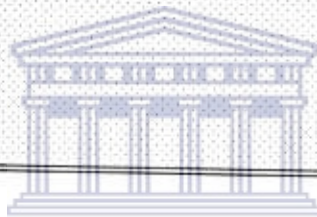


**EQUITY AND THE ALLOCATION OF
HEALTH CARE RESOURCES AT
DISTRICT LEVEL**

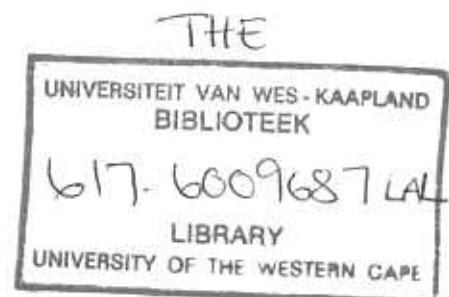


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WESTERN CAPE


RATILAL LALLOO

**DEPARTMENT OF COMMUNITY DENTISTRY
UNIVERSITY OF THE WESTERN CAPE**

1994



INDEX

<i>CONTENT</i>	<i>PAGE</i>
a. Title and Supervisors	i
b. Declaration	ii
c. Dedication	iii
d. Acknowledgements	iv
e. List of Abbreviations	v
f. List of Tables	vii
g. List of Appendices	x
 UNIVERSITY <i>of the</i> WESTERN CAPE	
1. Summary	1
2. Introduction	5
3. Literature Review	7
4. Aim and Objectives	41
5. Materials and Methods	43
6. Results	51
7. Discussion	88
8. Conclusions	111
9. References	115
10. Appendices	128

**EQUITY AND THE ALLOCATION
OF HEALTH CARE RESOURCES
AT DISTRICT LEVEL -
LESSONS FROM AS A CASE STUDY
IN MITCHELLS PLAIN**



(Registrar in the Department of Community Dentistry,
Faculty of Dentistry, University of the Western Cape)

A thesis submitted to the Faculty of Dentistry of the University of the Western Cape in partial fulfilment of the requirements for the degree of Magister Chirurgiae Dentium in the discipline of Community Dentistry

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Declaration

I,, declare that "Equity and the allocation of health care resources at district level by using Mitchells Plain as a case study" is my own work and that all the sources I have quoted have been indicated and acknowledged by means of references.



Dedication

This thesis is dedicated to:

1. The many members of my family who were taken away from us prematurely, especially my father.
2. My mother and sisters and their families for their support and encouragement.
3. My life-time partner, for without her constant support and motivation this thesis would have never been completed.



Acknowledgements

1. The co-operation and assistance of the many people who forwarded me data and information is greatly appreciated.
2. A thanks to Premesh Lalu for his comments and criticisms.
3. A special acknowledgement to my supervisors for their support and positive criticisms.



List of Abbreviations

ANC	African National Congress
BCG	Bacille-Calmette-Guerin
CHC	Community Health Centre
CPA	Cape Provincial Administration
CSS	Central Statistical Services
DBSA	Development Bank of Southern Africa
DHS	District Health System
DNHPD	Department of National Health and Population Development
DPT	Diphtheria, Pertussis and Tetanus
GNP	Gross National Product
HSFE	Health Services Financing and Expenditure Survey
HEU	Health Economics Unit, UCT
HoR	House of Representatives
IMR	Infant Mortality Rates
MOU	Midwife and Obstetrics Unit
NGO	Non-Governmental Organisation
NHS	National Health Service
PHCA	Primary Health Care Approach
PYLL	Potential Years of Life Lost
RAWP	Resource Allocation Working Party
RDP	Reconstruction and Development Programme

ReHMIS	Regional Health Management Information System
RSA	Republic of South Africa
SACTWU	South African Clothing and Textiles Workers Union
SAHRA	South African Health Resource Allocation
SAMWU	South African Municipal Workers Union
SARB	South African Reserve Bank
SMR	Standardised Mortality Ratio
SMT	Strategic Management Team
UCT	University of Cape Town
UNISA	University of South Africa
UWC	University of the Western Cape
WHA	World Health Assembly
WHO	World Health Organisation



List of Tables

- Table 1: Population of Mitchells Plain after adjustment for undercount
- Table 2: Percentage Distribution of Income Level in Mitchells Plain
- Table 3: Comparison of Demographic Variables
- Table 4: Comparison of Public General Beds/1000 people and Number of People per Public Sector Clinic
- Table 5: Comparison of Medical Doctor, Dentist, Nurse and Pharmacist to Population Ratio
- Table 6: Distribution of Categories of Health Personnel by private and public sector in Mitchells Plain
- Table 7: Analysis of House of Representative Expenditure in Mitchells Plain for the period 1991/92
- Table 8: Analysis of City Council Expenditure in Mitchells Plain - Global figures for all the City Council clinics for the periods 1991/92 and 1992/93
- Table 9: Analysis of Cape Provincial Administration Expenditure in Mitchells Plain for the period 1992/93
- Table 10: Analysis for Total Health Care Expenditure by Public Health Care Authority in Mitchells Plain for the periods 1991/92 and 1992/93
- Table 11: Sick Benefit Funds Expenditure in Mitchells Plain
- Table 12: Total Health Care Expenditure in Mitchells Plain for 1991/92

Table 13:	Comparison of Public and Medical Aid/ Benefit Scheme Per Capita Health Care Expenditure utilising different denominators
Table 14:	Comparison of Public and Medical Aid/Benefit Scheme Per Capita Health Care Expenditure utilising a common denominator
Table 15:	Public Sector Expenditure by Type of Service
Table 16:	Comparison of Mortality Data
Table 17:	Comparison of Morbidity Data
Table 18:	Comparison of Percentage Immunisation Coverage of under one-year old babies for 1992
Table 19:	The Ratio of Beds and Health Care Facilities to Population
Table 20:	The Ratio of Health Personnel to Population
Table 21:	The Distribution of Health Personnel in the Public and Private Sectors in the Mitchells Plain District
Table 22:	Per Capita Health Care Expenditure in the Public Sector
Table 23:	Per Capita Health Care Expenditure by Medical Schemes
Table 24:	Comparison of Income and Infant Mortality Rates
Table 25:	Comparison of Health Facility to Population Ratio and Infant Mortality Rates
Table 26:	Comparison of Population to Nurse Ratio and Infant Mortality Rates
Table 27:	The per capita expenditure and access to health services in the public and private sectors at the national, provincial and district levels

- Table 28: The coverage of the health care services and the IMR at national, provincial and district levels
- Table 29: The incidence rate of TB, demographic characteristics and the ratio of health facilities and personnel to population at the national, provincial and district levels
- Table 30: Summary table of indicators to monitor equity at district level
- Table 31: Summary of the main findings of the levels of equity in the district of Mitchells Plain



List of Appendices

- Appendix 1: Organogram for District Health Care System
- Appendix 2: Lorenz Curve
- Appendix 3: Map of Mitchells Plain District
- Appendix 4: Age and Gender Distribution of Mitchells Plain Population
- Appendix 5: Level of Education (primary) of Mitchells Plain Community
- Appendix 6: Level of Education (secondary) of Mitchells Plain Community
- Appendix 7: Level of Education (tertiary) of Mitchells Plain Community
- Appendix 8: Income Level of Earners in the Mitchells Plain Community by Gender
- Appendix 9: List of Primary Schools in Mitchells Plain
- Appendix 10: Distribution of Primary School-children by Standard
- Appendix 11: List of Secondary Schools in Mitchells Plain
- Appendix 12: Distribution of Secondary School-children by Standard
- Appendix 13: List of Health Care Facilities in Mitchells Plain
- Appendix 14: Global statistics of the Lentegeur Psychiatric Hospital
- Appendix 15: Staff Employed at the Lentegeur Psychiatric Hospital
- Appendix 16: Statistics of the Midwife Obstetrics Unit
- Appendix 17: Staff Structure of the Mitchells Plain Community Health Centre
- Appendix 18: Statistics of the Community Health Centre
- Appendix 19: Dental Statistics of the Mitchells Plain District
- Appendix 20: List of Private Medical Practitioners

