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New directions in health care

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Editorial

The tabling before Parliament in August this year, of the White Paper on Privatisation and Deregulation, has made apparent the state's refusal to heed the warnings of those calling for a National Health Service.

Hopes for a more equitable health care system are now largely pinned on a transformed political system which would recognise health as a basic human right. A transformed system would establish a basis for the re-allocation of resources in the health sector. This would imply the nationalisation of health services and the expansion of primary health care.

Decisions on health care priorities and resource allocation undertaken by centralised government bodies, will, however, not change the authoritarian health care practice which people experience under the present health system. The transformation of health services requires the active participation of those who will use them.

A single National Department of Health has been suggested for purposes of central planning and co-ordination, with regionally decentralised implementation, in order to allow for the realisation of local needs and initiatives. This single department would embody the concept of both a democratic and national health care service. This is the framework within which the Centre for the Study of Health Policy introduces its work in this issue of *Critical Health*.

While a nationalised health service is a long-term goal at this stage, initiatives for the democratisation of health services are presently being developed. Through progressive organisations, health workers are encouraged to explore viable ways of achieving transformation. Democratic decision-making processes in the primary health care field are practised in community health projects, some of which were introduced in *Critical Health* No. 16/17. Many of these projects are presently co-ordinating their efforts through the newly established Progressive Primary Health Care Network.

Collective democratic decision-making is also expressed in the process of participatory research. Two recent projects taken up by progressive trade unions illustrate this method of research and are discussed in this edition.

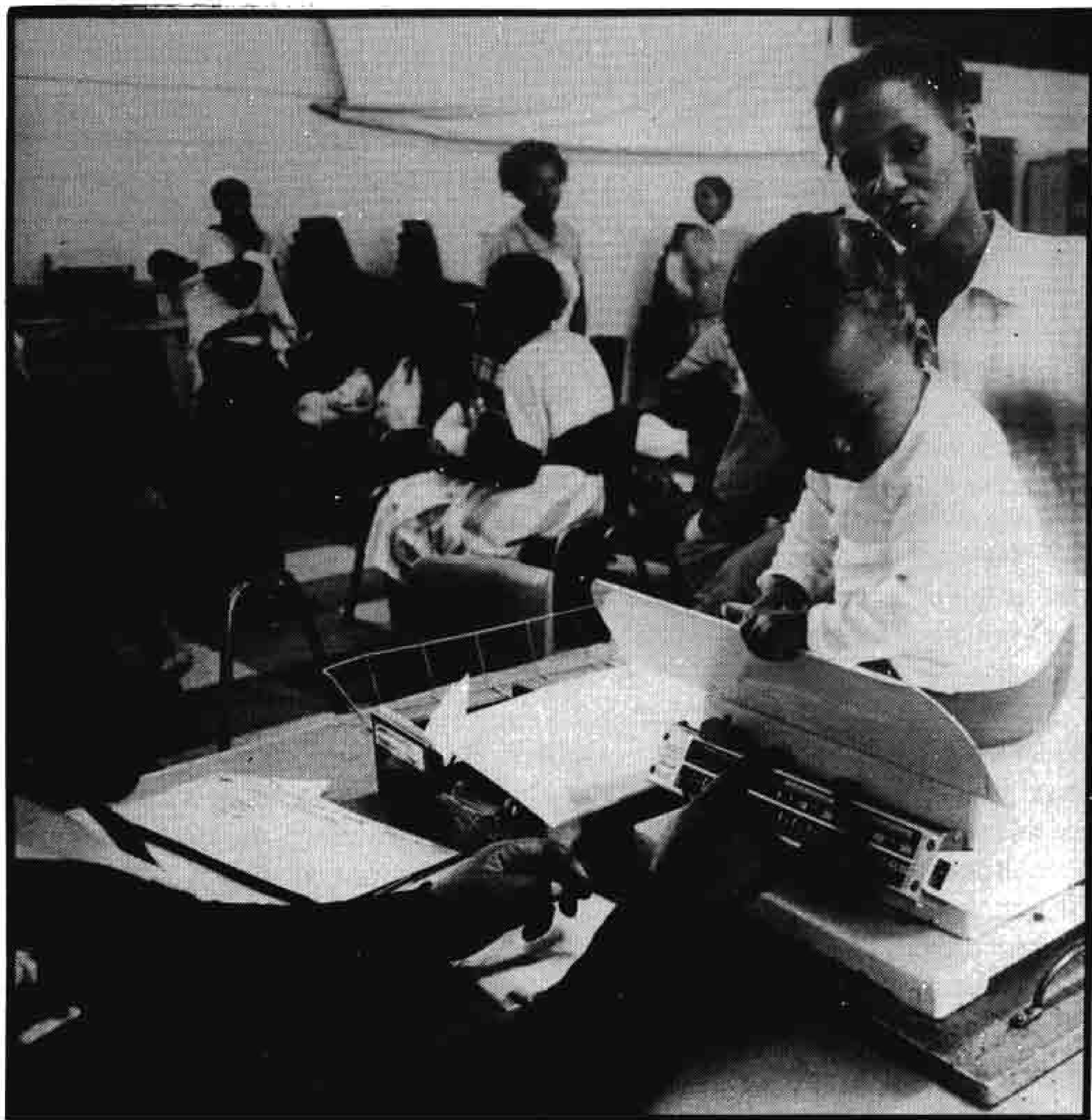
A book review is included in this issue of *Critical Health* to provide some diagnostic and organisational guidelines to primary health care workers.

To contribute further to the debate on the transformation of health services in

South Africa, the next issue of *Critical Health* will focus on the role of primary health care nurses; the role of reorganised mental health care in a National Health System; on questions of health worker organisation; and on mass mobilisation around health issues.

The transformation of the present health care service will be a drawn-out struggle, likely to be strongly contested by those committed to increased privatisation.

The articles presented in this issue and those reserved for the next one are welcome signs that the iniquities of the present system are being assertively challenged and debated. They are presented in this journal for discussion and debate so that we may all benefit from their experience, learn from their initiatives and forge ahead with new approaches.



New directions in health care: from apartheid to democracy

This article attempts to examine health resources under the current set of political, economic, social and cultural conditions, still most accurately described as "apartheid", and proposes a health care system for a democratic South Africa.

Expenditure on health

Reliable estimates of total expenditure on health are extremely difficult to obtain. Figures compiled by different researchers at different times range from 2% to 4,6% of the GNP.

Between 1971 and 1982 there was a declining central government expenditure on health and education with more funds flowing into defence and housing. This was not offset by increased expenditure on welfare which could have had a positive impact on health.

South Africa spends far less proportionately on health than do developed countries which utilise about 6% of GNP on average, and less also than many third world states, including those in Africa. And it has been estimated that a mere 2,2% of this small total health budget is directed towards preventive programmes.

The expenditure on health in Bantustans, where need is greatest, is far less than that in neighbouring provinces. There are gross discrepancies in the distribution of resources between black and white, whichare exacerbated by the large role of the private sector.

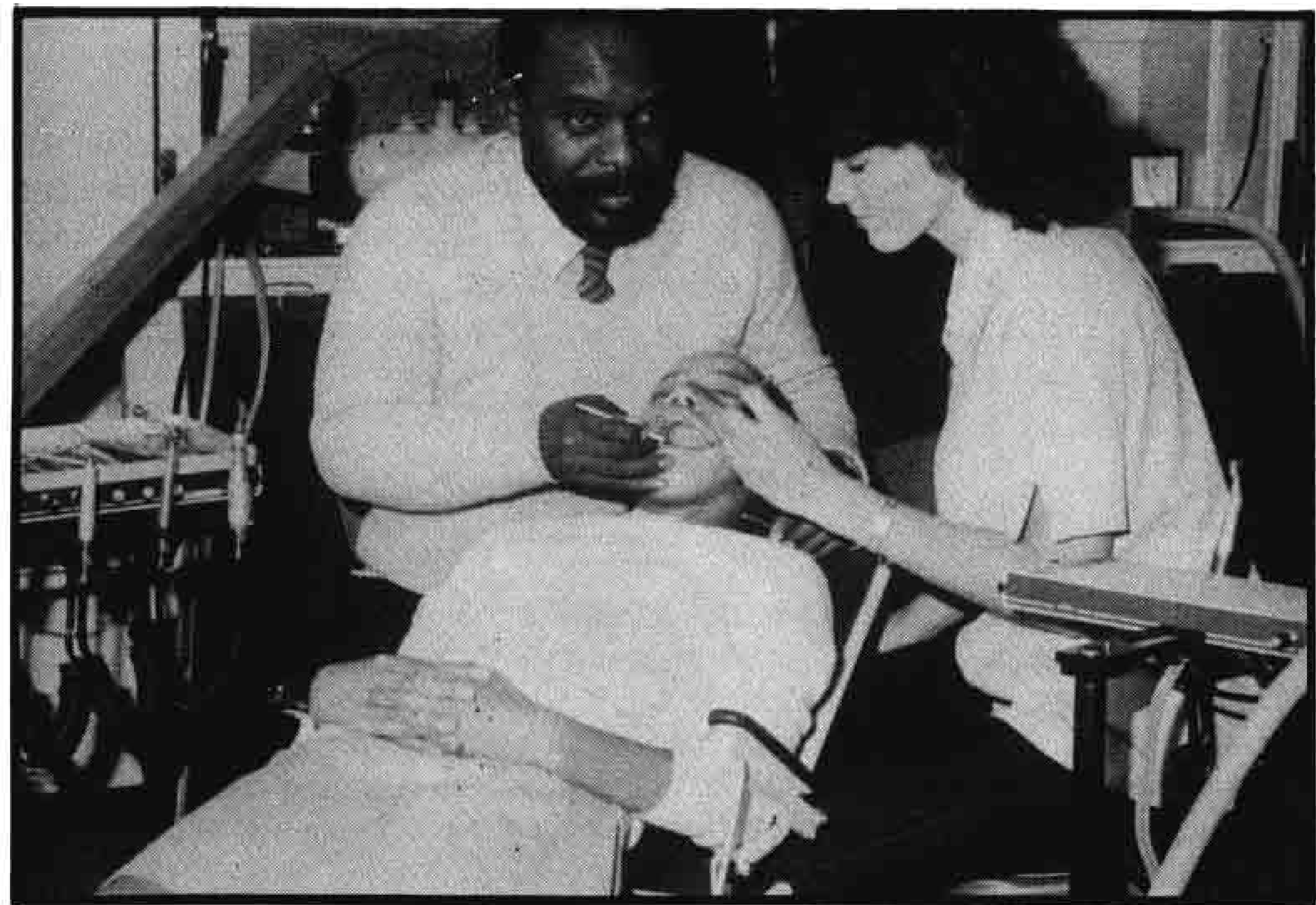
However, the distribution of health services is not only determined by race, class and geography but, in its present state, it contributes to the deepening of these divisions.

