

# Improving equity in the provision of primary health care: lessons from decentralized planning and management in Namibia

Ruth Bell,<sup>1</sup> Taathi Ithindi,<sup>2</sup> & Anne Low<sup>3</sup>

**Abstract** This paper draws lessons from a review of primary health care services in Windhoek, the capital of Namibia, undertaken by a regional health management team. The review was carried out because of perceived increases in workload and inadequate staffing levels, arising from the rapid expansion of the city associated with inward migration. A survey of the utilization of government clinics was used to develop a more equitable allocation of primary health care services between localities. The survey revealed disparities between patterns of utilization of the services and the allocation of staff: the poorer localities were relatively underprovided. Decisions made centrally on resource allocation had reinforced the inequities. On the basis of the results of the review, the regional health management team redistributed nursing and medical staff and argued for a shift in the allocation of capital expenditure towards the poorer communities. The review demonstrates the potential for regional and provincial health management teams to make effective assessments of the needs of their populations and to promote the equitable delivery of primary health care services. In order to achieve this they need not only to become effective managers, but also to develop population-based planning skills and the confidence and authority to influence the allocation of resources between and within their regions and provinces.

**Keywords** Primary health care/utilization; Health services accessibility; Health care rationing; Health manpower/utilization; Personnel staffing and scheduling; Ambulatory care facilities/utilization; Social justice; Health care surveys; Namibia (*source: MeSH, NLM*).

**Mots clés** Programme soins courants/utilisation; Accessibilité service santé; Gestion ressources santé; Personnel santé/utilisation; Affectation personnel et organisation temps travail; Services soins ambulatoires/utilisation; Justice sociale; Enquête système de santé; Namibie (*source: MeSH, INSERM*).

**Palabras clave** Atención primaria de salud/utilización; Accesibilidad a los servicios de salud; Asignación de recursos para la atención de salud; Recursos humanos en salud/utilización; Admisión y programación de personal; Instituciones de atención ambulatoria/utilización; Justicia social; Encuestas de atención de la salud; Namibia (*fuentes: DeCS, BIREME*).

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## Introduction

Health sector reform in developing countries, including the decentralization of management and the provision of primary health care, is expected to produce changes in the pattern of health service delivery and improvements in the equity of provision (1–4). In particular, first-level services may require strengthening in order to improve local access to basic primary health care. This requires that local health management teams develop the skills to assess the adequacy of provision and to identify and implement ways of improving services.

This paper describes how the Khomas Regional Health Management Team undertook a review of primary health care services in urban Windhoek, Namibia, in order to obtain evidence that would underpin local planning decisions. The review led to changes in resource allocation and enabled the team to influence central planning decisions.

## Background

### Health sector reform in Namibia

When Namibia gained its independence in 1990 it inherited a state health system typical of colonial Africa: centrally planned, largely based on hospitals and in urban areas, and fragmented on ethnic lines (5–7). Subsequently, the Ministry of Health and Social Services adopted the primary health care approach (8). Thirteen regional health management teams were created in 1994 to decentralize responsibility for the planning and management of local primary health care services from four directorates, which were being phased out in 1997–98 when the work described in this paper was being carried out. The role of regional health management teams was to support and supervise district health management teams in their role of operationalizing the primary health care strategy at the local level. There were between one and three districts per region. During the transitional period, assistance with finance and training was provided from programmes funded by donors. This help

<sup>1</sup> Senior Registrar in Public Health Medicine, Northern Region, Newcastle-upon-Tyne, England, on secondment to the Ministry of Health and Social Services, Windhoek, Namibia. Current position: Lecturer in Public Health Medicine, Department of Epidemiology and Public Health, School of Health Sciences, Medical School, University of Newcastle, Newcastle-upon-Tyne NE2 4HH, England (email: ruth.bell@ncl.ac.uk). Correspondence should be addressed to this author at the last-mentioned address.

<sup>2</sup> Regional Medical Officer, Khomas Region, Ministry of Health and Social Services, Windhoek, Namibia.