- Appendix 21: List of Private Dental Practitioners
- Appendix 22: List of Pharmacies
- Appendix 23: Types of Medical Specialists in the Private Clinic
- Appendix 24: Comparison : Beds per 1000 People
- Appendix 25: Comparison : Number of People per Clinic
- Appendix 26: Summary of Expenditure by Pro Sano to various health care providers for the year 1992
- Appendix 27: Per Capita Public and Medical Scheme Expenditure
- Appendix 28: Per Capita Public and Medical Scheme Expenditure (common denominator)
- Appendix 29: Opsomming





SUMMARY
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WESTERN CAPE

The aim of this study was to assess the allocation of health care resources at district level in terms of equity, based on a case study in Mitchells Plain, a residential suburb 27 kilometres from the Cape Town central business district and home to approximately 250 000 people.

The previous government created a racist system that exploited and oppressed the majority "black" population in South Africa. Characterised by inequity and oppression the Apartheid policies systematically denied basic human rights such as access to decent housing, clean water and sanitation, education, employment, living wage and health care services. The systematic re-introduction of equity in the provision of these basic services is an essential social and economic principle in the transformation of South African society. The health care sector must ensure that all people have the potential to be healthy and have equal access to health care services. Equity in health, health care and all other spheres affecting health is essential to the creation of a fair and just society.

The Primary Health Care Approach and the District Health Care System are suggested as important vehicles to improving equity within the system. They need to be monitored so that progress towards improved equity can be assured. There are various definitions of equity in the health care arena, including equal per capita expenditure, equal expenditure for equal need, equal access for equal need, equal utilisation for equal need or even equal health. The definition of equity and the indicators selected to measure it should be based on the present status of the health

care system and the availability and reliability of data needed to measure the changing levels of equity.

Data related to a variety of potential indicators were collected for the defined district of Mitchells Plain. These included demographic data from the 1991 Population Census, health systems data from public and private health organisations and health status data from annual reports of public health authorities and various community surveys.

The demographic information provides the denominators for many of the health systems and status indicators. It shows the Mitchells Plain population to be a young and developing one. Public health sector information was available and easy to collect while private sector information was difficult to collect due to the absence of a comprehensive and reliable database.

A number of indicators suggest that Mitchells Plain already experiences substantial inequity in the allocation of health care resources compared to other areas. The data showed that there are no public general beds in the entire district. The ratios of general beds to population and people to clinic compare unfavourably with the regional and national ratios. Based on the WHO recommendations of 3.5 beds per 1000 people and one clinic per 10 000 people, Mitchells Plain needs 800 general beds and 18 primary care clinics. Most of the professional health personnel

are located in the private sector and most of the nurses are employed at the psychiatric hospital. The ratio of medical doctors, nurses and pharmacists to population also compares unfavourably with Western Cape and national figures. An assessment of expenditure showed that a total of R 33 228 293 was spent on health during 1991/92. There were differences in the per capita expenditure at national, provincial and districts levels as well as between the public and private health care sectors. The health status information showed that the infant mortality rate (IMR) available for Mitchells Plain was lower than the national IMR. Rates for under five-year old mortality and maternal mortality were not available for the district. The incidence of tuberculosis was very high and exceeds the national figure. The incidence of notifiable conditions such as hepatitis and measles were not available. The immunisation coverage of under one-year old babies was complete for polio, DPT and measles, but for the BCG vaccine the coverage was very low compared to the national coverage.

The study identifies a set of viable indicators of health equity for use at district level. They are totally dependent on the availability of reliable district data; including population size, age and gender data on which most other indicators are based. The proposed measures of equity include access to and coverage of health services, health care expenditure, levels of ill-health and the perceived health needs of the community. Indicators that could be utilised immediately to assess equity in access and expenditure are the ratios of health facilities and personnel to population and the per capita health care expenditure in the public and private sector at national,

provincial and district levels. Changes in the distribution of health personnel and per capita expenditure are more usefully monitored in the medium-term; while the distribution of health facilities is only likely to reflect the long-term changes brought about by building programmes that may take years to complete. Short-term indicators can monitor equity in terms of coverage, such as the percentage of children fully immunised and the percentage of births supervised by trained personnel. Empirical district data on the levels of ill-health (mortality and morbidity rates) need to be collected and related to the demographic data such as employment, income and literacy levels, and to the availability of resources and per capita expenditure. The perceived health needs of the community are an essential measure of equity in the health care system. This data was not collected for this study. All the data needed for the indicators mentioned above should in future be available through the proposed District Health Information System, described in the National Health Plan for South Africa of the African National Congress. The indicators will need to be standardised as far as possible to enable comparison across the public and private sectors at district, provincial and national levels to monitor changes in equity in the health sector now and in the future.



INTRODUCTION
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This study on equity and the allocation of health care resources at district level takes as its point of departure the horrendous inequities bequeathed by four decades of National Party rule. The great majority of people in South Africa suffered the injustices of the Apartheid ideology of the National Party government. Inequity in the distribution of wealth and resources has been one of the most prominent components of this ideology and has resulted in untold misery for millions of South Africa's people. Equity in housing, education, employment, income and health care, that may have proved essential in allowing people to live a full and creative life, have been systematically denied (ANC, 1994a; ANC, 1994b).

The current health care system in South Africa is characterised by the same inequities in the distribution of resources common to other sectors of society and a notable absence of democratic processes and community participation (Ellis, 1993; McIntyre and Dorrington, 1990). This apartheid-based "health care policy by default" has had a significant and detrimental effect on the health of the majority of South Africans (Price, 1986; Andersson and Marks, 1988). The apartheid policies resulted in the disempowerment, oppression and exploitation of the majority of the people. These racist policies have contributed to widespread poverty, malnutrition, illiteracy and ill-health which are contrary to the needs of a healthy society.

With the transition towards a more inclusive political democracy which began around 1990, South Africa entered an era of profound new development. Within the

context of political transition, a health policy committed to the principles of the Primary Health Care Approach and the goal of "Health for All by the year 2000" has now become a realisable possibility. The process of development, implementation and evaluation of the health policy of the present democratic government is the subject of substantial debate in the literature and in policy discussions across the political spectrum. While a commitment to the principle of equity is laudable, what this means in practice and especially in terms of its application at community and district level remains vague. A conceptual understanding of equity including the evaluation of various systems with respect to equity goals, ways of monitoring the reduction of inequity and testing of methods of achieving equity in the health care system need to be developed.



The development of appropriate indicators with which the process and outcome can be evaluated is therefore of critical importance. The process of assessing and/or achieving equitable resource allocation will require the measurement of a range of variables that have the potential to serve either individually or collectively as indicators of appropriate resource allocation. This study will attempt to identify and measure these indicators by using the district of Mitchells Plain in the Western Cape province as a case study.



LITERATURE
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REVIEW

The literature review will introduce and clarify key issues related to equity and the allocation of health care resources at district level. These include a review of the South African health care system in relation to equity indicators, the concept of a district health care system and the principle of equity in health and health care^a.

The review of the South African Health Care System will be characterised in terms of its history, expenditure on health care and the difficulty of estimating health care expenditure, the allocation of resources such as the distribution of health care personnel and facilities and the health burden^b and utilisation of health care services in the district of Mitchells Plain.



