

(2) IMMUNISATION RATES
Immunisation rates for children (BCG, DPT, poiio, measles) and antenatal mothers (tetanus) can be measured. These rates should rise rapidly to 95% - 100% once the community is more involved with its own health through (voluntary) Village Health Workers.

(3) REDUCTION IN INFANT AND U5 MORTALITY RATES
Reduction in the main killer diseases of childhood (diarrhoea, pneumonia and malaria) can be achieved by training the VHWs: to use ORS, for early treatment of diarrhoea; to diagnose early pneumonia on the basis elevated respiratory rate and chest indrawing; and, to refer children with convulsions early to health facilities.
By getting the VHWs to record births and deaths, it is possible to get a specific IMR and U5MR for each clinic area.

(4) REDUCTION IN PRIORITY/CHRONIC DISEASES
Reduction in the chronic treatable diseases, such as malaria, anaemia and eye infections can be achieved by training VHWs to distribute: iron tablets to antenatal mothers and U5 children; eye ointment for eye infections; and chloroquine and aspirin for malaria.

(5) FAMILY PLANNING SERVICES UPTAKE
Community based distribution of family planning supplies by VHWs will be necessary to achieve the aim of the Ministry of Health for an uptake rate of 10% by 1991.

(6) SANITATION
An increase in the number of families who live in sanitary acceptable houses, with adequate disposal of human and domestic waste will result in reduced breeding of flies and mosquitoes, and a resultant decline in diarrhoea and malaria.

(7) FEMALE LITERACY
An increase in the female literacy rate will indirectly reduce the infant mortality rate. Hospitals should have their own literacy classes.

(8) BREAST FEEDING
Encouraging breast feeding will improve infant nutrition and reduce deaths from diarrhoea. (This is irrelevant in areas where 100% of mothers breast feed).

(9) ANTENATAL CARE
It is aimed to increase the numbers of mothers who receive antenatal care by at least 3.7% per annum (target is 100%). Care by motivated and adequately trained personnel will reduce maternal and infant mortality.

(10) ATTENDED DELIVERIES
It is aimed to increase the numbers of mothers who deliver with adequate medical supervision by at least 3.7% per annum (target is 95%). Increasing deliveries supervised by Traditional Birth Attendants, or at a medical unit, with midwife and/or doctor, will reduce MMR and IMR.

(11) SAVINGS AND CREDIT CLUBS FOR WOMEN
An increase in the number of credit/savings clubs within a community can result in increased self reliance, increased use of fertiliser, and hence increased food production and less malnutrition.

(12) PROTECTED WATER SOURCES
It is aimed to increase the numbers of adequately protected water sources, so that there is a "safe" water source available for every 250 person or every square mile. Assessments of functioning against non-functioning wells is necessary. Hospitals need to assist the Water Department in the construction of shallow wells and spring protection.

(13) AVAILABILITY OF ADEQUATE MEDICAL SERVICES
There is a need to improve the availability of medical services through increasing the number of static and mobile clinics, and increasing numbers of trained VHWs who are able to diagnose and treat basic diseases.
Training of VHWs, TBAs and Village Health committees should be undertaken but it should be remembered that training does not

necessarily mean that they are actively working in PHC.

Another interesting measurement is the division of national and local medical budgets between hospital services, hospital based clinic services and community based (PHC) services.

(14) FORESTATION

Hospitals should encourage Village Health Committees to become involved in planting community firewood plots. Monitoring involves measuring the numbers of tree planted and their survival for one year.

(15) FOOD AND CASH CROP PRODUCTION

Increased agricultural production will improve food supplies. However this does not necessarily mean that U5 children will be better fed and health education on good weaning practices is a priority to reduce malnutrition. Increased production of cash crops should indicate an improved family income, but if it is poorly spent it will not benefit the most vulnerable family members.

(16) AVAILABILITY OF EDUCATION SERVICES

Increased availability of education can be measured by the enrolment rates at primary and secondary schools, and the numbers of students who complete their schooling. Medical units are not involved in providing education but improved education within the community will have an indirect effect on improving health.

Assessment of PHC at Ekwendeni

A scoring scheme to measure the above 16 indicators has been used to check if the units are improving in PHC. The score ratings used for each indicator are:

0 = Not participating in this activity
1 = Started this activity but have now given it up
2 = Activity started and/or progressing slowly
3 = activity improving and doing well
4 = Activity reached target % of population

For certain indicators it is better to measure the rate as a percentage of the population e.g. IMR and U5MR, immunisation, reduction of malnutrition in Under 5s, and maternal deaths. For other items the reduction of absolute numbers can be measured e.g. children's ward admissions, nutrition rehabilitation centre admissions, premature deliveries and stillbirths, hospital and health centre deliveries and antenatal clinic coverage.

Wells can be counted as those functioning, as a percentage of the total constructed. Savings can be measured as those actively depositing savings as a percentage of total saving books issued. Forestation can be counted as those seedlings that have survived one year, as a percentage of those planted. Child spacing services can be assessed as a cumulative percentage, rather than number served. VHWs, with first aid kits, and TBAs should be assessed by their active work in distribution of chloroquine by 1000s and deliveries performed.

The Table below shows our assessment of PHC at Ekwendeni for the period 1989 - 1991.

There is still room for much improvement, and recently the community have asked that we make water protection and shallow wells the priority "felt need" for 1991. Thus during 1991 the PHC programme has been prioritised with programmes for major emphasis (**) and other programmes to be emphasised (*).

Table Evaluation of PHC initiatives at Ekwendeni

	89	90	Aim for 1991
Community Based PHC/Community Diagnosis	2	4	4 **
1. Growth monitoring	3	4	4
2. Immunisation rates	3	4	4
3. Reduction in IMR and U5MR	3	3	3
4. Reduction of disease	3	3	3
5. Child spacing uptake	3	3	4 **
6. Sanitation	2	2	3
7. Female Literacy	2	2	3
8. Breast feeding	4	4	4
9. Antenatal care	3	3	3
10. Attended deliveries	3	4	4 *
11. Savings and credit clubs	0	2	3 *
12. Protected water sources	2	2	3 **
13. Availability of medical services	2	3	3
14. Forestation	0	2	3 *
15. Food and cash crop production	0	2	3 *
16. Availability of education services	not applicable		
TOTAL SCORE (Maximum 68)	37	46	54

Conclusion

Monitoring of PHC is not easy, but some measure (and goals) can be obtained by monitoring a wide range of indicators, especially those factors that measure some form of human activity. This will mean a mixed approach evaluating "direct" and "indirect" measurements, from both a "subjective" and "objective" viewpoint. It is hoped that other health units will look at ways of evaluating and scoring their PHC programmes. If you have any ideas for evaluation or implementation that we could use here at Ekwendeni, we would be pleased to hear from you.