Composition of the health sector

Medical and dental faculties

There are seven medical faculties in South Africa, giving a ratio of about one faculty per 4,4 million people. The majority of students at these faculties are white. In addition, these medical faculties have not been utilised to their full capacity because of the shortage of facilities, academic staff and training patients.

A similar position obtains in dentistry. There are five faculties and only a tiny fraction of the more than 1 000 students are African, coloured or Indian. Over the years these faculties have produced an overabundance of white dentists, sufficient Indian dentists and hardly any coloured or African dentists.



There are not enough coloured or African dentists

Thus there is an oversupply of white doctors and dentists and no need for the establishment of any new faculties for training doctors.

The De Villiers Committee stated that there are enough Medical and Dental faculties to cater for this country's needs up to the year 2000 and that any rise in demand can be met by optimising use of existing capacity. If this were done, South Africacould produce 1 300 doctors and 260 dentists every year. It recommended that no new medical or dental faculties be created at present.

Training and Ideology

There are serious constraints in the structural framework and ideological content of the training process of all health professionals, which limit the value of these individuals for the needs of the community.

The selection of students, the curriculum content, the methods of teaching, learning and assessment, the definition of objectives for the type of professional required and the metropolitan siting of all faculties reinforce and deepen the divisions in society between urban elites and rural poor. The class position of doctors and dentists in both the public and private sector, ensures that health remains a commodity for purchase by those able to afford it.

There is also considerable inflexibility in the training of nurses, who form the largest group of health professionals, coupled with rigid control over their professional lives by the ruling nursing association. This places them in an ambiguous position in health and social struggles. Their training has the effect of endowing them, socially and ideologically, with class interests which contrast with those of their low-income patients. A critical awareness of these hierarchical, divisive structures, and of the need for more democratic practice was created in the process of mass action such as the King Edward and Baragwanath Hospital stayaways. Even though these events had a ripple effect, the overall organisation of work at hospitals has not changed significantly.

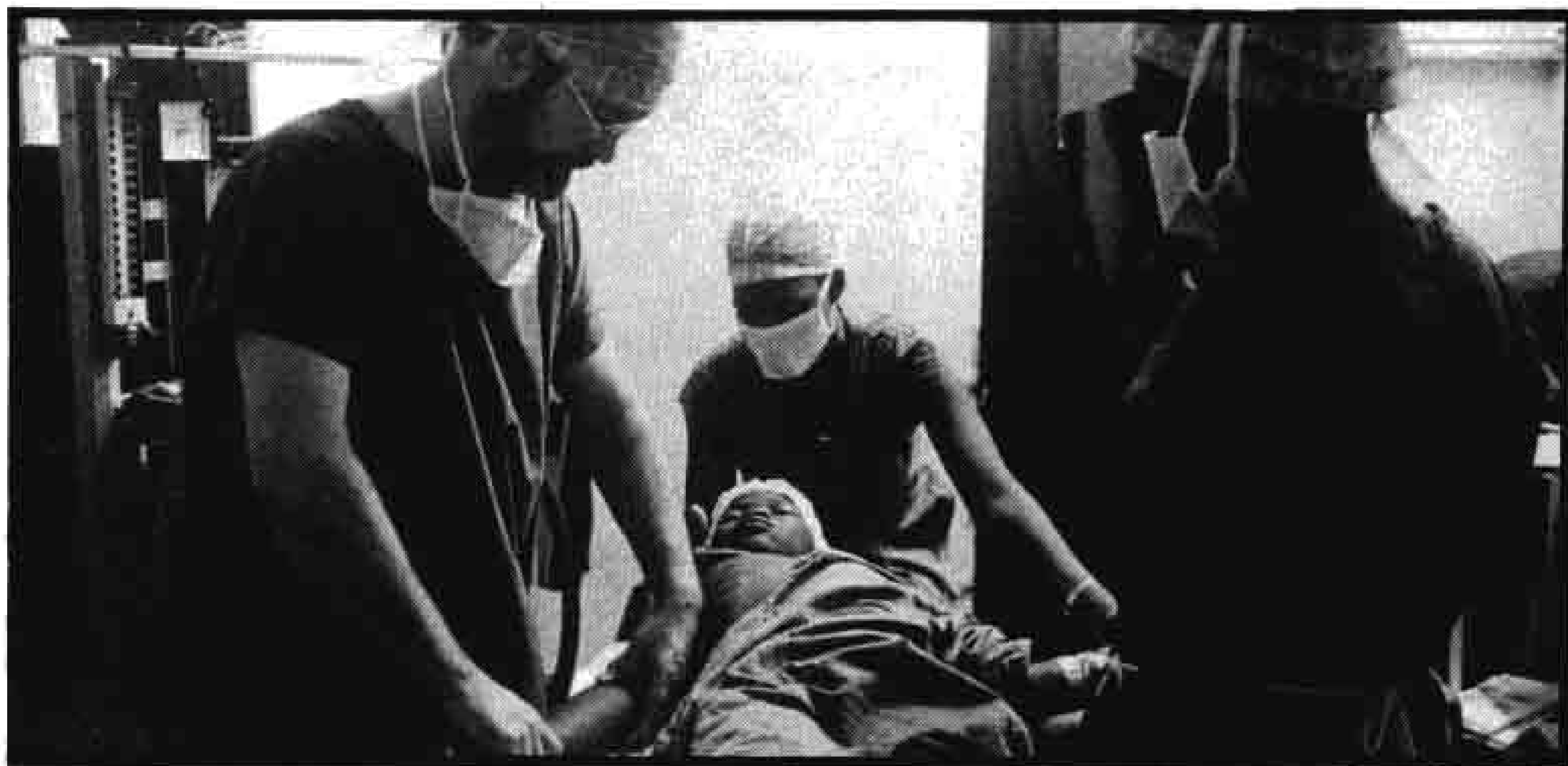
Medical supplies

In the production aspect of the health sector the role of multinationals and other companies in the manufacture and distribution of drugs, drug-related products and medical equipment, requires careful research. These companies have considerable influence over the practice of medicine by determining the cost of health care through their profit motives. While in developed countries drug costs are a small part of the health budget, in poor countries they can account for about 30% of government health expenditure.

Distribution of health professionals

Doctors

Health professional to population ratios are relatively crude indices for the provision of, and inequalities in health care. There can be no ideal or fixed ratio which is optimal for health. Indeed, too many doctors increase the cost of health care and in some instances, may pose an obstacle to health attainment. In the case of South



The present total number of doctors is sufficient for the needs of this country

Africa, however, these ratios demonstrate that training is racially biased, that community needs have not been matched with appropriate services, and that there are specific deficiencies in supply.

The present total number of doctors is sufficient for the needs of this country. However, there is an overwhelming concentration of doctors in urban areas with 80% being in towns and cities while 66% of the black population live in rural areas. KwaZulu, for example, is short of about 300 doctors at present.

Specialist Doctors

The popular fields of specialisation such as Internal Medicine, Anaesthetics and Surgery bear little relation to national needs. In a country where under-nutrition and infection are widespread and serious, there are few experts in these fields. The degree of specialisation is excessive in specific disciplines, and occurs at the cost of primary care physicians. Furthermore, there is a drainage of manpower. In any new dispensation, this laissez-faire policy will have to cease and priorities will have to be set according to need, through centralised planning.

Dentists and Dental Specialists

Research indicates that 75% of services rendered by dentists could be done by dental therapists whose training is one-eighth the cost of a dentist and whose charges reduce cost by 30%. There are too many white and Indian dentists. Too few dentists work in rural areas. More African and coloured dentists, dental therapists

and oral hygienists should be trained. Readjustments, without expansion, of existing facilities in white and other faculties would meet these requirements.

Nurses

There are racial and urban-rural disparities in the number of nurses, with the most favourable ratios among coloureds and whites. Black nurses suffer poor status, meagre salaries, racial discrimination and inadequate training opportunities. Despite this, there are a sizeable number of African nurses.

The World Health Organisation's recommendation for the third world is that there should be one nurse for 500 people to provide comprehensive service. By such reckoning South Africa will require about 64 000 nurses for this purpose alone. There is certainly scope for expansion of training for nurses even under the present set up. However, if they are to fulfil a primary health care function, their selection, curriculum and control and possibly even their designation will have to be profoundly altered. In combination with a suitably trained doctor, a few trained nurses can provide comprehensive care to about 20 000 persons. This formula will mean the provision of about 1 500 doctors and roughly 6 000 nurses for this country.

Distribution of health facilities

Hospitals

Except for some rural areas and Bantustans, South Africa has an adequate number of hospitals. The proviso on maldistribution remains and it must be emphasized that gross discrepancies exist between facilities for black and white, even when one considers only the best served hopitals for blacks (teaching hopitals). In many cases these differences stagger the imagination.

Clinics

There are a total of 2 094 clinics in South Africa providing services such as immunisation, antenatal care, maternal and child care, family planning, dental care, tuberculosis treatment, venereal disease therapy and psychiatric care. The distribution of clinics averages out to about one clinic for 15 000 to 16 000 persons; the World Health Organisation's norm is 1 clinic for 10 000 persons.

There are shortages in terms of numbers of clinics but more importantly there are serious deficiencies in the functioning of existing clinics. They have been found to meet only a small percentage of health care needs (home visits, family planning,

deliveries, illness, child health, and antenatal care).

These clinics, like the health services in general, mirror the social relations of a dominated and segregated community. Therefore they cannot fulfil the requirements of the Alma Ata declaration which firmly locates the practice of primary health care in the context of mass participatory democracy.

The lack of representative organisations at local level, the power of tribal authorities and village elites, nepotism, arbitrary and dictatorial control by Bantustan administration, land restriction, limited employment opportunities, inadequate transport and little monetary support ensure that many of these clinics are "community oppressive" and render "second class care to second class citizens".

Primary health care therefore remains an important focus for health struggles for a changing society. The implications are that numbers will have to be increased and content revolutionised.

There are serious deficiencies in the functioning of existing clinics

Nationalisation /socialisation of health services

Socialised health care will affect the production of professionals, health workers, institutions, distributive units, machines, instruments, tools and drugs.

Nationalisation of health services involves about 9-10 000 doctors, the medical

aid schemes and private hospitals. Medical aid schemes and private hopitals will be nationalised, and the former replaced by a state-run national health insurance scheme which will have its terms and financing determined by negotiation. The national health insurance scheme will cover everyone.

Doctors will have the right to work within or without the national health service. A number of different options can be offered to induce doctors to support the national health service either totally or partially.