The history, definition, structure, importance and the relationship to the concept of equity of the District Health System (DHS) will be briefly discussed.

The various conceptual understandings of equity, its importance in the health care system, the monitoring, strategies and obstacles to achieving it will be reviewed.

The literature review concludes with a discussion of various indicators with potential value for the monitoring and evaluation of equity goals at district level.

^a Health refers to the overall health status of the individuals in a community and health care to the availability, accessibility, acceptability and appropriateness of the health care services.

^b Health burden refers to the prevalence and/or incidence of disease or ill-health in a community.

South African Health Care System

The health care system in South Africa has developed in accordance with the racist policies of the previous government (McIntyre and Owen, 1994). The system depicts the racial prejudices of the Nationalist Government, which has been in power up until 1994. The health care system is inequitous in that it favours the minority "white" urban communities and denies access to health care services to the majority of the "black" urban/peri-urban/informal and rural communities (ANC, 1994a). Almost all health care resources, such as financial input, health care facilities and personnel are generally located in the "white" urban group areas. The system is fragmented along racial lines leading to gross inefficiencies and a wastage of scarce resources. It is further characterised by the curative approach with promotive and preventive programmes forming a negligible proportion of the overall approach to dealing with health and ill-health. The private sector is strong and independent, with most health care professionals located in it. The private sector is inaccessible to the majority of the population due to the high costs of the providing care. This, with the disparities in the other determinants of health and ill-health such as housing, employment, income, water and sanitation, environmental issues, has resulted in greater

differences in health status between urban and rural communities, the employed and the unemployed, and "whites" and "blacks"^c.

The Crisis in Health Expenditure

As a result of the Apartheid policies of the Nationalist Party government, **the health care sector has been fragmented, centralised, highly bureaucratised, curative-oriented and expensive.** The crisis in health care expenditure in South Africa has been described in numerous studies, reports and position papers (Broomberg et al., 1990 and 1991; McIntyre, 1990; Meintjies and Hartford, 1990; De Beer and Broomberg, 1990; Financial Mail, 1992; Morris, 1993; Cameron, 1993). The major problems associated with the health expenditure crisis relate to the rising costs of care (above the inflation figure) in the private sector particularly and to a lesser extent in the public health care sector, the reduction in the provision of services by the public sector due to financial constraints, a real decrease in public health care expenditure over the last few years, the maldistribution of health care resources, the global and national economic recession and increasing levels of unemployment. Although real per capita expenditure has increased in both the private and public sectors since the early 1970's, the maldistribution of financial resources remains

^c Due to the racist ideology of the previous National Party government, the terms "White", "Indian or Asian", "Coloured" and "Black" cannot be avoided. All people were classified according to the Population Registration Act of 1950. The use of the terms does not imply their legitimacy.

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Literature Review

substantial. The increase has been lowest in the "homelands"^d (McIntyre and Dorrington, 1990). The crisis in health expenditure has exacerbated the financial barrier to health care for many of the people of South Africa and further increased the level of inequity in the health system.

The assessment of health expenditure in South Africa is a complex task that is complicated by the division of costs between the public and private sectors, the non-governmental organisations and the "out-of-pocket" payments made by people.

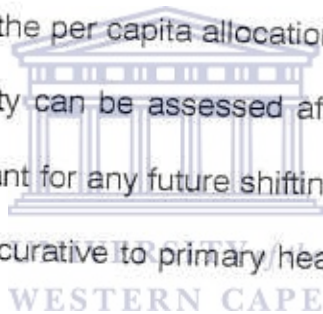
In the public sector the problems relate mainly to the fragmentation of the health services into 14 ministries. These incorporated the central department of health, the three "own affairs" departments and the ten departments of the "homelands" and "self-governing" territories. These departments of health form part of the first tier of government. There was further fragmentation at the second (provincial) and third (local) tiers of government (McIntyre, 1990).

In the private sector an assessment of health care expenditure is difficult because of the large number of independent medical aid schemes operating in the country. As at 31 December 1992, there were 186 registered medical schemes (Registrar of

^d Ten Bantustans were created by the previous Nationalist Party government. Of these four accepted independence and were called "Homelands". The other six were known as "self-governing" territories.

Medical Schemes, 1993). Global figures on expenditure are available, but detailed data on expenditure on the various types of services are difficult to ascertain. Similar problems apply to the non-governmental organisations offering health care services in the country. The lack of "out-of-pocket" expenditure data makes this even more difficult to calculate.

To assess the per capita expenditure on health by region or district, it is essential to ascertain the present expenditure on health care in greater detail in each of these sectors. The level of equity in the per capita allocation of resources as well as to the health burden in the community can be assessed after the analysis of the existing situation. It will also be important for any future shifting of resources from the private to the public sectors and from curative to primary health care activities.



Distribution in Health Expenditure

For the 1991/92 financial year South Africa spent R 16.2 billion on health care (McIntyre, 1993). This is equivalent to about 6.2% of the Gross National Product (GNP). Of this 3.1% was directed to the public sector. An analysis of the health budget in South Africa shows that there are obvious inequalities in the distribution of health expenditure. An analysis of the health budget of 1989/90 carried out by Van Rensburg and Fourie (1994) clearly shows the inequalities between the private and public sectors, between South Africa and the "Homelands" and between the racial

groups. The private sector utilised 45% of the budget and served 20% of the population. The balance of 55% was utilised by the public sector to serve 80% of the population, most being from the disenfranchised masses. The per capita expenditure for the insured population (mostly "whites") was R 555 compared to R 159 for non-insured people. The per capita expenditure in the "Homelands" was R 55.

The per capita expenditure by race group showed the following differences (Van Rensburg and Fourie, 1994):

	White	Asian	Coloured	Black (RSA)
Per Capita Expenditure 1989/90	591	356	340	138

The above analysis shows that the "White" population group (generally the wealthy, insured and employed) have access to health care in the private sector and the majority "Black" population group (generally the poor, uninsured and unemployed) are dependent on the public sector or home-based care. This inequality in the distribution of the health budget is symptomatic of the apartheid policies of the National Party. **Expenditure based on the needs of the population is essential to address these inequalities in the health budget.** Equal per capita expenditure

on health care for the entire population could improve the level of equity in the health care system.

Distribution of Health Care Personnel

The distribution of health care personnel is one of the indicators that could be utilised to assess the level of equity in the health care system. In South Africa, studies assessing **the distribution of health care facilities and human resources have shown that the majority of these resources are located in the metropolitan areas.** The ratio of health care personnel to population varies markedly between urban and rural areas and between the provinces of South Africa^o (Cape Province, Transvaal, Orange Free State and Natal), the "Homelands" (Transkei, Bophuthatswana, Ciskei and Venda) and the "Self-governing" territories (Kwazulu, Gazankulu, Lebowa, QwaQwa, Kangwane and Kwandebele). In a study to calculate the number of doctors needed in South Africa by 1990, Botha et al. (1986a) showed that in 1980 there were 11 294 doctors registered in South Africa and Namibia. Of these 78% resided in urban regions. The overall doctor/population ratio was 1:2 198, with the urban ratio being 1:1 237 and the rural 1:5 396. They found a 5-fold difference in the urban-rural ratios. Differences were also apparent within urban and rural areas between the provinces of South Africa and the "self-governing" territories. In the urban areas the ratio ranged from 1:937 to 1:9 784. In the rural areas the

^o Under the 1984 constitution, South Africa comprised of four provinces, four "homelands" and six "self-governing territories".