<sup>3</sup> Technical Adviser to the South Directorate, Ministry of Health and Social Services, Windhoek, Namibia. Current position: Consultant in Public Health Medicine, Sunderland Primary Care Trust, Sunderland, England.

included the provision of technical advisers who were involved in the development of management and planning capacity in the regional and district health management teams.

At the time of this work, key decision-making on resource allocation had not been decentralized to regional health management teams. The directorates retained responsibility for setting official staff establishments for all primary health care facilities, while decisions on capital developments, such as the extension of clinics and the construction of new facilities, were taken centrally by planners in the Ministry of Health and Social Services.

### Windhoek: population and primary health care services

Before Namibia attained independence from South Africa in 1990, Windhoek was racially segregated: the areas of Katutura and Khomasdal were designated for the Black and Coloured populations, respectively, while the rest of the urban area was designated for the White population. In 1995, urban Windhoek had an estimated population of 181 000 and an annual population growth rate of about 5.4%, resulting mainly from migration from rural areas (9). The urban area expanded to accommodate the migrant population, largely in informal settlements of shacks spreading outwards from Katutura. Such communities suffer high levels of poverty and ill-health (10). In 1995 a survey revealed wide geographical variations in the levels of poverty in the urban area of Windhoek (Table 1) (9).

For the purposes of primary health care management, urban Windhoek is covered by a region and a district, both of which have the same boundaries. The overall planning and management of primary health care services are undertaken by the regional health management team, while district staff are responsible for delivering services in the clinics.

There are seven clinics in the urban area. At the time of the review, four were staffed by nurses only and three had doctors on site (Table 2). The nurses provide preventive services, mainly immunization and family planning, and

undertake the assessment and treatment of acute illness; however, they do not request investigations, treat certain chronic diseases, or refer patients to hospital. Nurses working in clinics without doctors are expected to refer appropriate patients to the doctors at Katutura Health Centre.

Katutura State Hospital, which is managed separately by the Ministry of Health and Social Services, is a national referral hospital, but also takes referrals from the primary health care facilities in Windhoek and provides an accident and emergency service. The hospital provides a 24-hour assessment service, staffed by nurses, for self-referred patients not requiring emergency treatment.

We focused on the clinics sited in Katutura and Khomasdal. The Robert Mugabe Clinic in Windhoek town centre was excluded because it is situated some distance from the other clinics and has a relatively affluent catchment area. At the time of the survey it was undergoing renovations and the staff were providing limited services at an alternative site in the town centre.

### Review of primary health care services

#### Purpose and objective

The review was intended to address the problems of an increasing workload, inadequate staffing levels, and the need to improve access to services provided by the study clinics within the rapidly growing informal settlements, as identified by the regional health management team. The specific objectives were as follows: to assess the equity of primary health care provision and identify any relatively underprovided localities; and to make recommendations for a more equitable allocation of primary health care resources.

It was anticipated that in conducting the review the regional health management team would improve its capacity for evidence-based planning. The review was undertaken between July and December 1997 and was overseen by an intersectoral steering committee comprising representatives of the Khomas Regional Health Management Team, Katutura

Table 1. Population characteristics of urban Windhoek<sup>a</sup>

	Area of Windhoek			
	Katutura: periphery	Katutura: central	Khomasdal and north-west Windhoek	Southern Windhoek
% of individuals aged >15 years and unemployed	33.3	27.3	10.9	3.4
% of population aged >5 years who never attended school	9.8	6.3	1.7	0.8
% of households living in informal housing	97.4	7.6	0.6	0.2
Average household size	3.7	5.0	4.1	3.0
% of households with monthly average income <N\$ 800 (subsistence level)	71.2	32.5	13.7	4.0
% of households with monthly average income <N\$ 2500	99.5	89.2	59.5	19.1
<b>Estimated population</b>	<b>28 030</b>	<b>80 765</b>	<b>31 935</b>	<b>36 746</b>

<sup>a</sup> Source: ref. (9).