Private hospitals are not part of an integrated comprehensive planned health care system. They contribute little to training of health professionals, they compete unfairly with public sector hospitalsfor staff and patients, they offer services which are primarily profit-making, they do not support preventive/promotive health care, and finally, they support only a small section of the public which in South Africa has access to medical aid schemes.

Conclusion

An alternative health care system in a liberated South Africa should be interwoven with the fabric of social development. It should contain ten essential features:

1. The transformation of the state.
2. Private and public sector health care delivery, with gradual decay of the former and progressive expansion of the latter.
3. Health as a basic human right.
4. Research into the production and distribution aspects of health care.
5. A single, central co-ordinating National Council for Health Development which will determine priorities and strategies.
6. A nationalised health service.
7. Nationalisation of the purchasing and distribution of drugs and medical supplies.
8. Restructuring the training of health professionals.
9. A nationwide network of primary care clinics based on unified health teams, fused organically into local community and worker organisations through health committees, serving as the core of the new health service and as a crucial link between needs at the periphery and policy at the centre.
10. Regional and tertiary hospitals with allocations for high technology care and research being influenced by the needs of the majority.

This is a shortened version of a paper presented at the Institute of Social Studies, Transnational Institute, Amsterdam, December 1986. By H. M. Coovadia of the National and Medical Dental Association (Namda).

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Introducing the Centre for the Study of Health Policy

The Centre for the Study of Health Policy was established in the Department of Community Health at the University of the Witwatersrand Medical School on 1 April 1987.

Aims of the centre

The broad objective of the Centre is to contribute to the development of a health service that meets the health needs of all South Africans. We recognise that such a service can only exist within a broadly democratic and non-racial society. Nonetheless we believe that there is work that can be done now that will facilitate the transformation of the existing service.

In order to meet this broad objective we have identified the following aims:

* To promote a broad understanding of the nature of the existing health service, its strengths and weaknesses and the effect of current developments.
* To popularise the idea that access to an adequate level of health care is a universal right, and to contribute to the development of a set of minimum standards of health care.
* To promote discussion about appropriate structures for the delivery of health care in South Africa.
* To contribute to attempts to promote progressive change within the health sector.
* To help prepare the ground for the future transformation of the health service under a democratic, non-racial government.

How will we achieve out goals?

We see ourselves undertaking a variety of tasks:

Research, documentation and "modelling"

Scientific research and evaluation of data will lay the basis for the work of the Centre. Work to be undertaken includes:

* Collating available information on health and health care in South Africa.
* Doing research on the quality and quantity of health services available to different communities in South Africa.
* Developing a set of acceptable minimum standards of health care that should be available to all South Africans and investigating the best system for delivering good care to all.

Dissemination of ideas
It is our intention to make our work as widely available as possible. We will do this in the following ways:
* Publication of articles and papers in a wide variety of academic and popular journals.
* Taking part in and, where appropriate, organising conferences and workshops on policy-related topics.
* Discussing health policy issues with political, community and health worker organisations.
* Teaching, at all levels, on subjects relevant to our work.

Resource and support work
We would like to assist other organisations, and people involved in health care, to develop policies, programmes and ideas which will make their work more effective.

The centre's first projects

We have identified three projects which we believe will lay the basis for detailed anaysis of the present health services, and help us to develop ideas about their future transformation. There are:

A resource centre and data base
This will contain available information and analyses of the SA health sector, and other material relevant to our work.

A minimum standards project
In this project we will try to determine the minimum acceptable standards of care that should be available to all. This will lay the basis for both our critique of the present and our discussion of possible future structures for health care delivery.

A National Health System project
This project will look at options for the future, and focus on questions of how a health service can be structured, financed, staffed and managed to make the best use of scarce resources.

We hope our work will make some contribution to a better future for all South Africans. We would welcome any ideas, suggestions and criticism, as well as inquiries from people wanting to know more about the work of the Centre.

Eric Buch and Cedric de Beer (co-directors)

Problems in the transformation of the health sector

Current health services are characterised by racial divisions which ensure excellent care for whites but inadequate care for most blacks. Urban curative care, and secondary and tertiary care are accordingly developed at the expense of rural, preventive and primary care respectively for the majority of South Africans.

Current health services ensure inadequate care for most blacks

There is growing consensus amongst progressive health workers in South Africa that a national health service is the most appropriate vehicle to meet the health care needs of all. This is compatible with the World Health Organisation's primary health care approach. [1,2]

Political commitment to a national health service is a necessary precondition for a good health service and therefore probably depends on a change of regime in South Africa. The political transformation of the country's health services is however, not a sufficient condition for ensuring successful transformation of the health sector, i.e. ensuring accessible, appropriate and acceptable care to all South Africans, in a cost efficient way and at a cost that the country can afford.

This paper will focus on some of the obstacles to the successful transformation of the health sector in South Africa, both to modify overly optimistic views that the current health service is easy to transform, and to encourage progressive health workers to explore viable ways of achieving this transformation.

To appreciate the extent of these obstacles, one need only look at recent reports from in Cuba, [3] Tanzania, [4] and Zimbabwe, [5] which identify how difficult it is to maintain an appropriate national health service and to turn the ideals of equal health care into reality.

To these obstacles, one must add those additional obstacles that arise from the system of apartheid in South Africa and which will remain evident in structures and services for some time after political transformation.

Obstacles in the transformation of the health sector in South Africa

We have identified eight major obstacles and these are discussed in turn. Our assumption in this discussion is that there will be roughly the same total expenditure within the health sector in the future, as there is at present.

1. The implications of expanding the service and of increasing demand

As most South Africans do not get good basic health care, a vast and costly expansion of primary health care facilities and staff is required.

Some of the funding for this expansion will need to come from the savings made by dismantling the existing fragmented health service and its expensive bureaucracy, in removing duplication of services and in offering preventive and curative care under one roof or from the same vehicle. Savings will also be made by implementing cost-effective drug and special investigation policies.

However, these savings will be unlikely to mobilise enough funds for the initial expansion of services that will be needed in South Africa. The situation will worsen as the health service improves and expands, because expectations and attendance are likely to grow, adding further to funding needs.

2. The demand for teriary care and care by doctors

Advancing technology has made available tertiary level care which, although extremely expensive, does have many benefits. A national health service in South Africa would certainly not be able to offer this care to all, particularly if it simultaneously tries to meet the need for essential primary health care. At the same time, there is likely be a greater demand for such high technology care. This raises important ethical questions, for instance: how does an egalitarian society make decisions about who gets renal dialysis and who dies? If such care is offered, we will be faced with the problem of cost spirals and cost control.

3. The demand for curative care

Preventive health services are grossly underdeveloped and require expansion. However, the budget for the health sector is limited. Therefore, it is often suggested that the expansion of preventive services should occur at the expense of curative services. This overlooks the fact that the curative services available to many in South Africa are also inadequate, and this will have to be rectified. In addition, peoples' demand for curative care is stronger than their demand for preventive services, because of the acute need for care when someone is ill. We can expect the demand for curative services to be more strongly expressed in the future, particuarly by those who have been deprived for so long. Thus the temptation is great to provide only the bare essentials of a preventive service, because its absence is less noticeable and less sensitive politically, and its superior cost- effectiveness is often only evident in the long term.

4. Care for the affluent

Care for the affluent will pose a problem in a transformed health service because they are used to a certain standard of care. The quality of much of their primary curative care is likely to be maintained or improved, but not that of their tertiary care. We can argue that the privileged will have to accept this loss as the state looks to the needs of all. However, the state may be tempted to compromise in the face of threats of emigration by the privileged and the consequent loss of their skills. Such compromise will inevitably be at the expense of less affluent members of society.

5. The power of the professionals

A future national health service will need to harness the support of professionals to ensure that they serve the needs of society despite the fact that they will probably earn less and will have to work in poor and rural areas, in primary health care, and in preventive health.

The dominant view amongst doctors today is that their professionalism requires them to do the absolute best for each patient, leading them to staunchly defend a barrage of costly practices and esoteric research. Doctors have perpetuated their powerful position by ensuring selection of a particular class and character of medical student and by ensuring that current values are transmitted through the curricula and through a particular approach to teaching.

It will be a formidable task to persuade professionals to serve the needs of society more appropriately, particularly because they can be expected to use all their power to maintain their privileged position in society.

6. The effects of residential apartheid and population shifts

The effects of residential apartheid will remain with us long after the installation of a democratic government. The majority of existing health facilities are situated in white areas, some distance away from the black townships. Yet most of the people now living in the townships will continue to live there. Thus, although a future health service will remove official racial barriers, township residents will still be faced with additional transport and time costs, and inconvenience. This will result in less than optimal utilisation of the health service and a consequent perpetuation of inequality. One way of dealing with this problem would be to close down facilities in white residential areas and construct new ones close to the most densely populated areas. This will in all likelihood be too costly to implement.

Large population shifts can be expected when influx control is removed. Where will the resources come from for the hospitals needed to serve cities of over a million people that could sprout up in major mining areas? Similarly, how will the immediate health care needs of people on the urban fringes be met?

In spite of these population shifts, many people will probably remain in rural areas and on white-owned farms. In South Africa, these groups will probably be less organised than those in the urban areas and therefore not in a position to express their demands.

A new government may respond to the demands of the organised urban dwellers at the expense of those who are less organised and who are already the worst off in South Africa. Concentrating health services in the urban areas would set the stage for perpetuating class (instead of racial) differences; it would mean that those who need most care get the least.

In spite of these population shifts, many people will probably remain in rural areas

7. Sector conflict in undoing fragmentation

A national health service should be an integrated comprehensive service. As such, the current divisions between preventive and curative services, between vertical and horizontal services and between racial groups should be removed. Preventive services and curative care should be offered together. Services, such as family planning and tuberculosis care, which operate in isolation from he rest of the health care system, will need to be integrated into a comprehensive service. Racialism should be removed by having one health ministry consisting of logical geographical regions, and by integrating all hospitals and clinics.

One problem that may arise in the implementation of such a unitary health service is the potential conflict between health workers merging from different sectors of the existing service. Some workers will have developed a sense of superiority because of the specialised nature of the care they were providing and others will bring along racist or ethnic views. The increasing fragmentation and continual promotion of ethnic divisions within the present health service has increased conflict potential.