range was 1:3 108 to 1:156 380. In a more recent study carried out by Benade (1992) the distribution of medical doctors was analysed for the 1989/90 period. He found that 77% of medical practitioners resided in metropolitan areas (Cape Peninsula, Port Elizabeth-Uitenhage complex, Durban-Pinetown-Pietermaritzburg complex and the Pretoria-Witwatersrand-Vaal Triangle complex), the ratio of doctor to population was 1:696 in these areas. In the non-metropolitan areas (rest of South Africa including "self-governing" territories but excluding "homelands") this ratio was 1:1 920. The ratio is 1:15 272 in the "self-governing" territories. In 1984 the Dental Association of South Africa carried out a study to assess dental manpower situation (Dreyer et al., 1984). They found that most dentists resided in larger towns and cities, few dentists practised in the "coloured" and "black" townships, 87% of dental specialists were in the Northern and Southern Transvaal and the Western Cape. They found an overall dentist to population ratio of 1:11 050. The Department of National Health and Population Development recently carried out a similar study (van Wyk, 1993) in the nine development regions and six "self-governing" territories for the period 1990/91. There were a total of 3 460 registered dentists, 301 specialists, 137 dental therapists and 670 oral hygienists. There was a grand total of 4 568 dental personnel in South Africa during the 1990/91 period. The estimated population at that time was approximately 32 904 344. The dental personnel to population ratio was 1:7 203. Large differences existed between the development regions and the "self-governing" territories. The ratio for the three Cape Province regions was 1:4 755 and for the four Transvaal regions 1:4 669. The ratio for the "self-governing" territories was 1:265 898. Most dentists were active in the private sector. The distribution of

nurses, both enrolled and registered, showed a similar urban bias in a study carried out by Botha et al., 1986b. Here again, differences in the nurse to population ratio between the provinces and the 'self-governing' territories were in favour of the former. A recent analysis of the distribution of health care personnel and facilities in South Africa showed similar results to that described in earlier studies (Van Rensburg and Fourie, 1994).

The assessment and monitoring of the distribution of health personnel in relation to geographical distribution, types of health facilities and health need could function as an important indicator of equity in the health care system. The health personnel to population ratio could act as a crude indicator of equity in the distribution of health care personnel. Equity goals concerning health personnel (types and distribution) need to be defined and monitored.

Distribution of Health Care Facilities

The distribution of health care facilities by population size between districts and provinces could be utilised as a crude indicator of equity in the health care system. In South Africa, studies assessing the distribution of health facilities such as clinics, hospitals and hospital beds show a similar trend as discussed in the earlier section on the distribution of health care personnel.

Zwarenstein and Price (1990) have assessed the 1983 distribution of hospitals and hospital beds in South Africa. They found the overall bed ratio and distribution of beds high in urban "white" areas. The bed ratio for "whites" was 150 per bed and for "non-whites"¹ 260 per bed. The geographical distribution of beds showed that there were 130 people per bed for urban "whites", 260 for rural "whites", 150 for urban "non-whites", 460 for rural "non-whites" and 300 for the "homelands". The hospital and hospital bed ratios were higher in the "homeland" and rural areas. The hospital to population ratio was 1:90 000 in the "homelands", 1:18 000 in the "white" urban areas and 1:50 000 in "non-white" urban areas. Botha et al. (1986b) found similar differences in the distribution of hospital beds. In urban areas the bed to population ratio was 1:< 200, in rural areas 1:428 and the figures were higher in the "self-governing" territories. The ratio in Gazankulu, for example was 1:1239 while in Kwandebele there was no hospital. They also found that in the four provinces of South Africa, private hospitals accounted for 46% of hospital beds, with mining hospitals accounting for many of the beds in major towns and rural areas. A study carried out by Chetty (1990) assessing the provision of hospitals and clinics in South Africa showed that there was a bias towards tertiary beds in the provinces and the "self-governing territories" and a maldistribution of facilities at the primary care level. The World Health Organisation (WHO) recommends a clinic to population ratio of 1:10 000 (WHO, 1981). In many areas, particularly in the "homelands" and rural areas this ratio is exceeded.

¹ The term "Non-White" includes all people classified "Indian", "Coloured" and "Black" according to the Population Registration Act of 1950.

The distribution and types of health facilities in relation to the population distribution and health needs may be an important indicator of equity in the health care system in the short and medium. Equity goals concerning the distribution of health facilities also need to be developed and monitored. The equity goals for the types and distribution of health personnel and facilities should concur with one another.

Health care resources allocation

One aim of health care resource allocation is to ensure that an individual is not denied access to health care by virtue of residence or locality. If disparities in the allocation of resources exist between areas then the resources should be redistributed to decrease the level of inequity. This redistribution should be based on geographical locality and the health profile of the area (Klopper et al., 1989). The present allocation of health care resources in South Africa is generally based on historical (previous) allocations and the supply of health services (resources needed to run existing health services) and demand for health care (willingness and ability to pay for services). This "model" retains the historical inequities in the allocation of resources (Klopper et al., 1989). This means that the allocation of health care resources will remain biased in favour of urban, tertiary teaching hospitals located in "white" group areas. The literature on a model or formula for the allocation of resources at a local or district level is sparse.

In the United Kingdom the Resource Allocation Working Party (RAWP) model was formulated to address the inequalities that existed in the health of the citizens (McIntyre et al., 1990). Resources were allocated according to previous allocations and the supply of services. **An allocation based on changing patterns in demography and morbidity needed to be considered in the allocation of health care resources.** The objective of developing a formula was to secure "equal opportunity of access to health care for people at equal risk". RAWP identified the size of the regional population as the primary determinant for the provision of health services. The national utilisation rates were weighted by the age and gender distribution of the population. The Standardised Mortality Ratio (SMR) was utilised as a proxy measure of inter-regional morbidity differences. Other issues such as cross-border flow, weighting for the increased cost of providing care in certain areas and teaching / training costs were included in the formula. The population estimates were weighted by the indicators for six categories of health services, namely non-psychiatric in-patients, day- and out-patients, mental illness in-patients, mental handicap patients, community and ambulance services. A major criticism of the formula has been the use of the SMR as a proxy measure for morbidity. An additional measure included in the formula was that of social deprivation to account for socio-economic differences between regions.

In South Africa, Klopper (1989); McIntyre (1990, 1991); Bourne (1990) and others have proposed a South African Health Resource Allocation (SAHRA) model for the macro level. The SAHRA model was based on the philosophy of the RAWP model

of the United Kingdom. The RAWP model could be adapted to address the inequities in the allocation of health care resources in South Africa. The formula uses two instead of six service categories, namely preventive and curative services due to a lack of reliable data. The curative component considers the national hospital utilisation rates by age and gender and the life expectancy of a regional population, instead of the SMR. The preventive component considers the potential years of life lost (PYLL). PYLL is calculated by subtracting the life expectancy of the person from the age of the person at death. The two formulas are combined to create an overall formula for the allocation of health care resources. The formula relies on measures of need rather than on the supply and demand for services.



The Health Burden and the Utilisation of Health Care Services in Mitchells Plain

The prevalence or incidence and types of disease impacts on the amount and types of resources allocated to a district. It is important to assess the utilisation of health care services in relation to the health burden in the community.

The Annual Reports of the various health authorities in the Western Cape, such as the Cape Provincial Administration, Western Cape Regional Services Council and Department of Health Services and Welfare, provide useful information on the health status of and health services provided to the Western Cape population.

The Annual Report of the Medical Officer Of Health (City of Cape Town, 1991/92) reported data on five residential suburbs of Mitchells Plain. These were Westridge, Lentegour, Rocklands, Beacon Valley and Tafelsig. Important issues that were identified in the report included the vital statistics (6837 live births, 877 deaths and 87 infant deaths), the principal causes of death (malignant neoplasms, ill-defined, homicide, Ischaemic heart disease, Cerebro-vascular disease, Perinatal mortality, motor vehicle accidents and chronic obstructive pulmonary disease) and Tuberculosis data (856 cases and 24 deaths due to Tuberculosis).