Table 2. State primary health care facilities in urban Windhoek

Facility	Location	Distance to facility with doctor (km)	Distance from Katutura State Hospital (km)
Okuryangava Clinic	Outer north Katutura	2 (Katutura Health Centre)	3.5
Wanaheda Clinic	Outer west Katutura	2 (Katutura Health Centre)	3
Hakahana Clinic	Outer north-west Katutura	3 (Katutura Health Centre)	5
Katutura Health Centre	Central Katutura close to shopping facilities	On site	1.5
Donkerhoek Clinic	Central Katutura, residential area	1 (Katutura Health Centre)	2
Khomasdal Clinic	Khomasdal	On site	1
Robert Mugabe Clinic	Windhoek town centre	On site	3.5

State Hospital, Khomas Regional Council, the Municipality of Windhoek and a technical adviser. The main work of the review was carried out by a smaller group, supported by a visiting public health physician from the United Kingdom.

### Assessing equity in the provision of primary health care

The initial task was to define an approach to assessing the equity or fairness with which primary health care resources were allocated (11). The wide variations in levels of deprivation within urban Windhoek indicated that the need for primary health care services would not be adequately reflected by simple measures such as the size of the population served by each clinic. Since health needs could not be readily determined, we decided to measure service utilization on the assumption that clinic attendances would be related to underlying health needs.

We assessed the equity of primary health care provision by comparing clinic staffing levels and the numbers of clinical rooms allocated to each locality with the needs of the populations for primary health care services, as indicated by clinic attendances. Recognizing that attendances at any given clinic would not be a good indicator of the needs of the residents in the immediate locality, because many patients did not use their nearest clinic, we sought to identify relatively overresourced and underresourced localities. This involved relating the number of attendances for primary health care at any clinic by the residents of the locality in question, to the service provision in the locality.

### Utilization survey

Routinely collected utilization data did not include records of people's places of residence and a special survey was therefore undertaken to collect this information. All attendances at public clinics in Windhoek and non-emergency self-referrals to Katutura State Hospital between 29 September and 6 October 1997 were included. This period was considered long enough to give robust findings, but not so long that it would present difficulties for the health workers administering the survey. The week chosen avoided public holidays and seasonal peaks in

the incidence of communicable diseases and was not atypical in any other way.

Details of every patient attending primary health care services, including address, time of consultation and grade of staff seen, were recorded on a questionnaire administered by clerical workers and health professionals. The survey was confidential and the forms contained no personal identifying information.

Geographical localities were defined by allocating census enumeration areas to their nearest clinic. One large enumeration area contained two clinics. Each attendance recorded in the survey was assigned to one of these localities in accordance with the address given by the patient.

### Findings

A total of 8325 questionnaires were completed, and there were no apparent problems of non-participation. No address was recorded for 187 respondents (2.2%), and 116 (1.4%) were from outside Windhoek. The remaining addresses were coded to localities as described above. No further consideration was given to the 487 attendances (5.8%) by residents of central and southern Windhoek.

Table 3 shows the number of attendances by residents of each locality and the primary health care resources available locally. The demand for and supply of services were not well matched. The greatest disparity was for outer north Katutura, where there was only one small, poorly staffed clinic, but whose residents accounted for 30% of all attendances. Most nursing staff (60%) worked in clinics in inner Katutura, where only 35% of attendances involved residents of this area.

Residents of outer Katutura, whose local clinics were small and had no medical staff, were more likely to attend a primary health care facility outside their locality than were those of inner Katutura and Khomasdal (Table 4). There were wide variations in workload between clinics, as indicated by the number of attendances per nurse during the survey week (Table 5). The workloads were highest in the clinics in the outer Katutura localities, even though people from these areas were more likely than others to travel to distant clinics for treatment (Table 4).

Table 3. Comparison of demand for and supply of primary health care services by locality

Locality (clinic)	Demand	Supply		
	No. of attendances by residents at any primary health care facility	No. of nursing staff in local clinic or clinics	No. of doctors in local clinic or clinics	No. of clinical rooms in local clinic or clinics
Outer north Katutura (Okuryangava)	2268 (30) <sup>a</sup>	5	0	8
Outer west Katutura (Wanaheda)	1251 (17)	4	0	8
Outer north-west Katutura (Hakahana)	793 (11)	4	0	8
Inner Katutura (Katutura Health Centre and Donkerhoek)	2657 (35)	32	3.5	38
Khomasdal (Khomasdal Health Centre)	566 (7)	8	2	14
<b>Total</b>	<b>7535 (100)</b>	<b>53</b>	<b>5.5</b>	<b>76</b>

<sup>a</sup> Figures in parentheses are percentages.