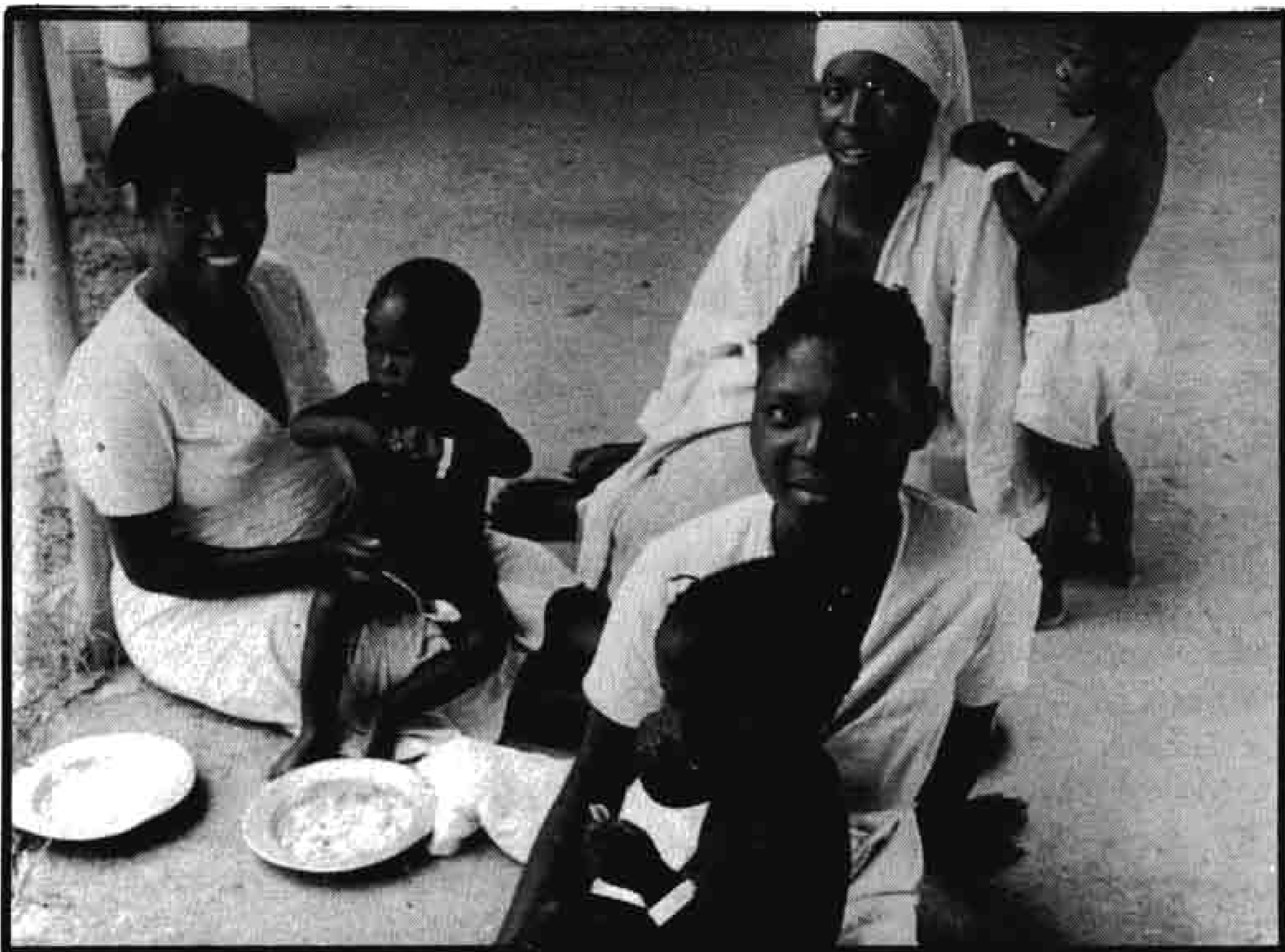
The emergence of homeland nursing associations, following legally enforced membership of the nursing association, is of particular concern in this regard.

Conflict between workers is likely to lower commitment, morale and work performance, and could therefore constitute an obstacle to the establishment of a good national health service in South Africa.

8. The nature of health service management

The style and structure of health service management in South Africa reflects the character of the whole state apparatus: closed, hierarchical and unaccountable to the community. In addition, health service management is an undeveloped discipline, and many managers have not been appropriately trained for their jobs. The majority of health service managers, especially those in senior positions, are politically conservative.

The style of management within a national health service needs to be completely different: it should be characterised by openness, flexibility, a team approach and a sense of being accountable to the community served.



A national health service needs to be characterised by accountability to the community served

While it may be possible to replace senior management, the middle and lower echelons of a national health service will be staffed by people who are currently in place. Inherent in this situation is a potentially powerful bureaucratic stumbling block to the process of transforming the health service. Certainly the new health service will not come into being with a new supply of progressive managers. The process of retraining existing staff and training new staff will be a slow process beset with many pitfalls.

The tactics of transformation

The goal of an equitable and efficient national health service is clear. The tactics of transformation involve how to overcome the obstacles we have discussed and others such as the power of the private sector. The choice of tactics will largely be determined by the balance of political forces in the country at the time the first post-apartheid government takes office.

In the health sector, this balance will be reflected in how rapidly a national health service is established, how quickly attempts are made to remove inequalities in access to care, and the extent to which the power and privilege of the professionals and managers are subjected to the health care priorities of the majority of South Africans.

Conclusion: what can be done now?

The successful transformation of the health sector will be difficult. Little attention has been given to it by progressive health workers. We feel strongly that this field needs to be explored as a matter of urgency.

The experience of other countries will be helpful to us. [3-9] There are also important projects and fledgling organisations in South Africa that are beginning to show the way. These include alternative organisations such as the National Medical and Dental Association (NAMDA) and the Health Workers Association (HWA) for professionals; and the recently launched National Education, Health and Allied Workers Union (NEHAWU) for non-professionals. There are an increasing number of demonstration projects emerging, which are run by people with a commitment to health care for all. These projects provide useful experience in the provision of adequate care and should serve as models which can demonstrate the possibility of providing health care of an acceptable quality.

Finally, more health workers and communities need to be drawn into the debate about what constitutes adequate care, how equity in health care can be achieved, and how to encourage appropriate changes in the health sector today. Through

processes of this sort we can begin to overcome the obstacles described in this paper, and so pave the way for the transformation of the health sector.

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By Eric Buch and Cedric de Beer, Centre for the Study of Health Policy.
A more extensive reading list is available, on request, from the authors.

Some minimum standards for personal health services in a rural homeland area

This paper attempts to set minimum standards of personal health care for a typical rural homeland area. It is based on the belief that South Africa has the resources to provide health care of a desirable standard to all who live within its boundaries.

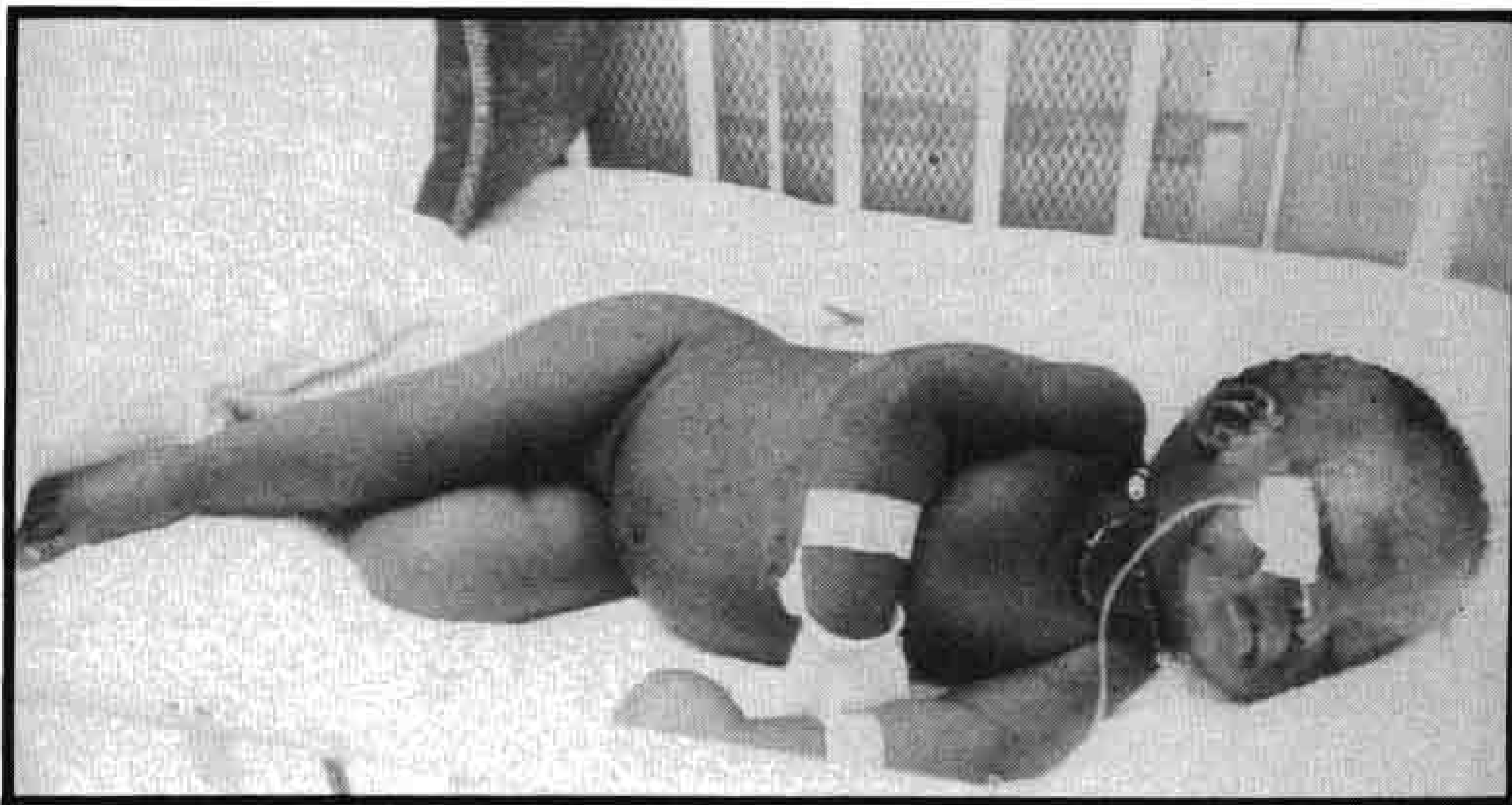
For this to happen, two major developments are required. There needs to be a re-allocation of health sector resources within the country, so that resources are made available to those areas which thus far have been deprived of an equal share. Secondly, there needs to be a change in health care priorities, with a far greater emphasis being placed on the development of a good primary health care service.

Unfortunately, the political will to implement these changes does not appear to be forthcoming at present. It is desirable therefore that an interim strategy be developed for those regional health services which are committed to providing at least a minimum standard of health care for everyone who falls under their jurisdiction.

For such an interim strategy to succeed, minimum standards must be developed, following the primary health care approach for personal health services. Although the primary health care approach emphasises peoples' living conditions as a primary consideration in health care, it is not within the scope of this paper to deal with this aspect. Instead this paper has been limited to a discussion of personal health care needs. It is based on the premise that everyone should have access to adequate services which are conveniently situated, financially accessible and which have easy access to secondary and tertiary care facilities for the referral of patients.