Most of the information in the report were global figures for the various race groups in the Cape Town City Council areas.



An analysis carried out by the Urban Studies section of the City Planner's Department on the Tuberculosis Notification Rates by area in Mitchells Plain for 1991 showed a relationship between the socio-economic status and the incidence rate of Tuberculosis. The rate is highest in the lower socio-economic areas such as Beacon Valley (640) and Eastridge (640) and lowest in the higher socio-economic areas such as Portlands (290) and Westridge (270).

A few studies have been carried out in Mitchells Plain assessing health status and utilisation of health care facilities. Lachman and Zwarenstein (1990) carried out a community-based survey to assess child health and health care utilisation in the Mitchells Plain area. The sample consisted of 296 households and 596 children

below the age of 15 years. Of these 172 children reported an acute illness in the previous 2-months. The common acute problems reported were pharyngitis/rhinitis influenza, trauma, diarrhoea and respiratory illnesses. The health facilities utilised for acute illnesses were (in order of utilisation) general private practitioners, day hospitals, referral hospitals and local clinics. Chronic illnesses during the previous year were reported in 79 children. The most common problems reported were asthma, respiratory illnesses, E.N.T. and TB. The health facilities utilised for chronic conditions revealed that the public sector facilities were most commonly used. They found the predictors for choosing the private sector were membership of a medical aid scheme and the time of day the service was needed. Most people walked to the health agency, with a few utilising private and public transport.

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In summary, the study shows that almost a third of the children reported an occurrence of an acute illness and most parents or guardians were prepared to pay for the cost of a visit to the private practitioner. The public service was felt to be inaccessible because of the limit on patient numbers and being closed after-hours. Almost a third of chronic disease sufferers utilised a referral hospital for care.

In 1992, Meijer and McLoughlin carried out a study to assess the utilisation of Primary Health Care services within a defined area of a Mitchells Plain residential suburb called Eastridge. They found that people usually utilised the day hospital (46%) and the general practitioner (41%). Positive comments concerning the day

hospital care was the affordability of care offered. The long waiting time was the main problem people expressed concerning day hospital care. Positive comments concerning the general practitioner was the continuity of care and proximity. The cost of care was the main problem expressed of general practitioners. If people had a choice, most would prefer visiting a general practitioner (66%) for care if all services were free. The study also found that 16% of the sample population was covered by medical insurance.

In 1989, Cameron et al. (1991) reported on the prevalence of disability amongst a selected population in Mitchells Plain. The study found a crude disability rate of 3.9% (94 people of a total of 2377), the percentage distribution of disabled persons by age showed an increasing prevalence with increased age and the poorer areas of Mitchells Plain showed a higher percentage of disabled persons (8.6% in Tafelsig as compared to 2% in Rocklands). The needs expressed by disabled adults related to improvements in medical treatment, work opportunities, rehabilitation services, financial situation, social contacts and housing.

A resource allocation formula can be an important strategy to achieving equity in the health care system and **a measurement of the health burden forms an integral component of this formula.** An assessment of health burden in the district can also help to reflect some of the needs of the community. The utilisation of services is another important feature to analyse, and may be associated with the prevalence of certain diseases in the community. An indicator of improved equity would be a

reduction in the health burden (especially preventable diseases) and an increased utilisation of services by the sick.

Summary

The present South African Health Care System is unjust and racist. The health care resources are unequally distributed denying the majority of the people access to an affordable, acceptable and appropriate health care system. The racist health care system, with other injustices in access to housing, education, employment and healthy environments have resulted in huge differences in the health status of people "belonging" to different racial groups. The allocation of health care resources, based on historical distribution and the demand for services needs to be reviewed to include more appropriate indicators for resource allocation. These include the population size by age and gender and the health needs of the community. An important indicator in assessing the level of equity in the allocation of health care resources would be the opinion of the community. The opinions concerning their health status and their access to health care services may provide an accurate assessment of the level of equity required in the allocation of resources to a particular community.

District Health Care Systems

Background History

In May 1977, the member states of the World Health Organisation adopted the goal of "Health for all by the year 2000". The goal was adopted in a global effort to solve the problems associated with the poor health status of the world's population and the ineffective health delivery systems operating in numerous countries throughout the world. Problems included the high and increasing incidence of preventable and infectious diseases particularly in the developing world, many people having no access to appropriate health care services and poor planning and management of health care systems. For this goal to be achieved, many researchers (Zwarenstein et al., 1993; Tarimo, 1991) have suggested the planning and implementation of a District Health System (DHS). The Primary Health Care Approach (PHCA) is an integral component of the DHS and the principle of equity is central to the PHCA. The International Conference on Primary Health Care (WHO, 1978), held in Alma Ata in 1978, defined Primary Health Care as the first-level of contact between the community and organised health care.

What is a District Health System ?

A district is the most peripheral fully organised unit of the local government and administration. A number of district authorities would form a regional authority. The population of a district could vary, depending on its location (urban or rural), from 20 000 to 500 000. The district is usually a geographically compact unit with accurately defined boundaries (Zwarenstein and Barron, 1992; Tarimo, 1991). The district health system is a component of the local authority and the building block of the national health system. The district structure would encompass the entire country, wherein the health of every citizen is the responsibility of an identifiable district. The district should provide a comprehensive service to all the people in its geographic area (Zwarenstein and Barron, 1992). The district health service is managed by the district health office which is accountable to a district health committee. This committee should consist of both community and local authority representation.

See Appendix 1 for a possible organisational structure of a DHS (ANC, 1994a).

Why a District Health System ?

To achieve "Health for All by a year 2000", the health system will need to be restructured to improve the accessibility of the services and be re-oriented towards the preventive and promotive care (Zwarenstein and Barron, 1992; Tarimo, 1991; Barron and Fisher, 1993). The district health care system provides a method for the

improvement of accessibility and the re-orientation of health at a grassroots level. An important advantage of a district health system is that it allows for **local resource allocation and for rational planning to meet local needs** (Zwarenstein et al., 1993). A global budget would be allocated to a district and the district would decide on the provision of services based on the needs in each district. The per capita expenditure would be increased by allocating resources directly to district level rather than through the central or regional levels.

The demographic characteristics and prevalence of disease can be ascertained for the district and the major problems and constraints of socio-economic and health development can be understood by the health personnel. The planning, implementation, evaluation and modification of health programmes to meet national and regional policy are most appropriate at the level of the district health authority. Interpersonal relations between the health team members can be enhanced within the compact unit of a district health system.

It is suggested that since the district is a well-contained unit with an easily identifiable population, it is the appropriate level at which to develop and enhance community participation in the health care system. Similarly, intersectoral collaboration with other sectors such as education, housing, water supply and agriculture could become a reality at the level of the district. The district health system also enables public, private and non-governmental organisations to collaborate more effectively to

achieve "Health for All by the year 2000" (Zwarenstein et al., 1993; Toms, 1993; Tollman, 1993). It is therefore suggested that **the assessment and monitoring of equity in the health care sector is best if it is carried out at the district level.**

Summary

The District Health System appears to be the most appropriate system to help restructure and re-orientate the present system towards the Primary Health Care Approach, to improve the level of equity in the health care system and to make "Health for All by the year 2000" a reality. The definitions, structure and functions of a District Health System still need to be clarified in this country.