Table 4. Proportions of attendances within localities

Locality (clinic)	No. of attendances at:	
	All primary health care facilities	Local clinic or clinics
Outer north Katutura (Okuryangava)	2268	1143 (50.3) <sup>a</sup>
Outer west Katutura (Wanaheda)	1251	534 (42.7)
Outer north-west Katutura (Hakahana)	793	480 (60.5)
Inner Katutura (Katutura Health Centre and Donkerhoek)	2657	1914 (72.1)
Khomasdal (Khomasdal Health Centre)	566	462 (81.6)
<b>Total</b>	<b>7535 (100)</b>	<b>4533 (60.2)</b>

<sup>a</sup> Figures in parentheses are percentages.

The survey demonstrated that a large proportion of attendances involved residents of outer Katutura, where the severest poverty occurred. The primary health care resources, however, were concentrated in the less deprived areas, which were served by large well-staffed clinics.

### Outcomes of the review

The steering committee accepted that the survey findings should be used as a basis for planning a more equitable allocation of primary health care resources. Allocation of nursing staff to produce a more equitable workload, based on clinic attendance patterns, implied a substantial redistribution of nursing staff to the outer Katutura clinics (Table 6). The allocation of staff in line with underlying population needs for primary health care, as indicated by overall attendances for such care in the localities, would have required an even greater degree of redistribution. This would have been difficult because of the limited capacities of the clinics. It was therefore recommended that there should be extensions to some outer

Katutura clinics in order that further service development could take place in the most underprovided areas.

The following actions were taken in the light of the review.

- Nursing staff were redistributed broadly in accordance with the clinic workloads (Table 6). This was achieved by redeployment and by an increase in the nursing staff establishment, negotiated by the regional health management team with the directorate at central level.
- Doctors' sessions were introduced in all clinics and a full-time doctor was allocated to Okuryangava Clinic in outer north Katutura.
- The regional health management team requested the central level to approve extensions to Okuryangava Clinic and Wanaheda Clinic in outer Katutura so as to increase the number of clinical rooms, and to give priority to Okuryangava.

## Discussion

### Assessing equity of service provision

The aim of the review was to improve equity by allocating available resources in a manner that would more closely match the needs of local populations. We used attendances as a measure of underlying population needs, but this took no account of unmet needs, which might have been higher in the more deprived communities. However, in urban Windhoek the distances that people had to travel were relatively small, and the poor were exempt from user fees. This suggested that unmet needs were unlikely to vary greatly between localities, and that utilization was a satisfactory measure of underlying population needs for planning purposes. It could be less appropriate in areas where access is more difficult and where there may be high variations in the level of unmet needs.

In our approach it was assumed that patients who did not use their nearest clinic would do so if local provision were increased. This was supported by the finding that clinics with the highest nurse workloads were in localities where the lowest proportion of residents were treated locally, suggesting that a lack of capacity was driving residents to attend more distant

Table 5. Nursing staff workload by clinic

Clinic (locality)	Total nurse contacts during survey	Nursing staff allocation during survey	No. of contacts per nurse
Okuryangava (outer north Katutura)	1303	5	261
Wanaheda (outer west Katutura)	605	4	151
Hakahana (outer north-west Katutura)	613	4	153
Katutura Health Centre and Donkerhoek (inner Katutura)	2342	32	73
Khomasdal Health Centre (Khomasdal)	899	8	112

Table 6. Redistribution of nursing staff in the study clinics

Clinic (locality)	No. of staff during survey	No. of staff after survey	% distribution required for equality of nursing workload <sup>a</sup>	% distribution required according to attendances by local residents <sup>b</sup>
Okuryangava (outer north Katutura)	5 (9) <sup>c</sup>	11 (19)	21	30
Wanaheda (outer west Katutura)	4 (8)	7 (12)	10	17
Hakahana (outer north-west Katutura)	4 (8)	6 (10)	10	11
Katutura Health Centre and Donkerhoek (inner Katutura)	32 (60)	25 (43)	44	35
Khomasdal Health Centre (Khomasdal)	15 (8)	16 (9)	15	7

<sup>a</sup> See Table 5.