We established standards for a typical health region serving a population of about 150 000 people living in about sixty villages spread over an area of about 1 000 square kilometers. In such areas the population is comprised largely of women,

children and the aged. The villages might be expected to range in size from a few hundred to more than ten thousand. Poor socio-economic conditions prevail, and are manifest in poverty related disease patterns.



Poor socio-economic conditions are manifest in poverty related disease patterns

In this paper minimum standards are put forward for the following aspects of health care delivery:

- The types of facilities needed and the services that each facility should provide;
- The minimum acceptable quality of the services provided through the various facilities;
- The minimum requirements for effective utilisation of health workers;
- The minimum supply and support systems required to ensure that the services can be provided.

Facilities and the services they should provide

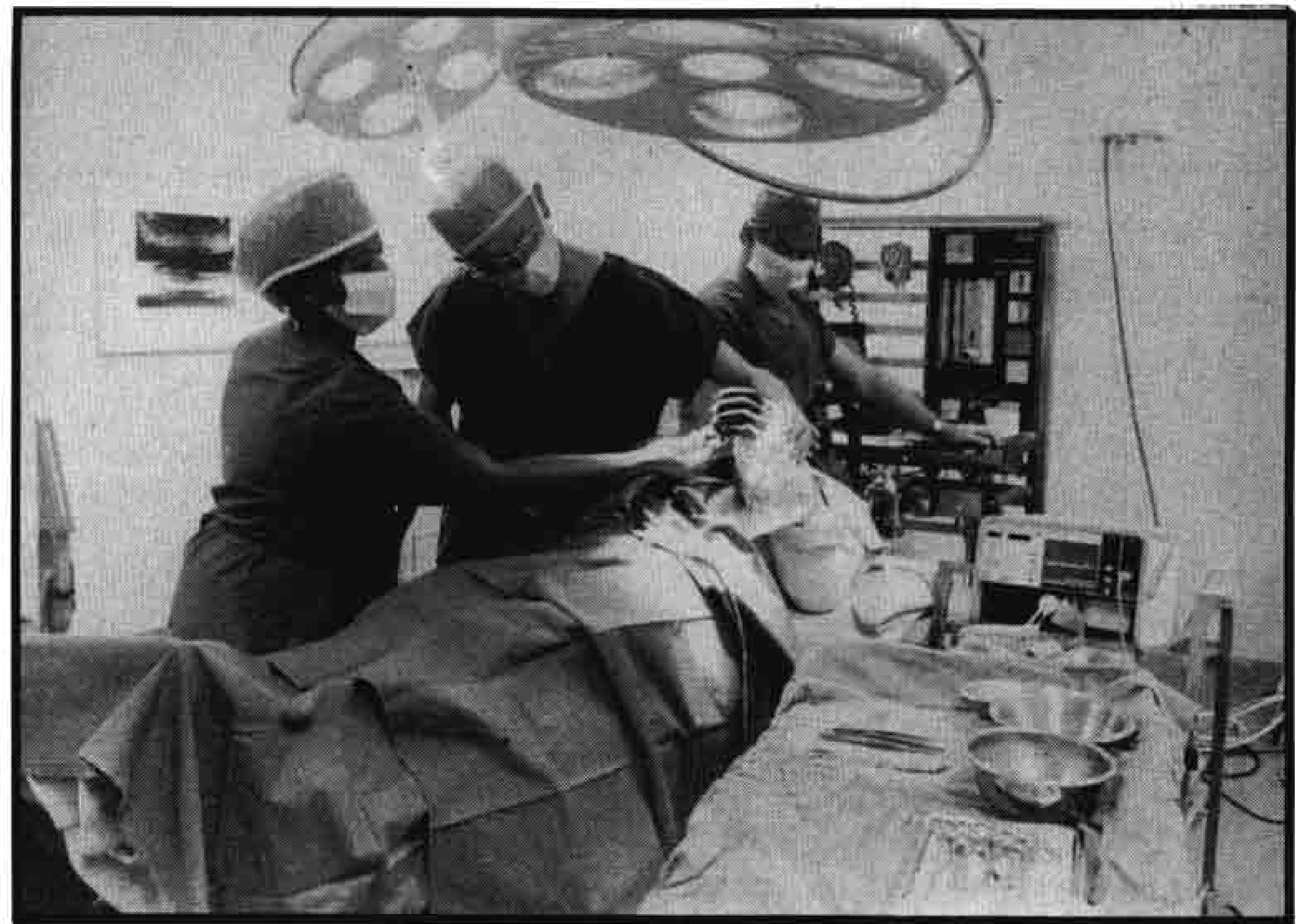
What follows is a range of facilities needed, and the services that each should provide. As each facility is more sophisticated than the one that precedes it, each subsequent facility will provide all the services of the preceding one, plus an additional range of services.

Mobile clinics will serve all villages which do not have fixed facilities, on a weekly basis, and will provide chronic and selective acute disease care, child and maternal care (excluding confinements), care of the aged, nutritional programmes and family planning.

Fixed clinics, operating daily and offering on-call services, will provide all the services of a mobile clinic as well as daily acute disease care, confinement services, weekly doctors' services and monthly social work, opthalmic, mental, dental and rehabilitative services.

Health centres operating 24 hours a day, will in addition provide 20 acute in-patient beds and basic theatre, laboratory and X-ray facilities. Health Centres should be visited by a doctor three half-days each week. The mobile clinics and support services which visit the fixed clinics should be co-ordinated by the Health Centres. These support services include social, rehabilitative, eye, mental and dental care, and doctors and adminstrative back-up.

A *cottage hopital*, in addition to the above, should provide 100 beds for acute and chronic patients, have resident doctors and theatre facilities adequate to cope with operations such as caesarian sections. The cottage hospital should co-ordinate all regional services.



Main hospitals should provide more sophisticated theatre services

Over and above the service of a cottage hospital, *main hospitals* with 500 beds should provide more sophisticated theatre services, central laboratory and X-ray facilities and central co-ordination of all health services in the district.

The number of each of these facilities will, for any given area, be extrapolated

from baselines of minimum facility to population and distance ratios. For example, there should be one mobile clinic per 20 000 population, and one fixed clinic serving an area with a 4-5 kilometre radius. Thus for the kind of area described above there should be one 500-bed main hospital, one cottage hospital, two health centres, 15 fixed clinics and seven mobile clinics.

Quality of the services provided

The existence of a service (e.g. ante-natal care) does not mean that an adequate service is being provided. In this section, some minimum standards are set for the quality of services.

Child health, ante-natal, post-natal and family planning services should be available at every service point daily and should achieve the following:

- 80% of pregnant mothers should have at least six ante-natal visits, at least one of which is in their first trimester.
- All confinements should take place under the supervision of at least a trained midwife.
- Pre-school children should attend child health clinics at regular, prescibed intervals, and more frequently if development is poor.
- 80% of all children must be immunised against diphtheria, pertussis, tetanus, measles, tuberculosis and poliomyelitis and 90% of mothers against tetanus.
- Every woman of child bearing age should have easy access to advice (to allow her to make an informed decision) about contraception and child-spacing. Contraception services should also be easily accessible.

The school health service should screen every school entrant, provide care for problems found and initiate child-to-child and teacher training programmes. Each school health team should include a community or primary health care nurse.

Old people often have multiple health problems, many of which are chronic. Care of the aged clinics should provide a screening service and then education and treatment for the problems found. The clinics should be run by a primary health care nurse, and home visits to patients must be catered for.

Patients with chronic diseases require special attention. Chronic disease clinics should function weekly at all treatment points. Once treatment has been initiated, follow up care of chronic patients should be provided by primary health care nurses, according to written patient-care protocols.

Every patient with acute disease who attends a service point should be seen by or be under the supervision of a primary health care nurse. Treatment protocols should be prepared for the more common acute diseases. Every acutely ill hospital in-patient must be seen at least daily by a doctor.

Requirements for effective utilisation of health workers

The following are suggestions for facilitating the most effective use of all available health workers.

Health personnel should operate in teams according to guidelines detailing the team's function. Thus comprehensive health care should be provided by primary health care teams, with specialist teams providing mental health, dental or other services. All categories of health worker should be appropriately trained for the work that they do. A continuing (in-service) education programme should be established for each category of health worker.

Effective use of available skills requires that most professional posts are supplemented by a less highly trained assistant. So for example each rehabilitation therapist should be assisted by three rehabilitation assistants. Generally, all jobs should be done by the least trained person competent to do them. In addition, the number of personnel in each job category should increase as the level of skill required to do each job decreases. For example, there should be more primary health care nurses than doctors, and more dental therapists than dentists.

We have drawn up standards specifying the maximum number of people we feel can reasonably be served by one of any given category of health worker, as well as the minimum number of health workers in each category required to staff the various facilities delivering health care. So, for example, we calculate that to serve the population of 150 000 there is a need for 25 doctors, 50 primary health care nurses, and 60 clinic nursing assistants.

In total, there is a need for 200 professionals, including doctors, dentists and all categories of nurses, and 190 auxiliaries.

All levels of health worker should be afforded a working environment that is conducive to high morale and enthusiasm. This includes adequate pay, leave, pension and sick benefits, and an identifiable career structure. The job description, working conditions and benefits should be clearly spelled out in a contract of employment.

Supply and support systems

The delivery of good health services depends as much on good supply and support systems as it does on the existence of facilities and trained health workers.

The ordering, storing, delivery and control of expendable and non-expendable equipment must be of such a standard that stocks at hospitals, clinics and health centres are never depleted.

Sufficient vehicles are needed for mobile clinics, school health programmes, clinic support services, and professional staff to carry out their duties. We have

calculated numbers of vehicles required for each service.

Every clinic must have a working radiophone and telephone, and PABX systems should be installed at all hospitals to ensure effective communication between all facilities.

Information and record systems

A complete patient-kept record system must be developed to ensure that each patient has their past health data available wherever they seek care. There should be patient-kept records for under fives, schoolchildren, adults and the aged and an obstetric record for each pregnancy and confinement.

Health service records should be designed so as to become the basis of an efficient health information system and all forms used in the health service must be standardised and systematised and supplies maintained to obviate any shortages.

Conclusion

We have produced these standards for discussion and refinement, in the belief that they are applicable to many homeland areas in South Africa.

The minimum standards discussed in this article are applicable to many homeland areas in South Africa

It must be born in mind that minimum standards are not an end in themselves. They must be seen as stepping stones to the establishment of adequate standards of care for all.

It must also be born in mind that standards come as a package, and must all be achieved. It is no use having sufficient primary health care nurses if there are no doctors, or having an adequate supply of vaccine, if there are no refrigerators.