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The district appears to be the level at which strategies for the attainment of equity in health can be developed. The monitoring and evaluation of equity would be adequately carried out at this level due to its compact structure. The collection and analysis of various possible indicators, such as population size by age and gender, expenditure on health care, access to care, the prevalence of disease, utilisation rates of services and perceived health care needs in the community can be effectively carried out at the district level.

Equity

Background History

In May 1977 the World Health Assembly (WHA) declared that "the main social target of Governments and WHO in the coming decade should be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life" (resolution WHA 30.43). The Primary Health Care Conference held in Alma Ata in 1978 popularised the goal of "Health for All by the year 2000" (Rathwell, 1992). The principle of equity is an integral, and possibly the most important, component of the "Health for All" strategy. The first target in the "Health for All" strategy reads (Dahlgren and Whitehead, 1990):

Target 1

Equity in Health

By the year 2000, the difference in health status between countries and between groups within countries should be reduced by at least 25%, by improving the level of health of disadvantaged nations and groups.

What is equity ?

Equity is generally accepted by the World Health Organisation (WHO) and local health organisations to be an essential social and economic policy goal for the health and health care sector. Although frequently used, it has tended to be understood differently by persons using it (Mooney, 1987; Gilson, 1989). Equity in health can broadly be described as that characteristic of policy that ensures that everyone has a fair opportunity to attain their full health potential and that no one should be disadvantaged from achieving this potential (Whitehead, 1990). The aim of achieving equity in health is to reduce or eliminate those health differences which result from factors which are considered both avoidable and unfair. These factors could relate to health-damaging behaviour where the degree of choice of life-style is severely restricted, exposure to unhealthy, stressful living and working conditions and inadequate access to essential health and other public services. The term inequity refers to differences in health which are not only unnecessary and avoidable but, also, considered unfair and unjust (Whitehead, 1990).

Equity in health care is considered by Klopper and others (1989) to mean the equal opportunity of access to care for people at equal risk. This implies that all people, irrespective of age, gender, socio-economic status or any other discriminating factors, will have the same chance of obtaining health care for similar illnesses. Equity can, however, be defined in various ways. These could include equal expenditure per capita, equal expenditure for equal need, equal access for

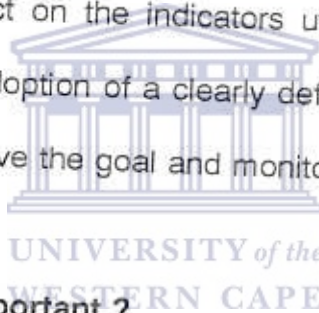
equal need, equal utilisation for equal need or even equal health status (Mooney and Drummond, 1982).

Equal expenditure per capita would mean that the allocation of resources would be purely on the basis of population size. However, equal expenditure may not necessarily achieve greater equity in the allocation of resources due to possible differences in the costs of providing the same services in different regions. Allocation based on equal expenditure for equal need would have to consider the factors that influence the need for services such as age and gender distribution of population, mortality and morbidity patterns and the level of social deprivation. Equal access for equal need implies equal entitlement to available services for everyone with similar illnesses or problems. This definition assumes the existence of a fair distribution of services based on health care needs and the removal of all barriers of access to acquire health care. Equal utilisation for equal need addresses the factors that deter the demand for services in certain communities such as the supply of services. The ideal of equal health may indeed be unrealisable in the light of unavoidable and inevitable differences between people. These may be due to natural biological variations, health damaging behaviour if freely chosen (such as participation in certain sports and pastimes) or a transient health advantage of one group over another resulting from the adoption of health-promoting behaviour (Whitehead, 1990).

Equality and equity differ in that the former is "concerned primarily with treating people equally with respect to some characteristic in which they are alike," while the latter

is "concerned more with finding some principle of fairness which could be applied to all people consistently" (Price, 1988). Thus, **equality in health care could be defined as the equal provision of health care regardless of need and equity as the provision of health care with respect to need (Loewenson et al., 1991).**

Due to the various interpretations of the concept of equity, an agreement on a working definition of equity needs to be established. The various definitions of equity mentioned earlier will each employ different strategies towards its achievement. The definition chosen will also impact on the indicators utilised to measure progress towards its achievement. The adoption of a clearly defined equity goal is essential for developing strategies to achieve the goal and monitor the progress towards it.



Why is equity in health care important ?

A poor level of health in people is one of the many barriers prohibiting individuals from living a full and creative life. The health of a person, it may be argued is dependent on genetic factors, environmental factors, socio-economic circumstances and the life-style of the person. Poor communities have been found to experience a higher prevalence of disease, especially preventable and infectious diseases such as malnutrition, diarrhoea and tuberculosis. Poverty is thus a major barrier to the maintenance of a full and creative life. It is well established that persons from lower socio-economic levels and rural areas show a lower life-expectancy, a higher incidence of both infectious and chronic illnesses and an inferior quality of life. The

distribution of deaths, disability, personal health risk factors and environmental health hazards are not distributed evenly across populations. These are generally negatively biased towards the poorer communities in a region or country. The people who can least afford to be ill, are ill most often (Whitehead, 1990). Furthermore, health services are often least accessible and of poorer quality in the disadvantaged areas where they are most needed (Dahlgren and Whitehead, 1990). The health care policy needs to ensure the protection of the poor from ill-health. It is generally accepted that equity in health and health care should form an essential component of the policy to address the avoidable and unnecessary differences in the levels of health in the communities of the world. According to Whitehead (1990) **the health policy should promote, amongst others, the allocation of health care resources according to social and health needs, the fair distribution of health services, making services accessible to all, affordable (payment based on income), acceptable to the community and relevant to the perceived needs in the community to increase utilisation of the health services.**

The assumption that equity in health care will automatically improve health for all, should be guarded against. Depending on the definition adopted and the achievement of equity in the various other sectors impacting on the health of the community, equity in health care may not necessarily guarantee better health. It will be vital that the socio-economic and political development be holistically approached if progress towards the achievement of greater equity in health is to be achieved.

How does one measure equity in health care ?

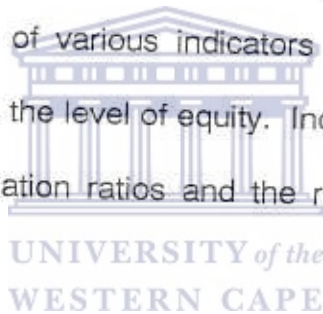
There are numerous methods that have been utilised in attempts to measure equity. The most popular methods include measuring the distribution of health status indicators, the assessment of the distribution of resource inputs per capita and the calculation of the Lorenz curves (see appendix 2) and Gini co-efficient (McPake and Mills, 1992).

The global indicators recommended by the WHO include, the endorsement of "Health for All" at the highest political level, mechanisms for community involvement in formulating strategies, the per capita income, the percentage of the Gross National Product (GNP) spent on health, the percentage of national health expenditure devoted to local health care, equitable distribution of health care resources, need for external resources for sustained support, percentage of population covered by primary health care, nutritional status of children, infant mortality rate (IMR) per 1000 live births, life expectancy at birth in years and adult literacy rates (Yach et al., 1987; Jinabhai et al., 1986).

The distribution of health status indicators could include national and regional data on mortality and morbidity rates by age, gender, income level and disease. The availability and reliability of this data usually poses a problem due to the under-reporting of mortality and morbidity events and underestimation of population size. This problem applies particularly to a developing country such as South Africa. The

use of health and health care indicators may be utilised in assessing the achievement of equity and "Health for All".

The assessment of resource inputs per capita may include the calculation of per capita rates of expenditure by region or the per capita availability of key resources such as doctors, nurses, emergency facilities and health care facilities by region. This type of data is usually more readily available and reliable and could be utilised to measure the level of equity in the health care system at a district, regional or national level. Comparisons of various indicators could be carried out between districts and regions to assess the level of equity. Indicators include doctor, dentist, pharmacist or nurse to population ratios and the ratio of health care facilities to population.