<sup>b</sup> See Table 3.

<sup>c</sup> Figures in parentheses are percentages.

clinics. Drugs were equally available in all clinics but other factors, such as the range and perceived quality of services, and, in particular, the availability of a doctor, could influence the choice of a clinic (12–14). The potential advantages of centralized services may outweigh issues of local access in some situations.

### Assessing staffing requirements

Staff allocation to individual clinics during the survey week was broadly in line with the official staff establishment level and was largely based on standard staffing patterns defined for different types of clinic. Staffing levels had been increased periodically but the historical pattern had been maintained, whereby the larger facilities benefited most. The regional health management team had previously made informal adjustments to the official establishment, such as allocating an extra nurse to Okuryangava and taking any seconded staff from the Katutura establishment in recognition of the heavier workload in the peripheral clinics.

The data collected during the survey allowed workload disparities to be quantified and demonstrated that they were much greater than previously perceived. This evidence enabled the regional health management team to argue successfully for

an increase in the overall staff establishment allocated at the directorate level. Consequently, it became easier for the team to implement a substantial redistribution of staff between clinics.

Traditional approaches to staff allocation have relied on population-based norms or on standard staff allocations for different types of facility, the latter being the model used previously in Namibia (15). More recently, approaches based on actual workloads (16) or on the staff required to deliver specified health programmes (17) have been advocated, taking greater account of local variations in population needs and in the nature of the workload.

Our approach had similarities with workload-based approaches in that it allowed staff to be allocated according to the relative workload in individual clinics. However, it also indicated that existing utilization patterns were strongly influenced by supply factors (lack of capacity in the outer Katutura areas) as well as by demand. This is likely to be an important consideration in urban settings where clinic catchment areas overlap, and suggests that allocation criteria based on utilization alone may fail to address historical inequalities in provision.



### Decision-making and planning in decentralized systems

The survey provided strong evidence supporting proposals that further service development should concentrate on the needs of the poorest communities at the periphery of the city. As with previous revisions of the staff establishment level, capital developments planned before the review had reinforced inequities. These developments, planned and managed at the headquarters of the Ministry of Health and Social Services, had resulted in the greatest extensions taking place in clinics in the relatively less deprived areas. In the more deprived areas, meanwhile, much smaller extensions had been made.

The regional health management team was able to redistribute staff and to negotiate successfully with the directorate for an increase in the staff establishment to the extent that physical capacity allowed. A question remains, however, regarding the extent to which the team may be able to influence decisions on the allocation of capital resources, which continue to be taken centrally. Previously, the central planners were neither required nor accustomed to consult with the newly established regional health management teams, which in turn perceived the central staff to be more highly skilled and experienced.

Since the Bamako Initiative on decentralization, it has generally been accepted that the central level of health ministries should advise on the allocation of capital funds and establish norms and standards on health infrastructure (4). Where this is the case, as in Namibia, meaningful dialogue needs to take place between central planners and health management teams concerning the allocation of capital budgets between and within regions and provinces. This could be facilitated by establishing structures that bring together staff with complementary roles at different organizational levels (18).

### Developing capacity and appropriate skills

Strengthening the capacity of the lower levels of the health system is an essential prerequisite for successful decentralization (19). Many members of health management teams can be expected to be unfamiliar with the planning of services for local communities. This requires an understanding of concepts of health needs and approaches to the assessment of these needs at the population level, as well as skills in conducting and interpreting community surveys. Training in Namibia previously focused on management skills, as had been the case elsewhere in the African Region (20–22), and members of regional health management teams had not been trained in the additional public health skills. Although effective management can help to bridge the gap between policy and implementation (23) it is not sufficient to ensure effective and equitable service provision (18), which requires a broader understanding of the health needs of populations and planning skills.