We would like to see regional health authorities setting minimum standards for their areas and developing plans for their implementation and evaluation. In doing so they would achieve at least three things:

- Establish priorities for the use of resources already at their disposal.
- Establish a rational basis from which to demand the additional resources they will require to attain the standards.
- By publishing minimum standards and their plans to achieve them, they would enable the communities they serve to measure their progress towards adequate care for all. This would facilitate the development of community pressure for better health care.

We believe that through such a programme measurable steps can be taken to re-allocate resources, and so reduce the inequalities that have been historically entrenched in the health service.

By Eric Buch and Cedric de Beer, Centre for the Study of Health Policy.

This is an edited version of a longer paper, in which standards are presented in more detail, produced by and available from the Health Services Development Unit, Dept of Community Health, Wits Medical School, 7 York Rd, Parktown, 2193.

Worker participation in a respiratory health survey

In this article, members of the Health Information Centre (HIC) present a definition of participatory research, which is demonstrated with one of the projects they were involved in.

Definition

Participatory research can be defined as a method of social investigation, as well as an educational act and a means of taking action. This definition of participatory research was used by contributors to the International Forum on Participatory Research held in Ljubljana, Yugoslavia in 1980.

The first step

The first step towards doing participatory research, is for the people involved to identify their problem and how they want to tackle the problem.

The project that we were involved in began in this way.

A union had identified a particular problem facing its workers and asked the Health Information Centre to assist in investigating this problem. Receiving this request meant that we had already crossed the first bridge. We were working for a democratic organisation with its own structures which enabled those experiencing the problem to express their needs.

The Health Information Centre conducted a respiratory health survey for this union. What makes our research easier is that it is only done on request. This means that the need has already been identified by a union - by the people that we are doing the research for.

The question the union wanted investigated was whether exposure to a certain dust in their workplace could cause respiratory disease.

Accountability

Carrying out this research was only the first step. An equally important part of our research task was to make the results accessible to the people we conducted the research with. Nothing was done without informing the entire workforce and getting their go-ahead.

This involved meeting with all the workers in the factory. It meant explaining to them what it is we were doing and why. It meant getting up at 4 am to be at the factory by 5 to meet the 6 am shift before they went to work so that we could discuss the study with them. It meant going to the hostel in which the workers lived on the weekend to meet with them to explain the study. It meant explaining what a lung function machine is and showing them how it worked. We demonstrated skin prick testing and how to use a bronchodilator.

Having explained and demonstrated the methods of and the reasons for the investigation, the workers agreed with the chosen method of study.

Discussing the protocol

We then went with the workers to a meeting with management to discuss the protocol.

A plan had to be drawn up to test workers with minimum disruption to production. We were given the task, together with the union, of preparing this plan to present to management.

We had 300 workers to test before they began work.

300 workers were tested before they began work

Together we drew up a plan which involved asking workers to come to work an hour early. For the morning shift this meant asking workers to get up at 4 am. Again a meeting of the entire workforce was needed to find out if the workers would agree to this. They did, and management agreed to pay workers for the time that they came early to work. Also it was decided that only some workers would come early and others would start an hour late.

Both parties, management and labour, were happy with the method of and reasons for our research. So when workers were taken out of the factory and production decreased for a while, no-one complained. Everyone was informed about the process of testing.

The survey

We conducted a respiratory health survey investigating the effects of dust on workers' health.

The study consisted of a respiratory questionnaire, lung function studies at the beginning and end of the working week, as well as response to a bronchodilator and skin prick testing to determine the atopic status of the working population.

Report-back to workers

The research was conducted and analysed, and the results presented to the union and management in writing. In addition, a workers' report-back was organised. The entire workforce came to a 6 am meeting where, through translation, we explained the results of the study.

This process was time consuming and often frustrating, but this was outweighed by the benefits. It was very enlightening to see a successful democratic process in operation. It was a privilege for researchers from a service group to have the trust of a workforce and to be able to participate in their structures.

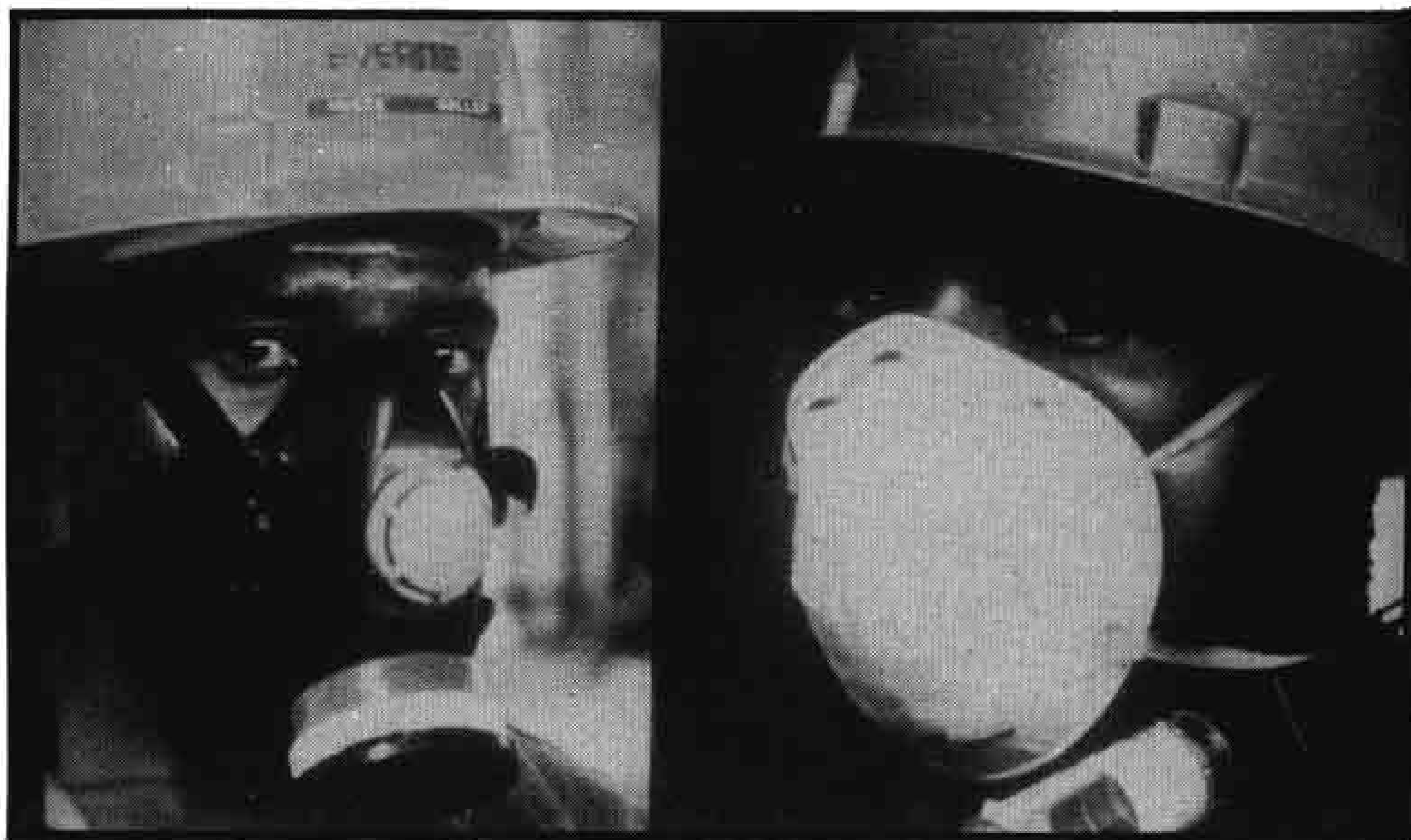
Was the survey an example of participatory research?

Personally fulfilling though this might have been, did we achieve any of the criteria of participatory research mentioned at the beginning of this article?

Firstly, this was a method of social investigation whereby an answer was obtained, so we did achieve the first criterion. However, this in itself is not unique to participatory research.

Was it an educational act? Clearly it was. Workers learnt about dust and lungs and about testing both. They learnt that medical research is not foreign and incomprehensible, but rather something that they can easily participate in and contribute to. They learnt about their own power in taking control of the study, directing it, and stopping procedures that did not suit them, demanding that they be rearranged.

Did this research project result in any action? At wage negotiations, workers put forward demands for improved working conditions. This is a slow process. But after only two years, better methods of handling the raw material, with less dust, have been introduced into every factory organised by this union - not just the factory where the study was conducted. Health and safety are firmly on the union agenda. Together with the union we produced education booklets on the hazards in this industry. Therefore our research fulfilled the last criterion: Action has been taken.



Workers learnt about dust and lungs and about testing both

Are there limits to participatory research?

It is important to remain critical of the process of research.

There were certainly times where we and the union could have been more careful to involve workers. In the analysis stage we were using computers to analyse the data. During this time we had little contact with the workers.

We need to ask ourselves if there are not other ways of handling the information and if the adaptation of conventional research to fit into the participatory model is the most we can do. There are other researchers who have tried to radicalise research even further and to debunk theories that conventional researchers hold to be gold standards.

What makes for successful participatory research?

We were working with a democratic organisation within which workers have control.

No other method of research would have been acceptable to them. It is possible that the workers led the study in such a way as to show us just how far the participatory research model could be pushed.

Certainly we played our role and contributed to this significantly, but it was not all our impetus.

The degree to which action was taken by the union as a result of this research project had much more to do with their structures and methods of relating to management, than to the research project itself. Nonetheless, without our backup, they would not have been in a position to achieve this.

Democratic organisation

Research cannot be done in a participatory manner without the framework of democratic organisation

What does this mean for other researchers trying to do research in a participatory manner? We doubt that it can be done without the framework of democratic organisation. A research project can work towards building up such organisation. Thus the two can complement each other. But the starting point is the pre-existing germ of organisation. This is a pre-condition for the success of participatory research.

Organisational involvement in a noise-induced hearing loss survey

The Technical Advice Group (TAG), is a service organisation working with unions in the struggle for a healthier and safer workplace.