The association between the level of income and health status of a person (Whitehead, 1990) suggests that the distribution of income in a population can be utilised to measure the level of equity in a society. The graphic representation of the distribution of income is called the Lorenz curve. A straight line would represent perfect equality, this shows that a small percentage of the population is in the low and high income categories while most are in the middle income categories. The Lorenz curve demonstrates an unequal distribution if most of the population are in the low income category while the balance are in the middle and high income categories (see appendix 2). The Gini co-efficient expresses the Lorenz curve in numerical terms. The Gini co-efficient for perfect equality is zero and for perfect inequality is

one. South Africa with a Gini co-efficient of 0.68, heads the list of developing countries (Whiteford, 1994). Taiwan with a measure of 0.28 is at the bottom of the list. During 1991, the poorest 40% of the South African population earned four percent of the income and the richest 10% more than half. According to Segal (1994) "white" metropolitan households earned R 71 600 per year and "black" households R 11 700.

What are the strategies to achieving equity ?

The term equity is fraught with ambiguity and disagreement. It is essential to clarify this concept prior to developing strategies to reduce inequities in health and health care. Policy goals to address inequities in health would normally concern the elimination of the root causes by reducing the level of risk factors and health hazards, reducing the health damage caused by risk factors and to match volume and quality of health care to that of ill-health found in the community (Whitehead, 1990).

In developing strategies to tackle inequities in health, a situation analysis is important in assessing present levels and areas of inequities in the health and health care system. This will help to determine the policy goals and objectives as well as identify points of intervention to reduce these inequities. Strategies to achieve equity in health are extremely varied depending on the problem being tackled. Key factors related to inequities in health are the problems of low income, unhealthy living conditions, poor

working conditions, unemployment, personal lifestyle factors and restricted access to health care and education. All these issues impact on the degree of inequity to be found in health. To achieve equity in health, strategies need to be developed to address these problem areas. With regard to income, anti-poverty strategies need to be implemented to ensure a fairer distribution of resources, increase the skills and competence of poorer groups, improve access to education for these groups and alleviate the health damage caused by poverty.

A possible strategy to achieving geographical equity (fair allocation of resources to regions/districts/communities in a country) in the allocation of health care resources would be through the use of a formula which takes into account the variables that impact on the health status of the community. These variables may include the size of population of the region/district, the age and gender distribution, mortality and/or morbidity rates, cross-border flow of patients, categories of health care such as in-patient and out-patient care, psychiatric care and others (McPake and Mills, 1992). The utilisation of a formula to allocate health care resources based on the needs of the district or regional population may reduce the level of inequity in the health care system in that it surpasses the allocation of resources based on historical allocations and the demand for services.

What are the obstacles to achieving equity ?

A major obstacle to the achievement of equity emanates from the lack of a clear definition or understanding of the concept. Without a clear and widely shared understanding of the concept of equity the development of policies and strategies in the quest to eliminate inequities in health and health care is made increasingly difficult. Some of the problems experienced are particularly applicable to developing countries attempting to achieve equity, which include the absence of decentralised budgeting systems, non-availability of accurate mortality and morbidity data by region, difficulty in re-allocating resources to primary health care centres, maintaining cost-efficiency at those facilities which may be releasing resources and the redistribution of human resources to the areas where they are needed (McPake and Mills, 1992). The difficulty in measuring the level of equity in the health care sector poses a further obstacle to the achievement of this principle. The political commitment of the government of the day to the goals of equity in health and health care and "Health for All by the year 2000" is essential to its realisation.

Summary

The economic and social well-being of people is directly influenced by an unfair and unjust health care system especially where accessibility to health care services is limited for the majority of the population. In most parts of the world equity is accepted to be an important social and economic goal for the health care system. The concept

of equity is, however, understood differently by people using it. It will be important to develop a universally acceptable definition to assist in the development of strategies to achieve this goal and to monitor and evaluate the progress towards this goal. It will be vital that equity is achieved in many other sectors that impact on health, such as housing, income, education and the supply of water and sanitation.

The strategies of achieving equity in health care remains an unresolved issue. The strategies adopted will ultimately depend on the definition adopted. A definition such as equal expenditure per capita would entail determining population size by region/district and dividing the total budget by the population. A definition such as equal access for equal need will require a framework which outlines access and needs prior to determining strategies to achieve equity at this level.

The monitoring and evaluation of equity remains an undecided issue. Again the definition adopted will impact on its monitoring and evaluation. Complex definitions of equity will require sensitive indicators to evaluate the progress and level of equity in the health sector. The assessment and monitoring (whatever the definition adopted) will be essential to improving distribution of health care resources at the district level.

Indicators for the Measurement of Equity in the Health Care System

The literature review shows that the goal of equity in the health system is an important one. The monitoring and measurement of the goals need to be clearly defined. There are many variables that can be measured to assess the level of equity in the health care system. These may include the assessment of the distribution of health facilities and personnel, the utilisation rates of health care facilities, the per capita expenditure on health care, the prevalence and incidence of disease and the perceived health needs of the population (WHO, 1979).

The distribution and deployment of health personnel will measure the numbers and types of personnel in relation to population size and health burden. The distribution of health facilities will assess the numbers and types of facilities in relation to population size and health burden. This data can be gathered from the relevant health care authorities, associations and organisations.

The health burden and utilisation rates of health services may be assessed from statistics reported by the health care authorities and from a community survey to validate these. The health status indicators (mortality and morbidity rates) could be measured over time to assess and monitor the level of equity in health burden. The perceived health needs can be investigated through a community survey and/or by carrying out in-depth interviews with leaders in the community.

The per capita expenditure must include public, private, non-governmental organisation and out-of-pocket expenditure on health care. A Health Services Finance and Expenditure Survey (HSFE) needs to be carried out for the various health authorities if public sector recurrent expenditure on health care over a certain period is to be assessed. The private sector expenditure may largely be determined from the medical aid scheme payments to health providers. The NGO expenditure on health related services may be found in the financial records of the organisation. "Out-of-pocket" expenditure on health care will need to be assessed by carrying out a community survey to investigate the expenditure on health related items at household level.



All the above indicators could be utilised to assess the level of equity in the health care system. A comparison of various district indicators with other districts, between districts, provinces, national and international figures and norms can be carried out to assess the level of equity in a particular district.

This study will set out to establish these indicators for the district of Mitchells Plain. The findings will be utilised to assess the level of equity in the district by comparing the results to international, national, provincial and districts indicators, and to make suggestions to improve and measure the level of equity at a district level.



AIMS AND
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OBJECTIVES

The aim of the study is to assess the allocation of health care resources at district level in terms of equity by using Mitchells Plain (MP) as a case study.

The objectives of the study will therefore include the measurement of variables that can serve to develop indicators of equitable resource allocation:

1. the demographic characteristics of the district population,
2. the distribution and type of health care facilities available in the district,
3. the types, distribution of health personnel and the ratio of categories of the personnel to the population, in comparison to other districts, provinces and nationally,
4. the utilisation rates of health care services,
5. the per capita expenditure on health care in the district compared to other districts and to the national average and
6. the prevalence of illness (health burden) in the community.

The study will utilise these variables to:

8. determine the level of equity in the health care system in this district,
9. make suggestions for improving the level of equity and
10. make suggestions on the methods of measuring the level of equity in the future.