In the case of the Khomas regional health management team, investigatory skills were learnt through guided on-the-job training. This has benefits over more formal training methods for building human resource capacity in the public sectors of developing countries (24, 25). An output was generated that not only allowed the regional health management team to implement changes in the distribution of staff in the region, but also increased its confidence in dealings with the central level, enabling the team to influence some decisions on resource allocation which benefited the local population.

We have described an approach to the improvement of resource allocation and decision-making in the context of decentralized management in an urban primary health care system. Our experience and the lessons drawn from it may provide guidance for those facing similar situations elsewhere. ■

**Conflicts of interest:** none declared.

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### Résumé

#### Pour plus d'équité dans la fourniture des soins de santé primaires : enseignement tiré d'une planification et d'une gestion décentralisées en Namibie

Le présent article tire les enseignements d'un examen des services de soins de santé primaires de Windhoek, capitale de la Namibie, effectué par une équipe régionale de gestion sanitaire. Cette analyse a été menée en raison des augmentations enregistrées dans la charge de travail et de la dotation insuffisante en personnel qui trouvent leur origine dans l'extension rapide de la ville, associée à une immigration venue de l'étranger. On s'est servi d'une enquête sur l'utilisation des dispensaires publics pour élaborer une répartition plus équitable des services de soins primaires entre les diverses localités. Cette enquête a révélé des disparités entre les modes d'utilisation de ces services et la dotation en personnel : les localités plus pauvres étaient relativement mal desservies. Des décisions prises au niveau central concernant l'allocation des

ressources renforçaient ces inégalités. Sur la base des résultats de cet examen, l'équipe régionale de gestion sanitaire a redistribué le personnel infirmier et médical et préconisé une réorientation des dépenses d'équipement vers les communautés plus pauvres. Cet examen démontre que les équipes régionales et provinciales de gestion sanitaire peuvent procéder à des évaluations utiles des besoins de leur population et favoriser une répartition équitable des services de soins de santé primaires. Pour cela, elles doivent non seulement devenir des gestionnaires efficaces, mais aussi étoffer leurs compétences en matière de planification en population et gagner l'assurance et l'autorité nécessaires pour influencer sur l'allocation des ressources entre les différentes régions et provinces et au sein de ces dernières.

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### Resumen

#### Mejora de la equidad en la dispensación de atención primaria: lecciones de la planificación y gestión descentralizadas en Namibia

En este artículo se extraen lecciones de los resultados de un estudio de los servicios de atención primaria de Windhoek, capital de

Namibia, llevado a cabo por un equipo regional de gestión sanitaria. El estudio se emprendió tras observar que el volumen de

trabajo había aumentado y el personal resultaba insuficiente debido a la rápida expansión experimentada por la ciudad como consecuencia de las corrientes migratorias hacia el interior. Se llevó a cabo una encuesta sobre el uso de los dispensarios públicos para idear una distribución más equitativa de los servicios de atención primaria entre las localidades. La encuesta reveló disparidades entre las pautas de utilización de los servicios y la distribución del personal: las localidades más pobres estaban relativamente infradotadas. Las decisiones adoptadas a nivel central respecto a la asignación de recursos reforzaban las desigualdades. Sobre la base de los resultados del estudio, el equipo regional de gestión sanitaria redistribuyó al personal de enfermería y a los facultativos y

propuso reorientar parte de los gastos de capital hacia las comunidades más pobres. El estudio pone de relieve el potencial que encierran los equipos de gestión sanitaria regionales y provinciales para evaluar eficazmente las necesidades de sus poblaciones y promover una dispensación equitativa de los servicios de atención primaria. Para lograr tales objetivos es preciso no sólo que esas personas sean unos administradores eficaces sino también que hayan desarrollado las aptitudes que exige la planificación basada en la población, así como la confianza y autoridad necesarias para influir en la distribución de los recursos entre sus regiones y provincias y dentro de las mismas.

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