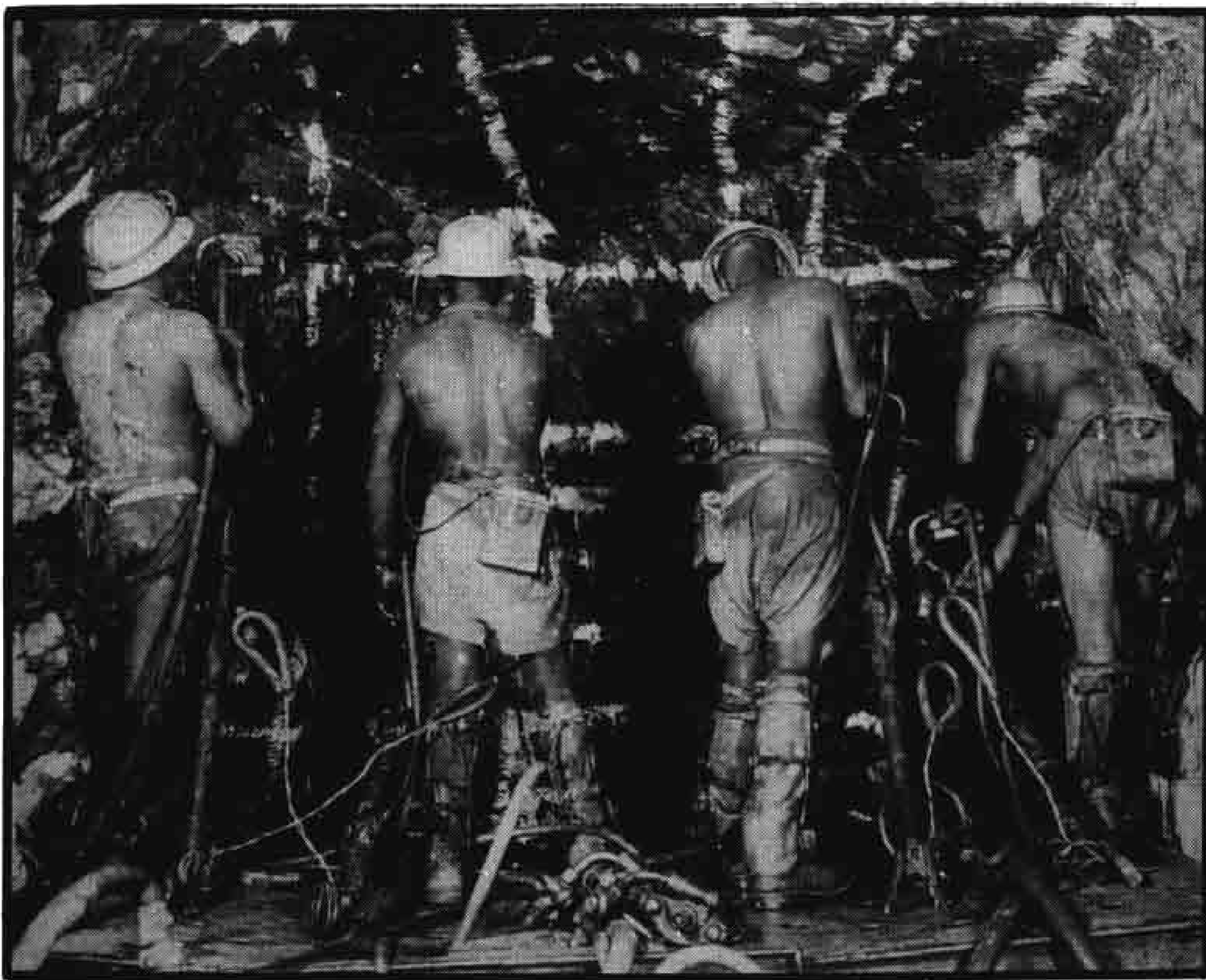
The ideas presented in this article were formulated during a survey carried out by TAG for the National Union of Mineworkers (NUM) on noise-induced hearing loss among mine workers.

We are committed to a method of research which involves organisational participation on the part of the union. This commitment arose from the following principles and objectives:

- Workers should have control over health and safety in the workplace. Therefore, the research conducted on the health of workers should be within workers' control and workers should be integrally involved in the process of the research.
- Through participation in the research, skills are transferred to workers and officials within the organisational structures of the union. This enables them to take up health and safety issues confidently, independently of service organisations, or the so-called "experts".
- Through participation, workers perceive that the research is conducted for their benefit and by their representatives.
- Participation in research improves organisation.
- There is an increase in workers' awareness of health and safety as a union issue.
- Worker strength is mobilised for the improvement of health and safety in the workplace.
- The union's "ownership" of the project removes fear of victimisation and prejudice.

Background to the survey

The NUM requested an investigation into hearing loss in the mining industry as part of their overall health and safety programme. The survey was required in order to negotiate reduced noise levels in the mine, and to use it as an organising "tool". It



The purpose of the research was to find out the extent and degree of damage resulting from noise

therefore had to be representative of stope drillers and their assistants.

The purpose of the research was to find out the extent and degree of damage resulting from noise. This was carried out by doing audiometric tests on a sample of workers. The survey also aimed to relate the audiometric tests to the subjective reality of the workers' experience of their hearing loss. A subjective questionnaire was used for this purpose.

Three hundred and six mineworkers from three mines had their hearing tested for the survey. The survey only took place on Sundays, for a duration of eleven Sundays in all. Accordingly, every Sunday, the following personnel were required

to run the survey:
- Six shaft stewards or workers who administered the questionnaires;
- Three audiologists or audiometric technicians who tested workers' hearing;
- A doctor and an audiologist who checked the workers' ears and
- Three shaft stewards and three TAG administration people who helped with the running of the survey.

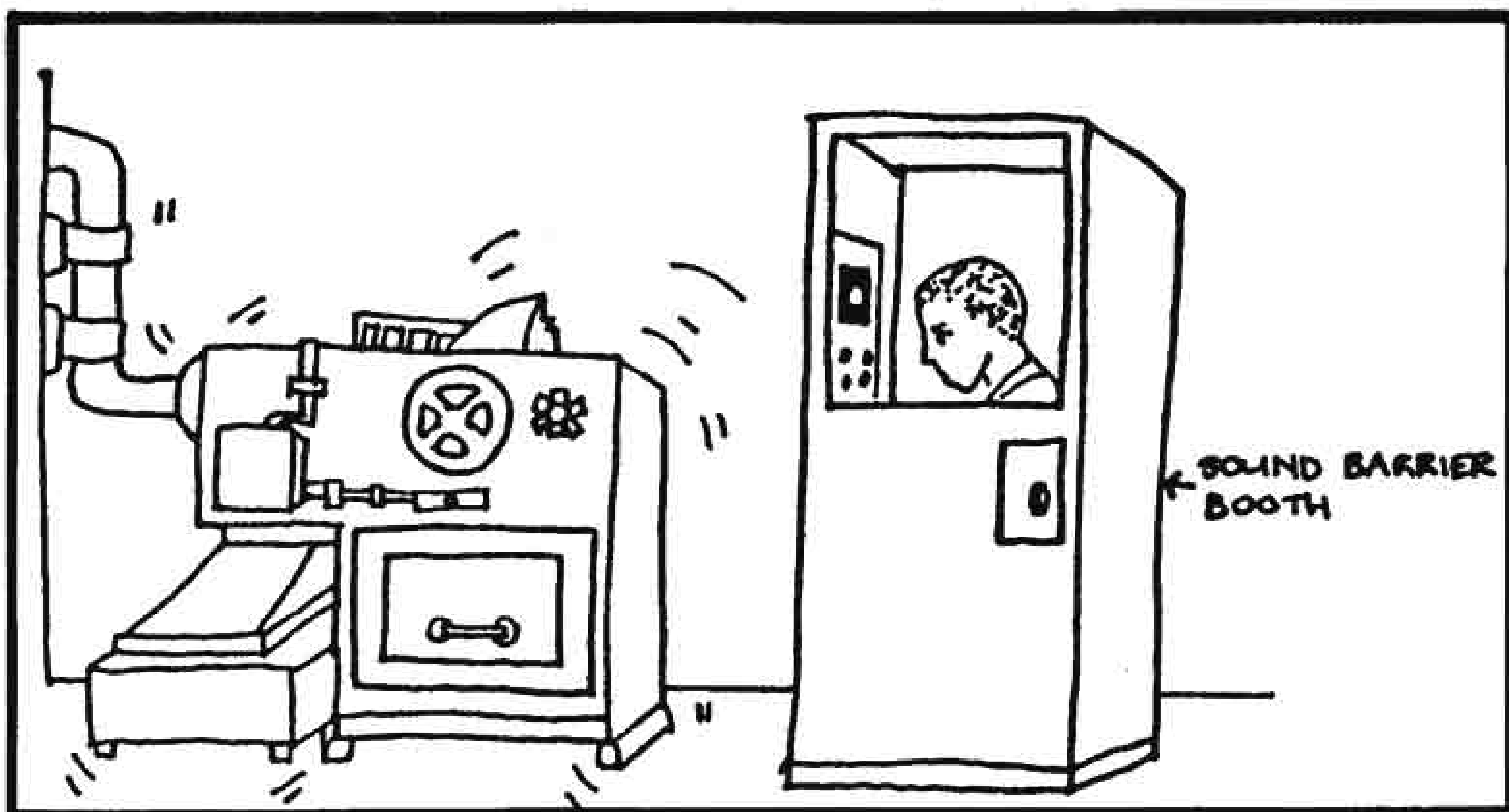
Union Participation in the research

The union participated in the research on a number of levels. The NUM health and safety officer was involved in the planning of the survey. He made sure that all the plans were realistic for the union and took into account possible limitations.

The shaft stewards were responsible for getting the project off the ground. They negotiated for names of workers and for the use of mine property. In order to do this, the shaft stewards had to have a thorough knowledge of the survey. This was done through a series of discussions and a training session on noise-induced hearing loss.

The shaft stewards were responsible for calling the workers, who were randomly chosen, to attend on the day of the survey.

During the survey, the shaft stewards administered a questionnaire investigating workers' work history and subjective evaluation of their hearing loss. They were also trained in how to use a noise dosemeter. In addition, a booklet on noise and noise control was produced.



Shaft stewards were trained in how to use a noise dosemeter

Organisational vs "Scientific" requirements

In the initial planning of the project, the NUM and TAG sometimes appeared to have conflicting interests. In all cases, these conflicts were resolved to the satisfaction of both parties. Here are some of the issues that had to be resolved:

- This project was not able to test all workers. Hence, it was decided to choose a random sample of workers. Initially, the NUM intended involving shaft stewards in a questionnaire survey to get all the names and particulars of the drillers on the mine where testing was to take place. This was to involve about 1 000 names from each mine. From this survey, a random sample would then be drawn. However, getting over 1 000 names and making sure that all the drillers and their assistants were included, presented itself as an organisational nightmare.
  Hence for efficiency, time, credibility and practical reasons, the shaft stewards negotiated with management for the records of drillers and drillers' assistants. The NUM could realistically expect to receive the names from management on certain mines only. This further limited the number of mines that could be included in the study.
- The NUM wanted the research to be conducted on as many mines as possible. This has obvious advantages for the organisational requirements of the NUM. TAG was also concerned about the representivity of the sample. However, due to the difficulty of access, as well as the need to negotiate the use of mine property, the survey could only be conducted on certain mines. Finally, four mines were chosen, taking into account geographic location.

Lessons the TAG "NUM Noise Group" learnt

The project demonstrated that good organisation at union and factory/mine level was essential for participatory research to be successful.

Had the shaft stewards received more training, they could have administered the audiometric tests. Unfortunately, the shaft stewards did not have the time to learn how to administer the audiometric tests. The NUM has now established Safety Shaft Stewards, who may more realistically learn how to do these tests.

We attempted a subjective questionnaire that was adapted from overseas questionnaires. We found that more research is required into the lifestyle of workers. A preliminary study should have been conducted to assess the real effects of noise-induced hearing loss prior to the questionnaire being drawn up. It was partly because of time constraints that this study was not carried out.

If such a study had been carried out, it may have revealed that there were other aspects of noise that are bigger problems to the workers, e.g. sore fingers (from vibration), loss of sleep, hypertension etc.

Because the union participated in the planning stages of the research, most of the objectives set were realistic. If, on the other hand, the TAG "NUM Noise Group" had set the requirements, we might have set objectives which could not realistically be fulfilled because of personpower and administrative limitations.

Problems encountered

The declaration of the State of Emergency drastically changed the conditions under which the union could operate. Issues related to the emergency such as repression and harassment thus overshadowed and disrupted the project. The project was fortunate however, in that the testing of mineworkers was almost complete by the time of the 1986 State of Emergency. But more workers would have been tested and an underground noise survey would have beenconducted, had there been no state of emergency. Clearly, political aspects are important factors to take into account when conducting research with unions.

The extent of the survey was limited by the personpower available for the research. All the "technical" people working on the survey were working on a voluntary basis. If the workers had been included on a larger scale, it is possible that the survey could have reached far more workers and extended to more mines.

Not all the workers chosen came to have their hearing tested. This can weaken the research. Better organisation on the mines would have eliminated this problem.

The research was essentially concerned with the problems of workers as a group and not with individual problems. Ethical and organisational problems arise from this issue. For example:

- Where should workers with ear infections be referred to? Workers felt that the mine hospitals were not dealing with their problems adequately and yet there was nowhere else to refer the workers. This raises the question of setting up a referral system prior to the research being conducted.
- How should the follow-up be conducted in the case of workers with noise-induced hearing loss? The law states that workers who have hearing problems may not work underground. If these workers are referred for compensation, they may be dismissed. Workers are not compensated for loss of pay, especially if they remain employed. The NUM recently negotiated six months'security of income for workers whose health had been affected on the mines. However, this is not sufficient and the issue is yet to be resolved. Clearly, more gains can be made out of the survey if the NUM can refer workers with impaired hearing for compensation.

Because of the possibility of victimisation of individual workers, the shaft stewards on the mines decided that individual mine results should not be presented, but rather the collective results of all the mines. Shaft stewards felt that workers would be

more interested in the collective results than the individual results.

Problems with narrow scientific research [1]

Often workers identify health problems originating from the work place before traditional science has researched the problem.

There is little conventional scientific attention focused on the long term effects of work-related hazards. One of the challenges facing unions in South Africa and all over the world, is changing the context of occupational health research.

Currently, there is a heavy reliance on "scientific evidence" for proving occupational health hazards. For example, the asbestos debate took place at an expert-to-expert level. It is not possible for all hazards to be debated at the same level. One must bear in mind that workers are affected and dying in the interim.

Alternative Research Methods

Workers should be actively involved in setting up and conducting research. This will prevent workers merely being used as datasets in the scientific world.

In researching health problems, there should not be a one-sided flow of knowledge. The workers' experience of the production process, labour conditions and subjective health effects should be combined with scientific know-how to produce comprehensive research.

The most crucial questions for research can be summarised as follows:

- Where do problems occur in the working situation?
- In what ways do problems occur?
- Which medical complaints occur and is there a connection between these complaints and the working situation?
- What steps should be taken to improve the working situation?

Conclusion

The experience of the health and safety survey has shown that with direct worker involvement, research can become a social investigation of health, an educational act and a means of taking action.

Through actively carrying out participatory research these methods will be developed further.

In this way, more socially relevant research, followed by action for improved conditions, will become a reality.

With direct worker involvement, research can become a social investigation of health, an educational act and a means of taking action

Reference

(1) Groenewegen P, Swuste P - MODERN WORK-RELATED DISEASES, SCIENTIST-WORKER COOPERATION. Vakgroep Wetenschpsdynamica, Universiteit van Amsterdam and Veiligheidskunde, TH Delft.

By: TAG NUM Noise Group

Book review

National Health Development Networks in support of Primary Health Care.

By C E Taylor
Geneva; World Health Organisation, WHO offset publication No 94, 1986 (49 pages).

In November 1982 at Colombo, Sri Lanka, a consultation was held between a number of countries involved in establishing national development networks in support of primary health care. Taylor's document on National Health Development Networks reflects those discussions as well as the experiences of several countries between 1980 and 1985.

A national health development network is defined as "an organisational structure that can link together services, agencies, and institutions competent in the areas of service development, training and research; in order to mobilise resources and co-ordinate activities such as management, planning, implementation, monitoring and manpower development to achieve health for all."

Mobilisation and co-ordination

Two concepts provide the logical basis of health development networks. The first is mobilisation and the second co-ordination.

Taylor points out that health development has been complicated in the past because of a lack of adequate co-ordination and mobilisation. He argues that the goal of "health for all" will remain elusive for as long as health systems have as many gaps and inconsistencies as they tend to have at present. Whilst general problems in the implementation of primary health care have become increasingly evident, specific causes and solutions have not been obvious. One problem is that

the "top down" hierarchical appoach has not worked. A network can help to provide the framework for a "bottom up" learning approach.

Functions of a network

Possible functions of a national health development network are described as:
- policy review
- decentralisation and regional review of resources
- selection and implementation of priority programmes
- multi-sectoral involvement
- community involvement
- health manpower development
- information and its use in management
- health systems research
- monitoring and evaluation
- district planning and management
- drug policies and management
- traditional medicine.

Structural reforms

Taylor sees local planning and the structural re-orientation of the health system as a priority. He points out that lasting changes require structural reforms. He feels that a network can influence such reforms by the types of institutions that are brought into it and by planning within a long term framework.

District level link-ups

Taylor's second priority concerns intermediate or district level link-ups to improve management. He points out that the Alma Ata concept stresses the need for new means of facilitating and mobilising regional and local capacity. He sees the building of demonstration districts and projects as a key contribution towards acheiving this. (Note that he does not use the word "model".) He points out that problems are identified and solutions that fit local conditions are worked out in the demonstration area, and this experience is fed back to improve services in the region generally.

Permanent support

Taylor points out that the notion of a network is threatening and that one needs to

deal with this aspect cautiously. Networks can range from a tight, centrally controlled organisation to a largely unstructured ad hoc set of relationships in which people choose to work together spontaneously over certain issues. He points out that whatever the network, a secretariat to provide permanent support for network activities has been found essential. This provides the continuity and persistance required in tackling the difficult, long-range problems that must be resolved. One should concentrate first on activities that not only are important but also have the greatest chance of success.

Close working relations between technical specialists, policy- makers and field personnel are required, as is a critical mass of competence. High priority must be given to the management disciplines if one wants to ensure that services are cost effective and equitable. A few strong institutions should provide the core of the network.

Learning new ways of improving health

The WHO's advisory committees on medical research have accorded Health Systems Research the highest priority. Taylor comments on the need to demystify the term. Broadly defined, health systems research includes "all systematic procedures for learning new ways of improving health".

Health services research must be distinguished from epidemiology and from evaluation. Epidemiology is concerned with identifying the frequency, distribution and causation of health problems, whereas health systems research is concerned with the organisation and application of solutions to these problems. Evaluation is a normal part of management, the purpose of which is mainly to find out whether and why accepted goals and objectives have or have not been met. Health systems research, in contrast, is more concerned with whether the objectives and the approaches being tried are appropriate and whether alternative options and approaches might ensure better results.

Taylor goes on to indicate the different types of research that can be done and how research networks themselves can be organised. A crucial type of research that he talks about is the incremental improvement of field operations: "a gradual introduction of changes in services, and careful observation of results, can lead to the identification of successive obstacles and management bottlenecks in health care and of means of resolving them. Perhaps 70-80% of all health systems research should consist of this kind of simple testing of alternative field methods, leading to steady and continuing improvement".

Eric Buch (May 1987)

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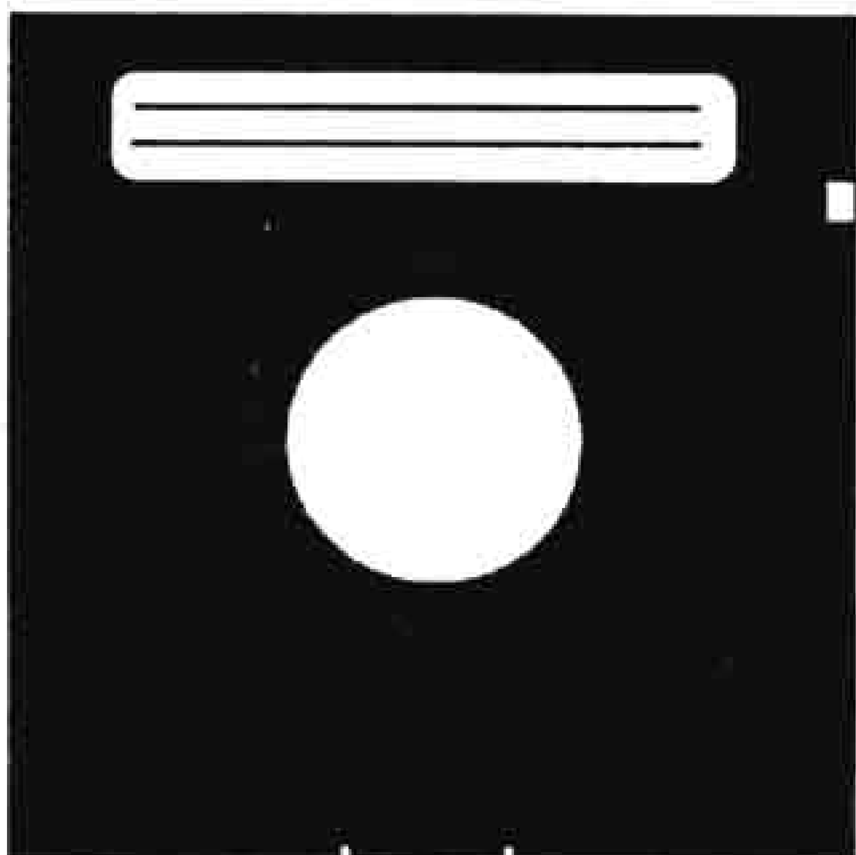

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