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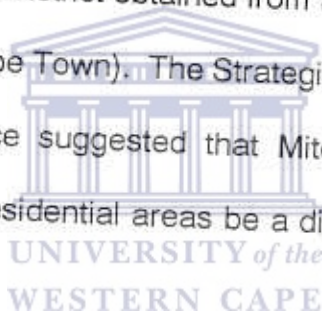


MATERIALS AND
METHODS

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Boundaries of the District

The boundaries of the health district of Mitchells Plain were established prior to the study being carried out. Convenient boundaries such as free-ways or main roads or railway lines or the present local authority's perimeters were utilised as landmarks to define the extent of the district. These boundaries needed to be clearly defined for the population served by the current District Health Care Services to be described (see Appendix 3 for map of the district obtained from the Urban Planning Department of the Cape City Council in Cape Town). The Strategic Management Team for health in the Western Cape Province suggested that Mitchells Plain with the adjacent Strandfontein and Mandalay residential areas be a district in the new health service (SMT, 1994)

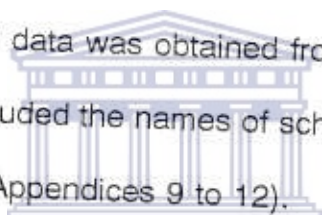


Demographic Information

The demographic characteristics of the community were essential to determine to provide the denominators for the calculations and comparisons to be carried out. The demography of the population of the district was ascertained from the Central Statistical Services' Report of the 1991 Population Census of South Africa. Information gathered included population size, the gender and age distribution, the income, education levels and occupation of the people. A database was created for

each variable as the report provided figures by residential area and race group. To obtain total figures the data was captured in a database using the DBASE IV data capturing package. The data was analysed using the Epi Info statistical package. The information was assessed for the entire district population as well as for the residential areas. This data was readily available and easy to collect. The accuracy of the data remains questionable due to possible undercounting of the population size. The population figures were adjusted for the estimated undercount.

The primary and high schools' data was obtained from the education department in the district. Data collected included the names of schools and the numbers of pupils per standard per school (see Appendices 9 to 12).

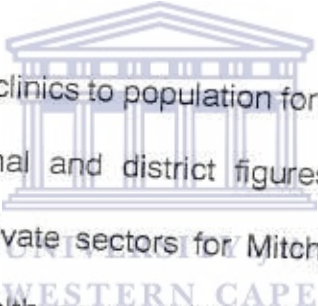


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Types and Distribution of Health Care Facilities and Personnel in the District

Data on the types of distribution of health care facilities and personnel was gathered from a number of sources including the local public health authorities, the Western Cape Dental Practitioners' Association, the Pharmaceutical Society of South Africa, a private medical practitioner in the district and the Western Cape telephone directory (see Appendices 13 to 23). The information on public sector health care facilities was readily available and reliable. The data on the private sector was difficult to collect in that there was not a listing of medical and dental private practitioners practising in

the district. The names on the list provided by the private medical practitioner and the names drawn from the telephone directory were combined to produce a comprehensive list of medical practitioners in the district. A similar problem existed for the dental practitioners in that the list provided by the Western Cape Dental Practitioners and that drawn from the telephone directory needed to be combined to produce a comprehensive inventory of dental practitioners in the district. The private pharmacy data was easier to collect due to the Pharmaceutical Society having a comprehensive list of pharmacies in the district.



The ratios of general beds and clinics to population for the Mitchells Plain district were compared to national, regional and district figures. The distribution of health personnel in the public and private sectors for Mitchells Plain were assessed and compared and the ratio of health personnel to population in Mitchells Plain were compared to national, regional and district figures. Information on the regional and national ratios were obtained from Department of National Health reports and research projects on the distribution of health facilities and personnel.

Per Capita Expenditure on Health Care in the District

To assess per capita expenditure on health care in the district of Mitchells Plain all possible sources of expenditure were included in the calculation. The public and

private sectors, non-governmental organisations and "out-of-pocket" expenditure at a household level were inclusively assessed.

Public Sector Expenditure

A Health Sector Financing and Expenditure Survey was carried out by analysing the financial records of the relevant public health authorities who are responsible for the delivery of health care in Mitchells Plain. The financial records concerning the health facilities in the Mitchells Plain district for the periods 1991/92 and 1992/93 were requested from the financial departments of the health care authorities. The analysis of the records included the major areas of expenditure such as personnel, administration and services. These expenditures were analysed for the entire district as well as for the individual health care authorities. The public sector financial data was readily available from the respective health care authorities. The calculation of per capita public sector expenditure was carried out utilising two denominators. The total population and 80% of the population (those not covered by medical schemes - Registrar of Medical Schemes, 1993) were utilised as denominators to calculate per capita expenditure.

Medical Scheme Expenditure

The analyses of medical aid and sick fund expenditures were carried out for 1992. In the district, data was gathered from the Report of the Registrar of Medical Schemes and the major Medical Aid Scheme (Pro Sano) as well as for the major Medical Sick Funds (South African Municipal Workers and South African Clothing and Textiles Workers) in the Western Cape. The selection of these medical schemes was based on the opinions of the accountant with the Medscheme medical aid scheme administrators and the Health Economics Unit at the University of Cape Town. The information on national expenditure was gathered from the Registrar's report and expenditure in the district was extrapolated from information gathered from the Pro Sano Medical Aid Scheme and the SAMWU and SACTWU Sick Funds. District data for Mitchells Plain specifically was not available. The district expenditure was calculated by assessing the percentage of the total membership residing in Mitchells Plain and taking this percentage of the total expenditure as spent on members residing in the district. The calculation is a crude estimate of the medical scheme expenditure in the district. The calculation of per capita medical scheme expenditure was determined utilising two denominators. The total population and 20% of the population (those covered by medical schemes - Registrar of Medical Schemes, 1993) were utilised as denominators to calculate per capita expenditure. Medical scheme expenditures should be collected at the district level to allow for an accurate assessment of this expense.

Non-Governmental Expenditure

A list of non-governmental organisations was requested from the Mitchells Plain Coordinating Committee (an umbrella body of most of the community organisations in the Mitchells Plain area) and the Mitchells Plain Advice Office. There was no response to this request. No data on NGO expenditure was collected.

Out-of-Pocket Expenditure

National data on out-of-pocket expenditure was gathered from the South African Reserve Bank (SARB) reports. Data was also gathered (where available) from household surveys carried out in the area by contacting research institutions such as the Medical Research Council, the Department of Community Health and Health Economics Unit at the University of Cape Town. Regional and district data on "out-of-pocket" expenditure was difficult to assess due to the non-availability of such data. Crude estimates of this expenditure were carried out based on national SARB figures. The private practitioners and pharmacists were asked for information regarding cash income. They were resistant to divulging this information.

Regular household surveys may need to be carried out to assess the "out-of-pocket" expenditure at district level.

The Health Burden and Utilisation of Health Services

The health burden or prevalence of disease in Mitchells Plain was gathered from health authority reports and research reports on the district. Mortality and morbidity data was calculated from the health authority reports on births, deaths and notification of diseases. The reliability of the data is questionable because of the known inaccuracies in population size estimates and the under-reporting the mortality and morbidity events. The utilisation of health services was gathered from the statistics of all the public sector authorities. Medical Aid Administrators were requested for information on the types of services provided by the private sector. This data was not available. The medical scheme industry should be compelled to record the types of services provided to their members. The levels of health burden in Mitchells Plain were compared to national, regional and district levels.

The information gathered from the literature review and the data collected was utilised to assess equity in the allocation of resources for health care at a district level by using the district of Mitchells Plain as a case study. The levels of health burden in Mitchells Plain were related to demographic characteristics such as levels of income, to health sector data such as health facility and personnel to population ratios.

Data Analysis

All raw data related to demographic information and expenditure on health care was captured on a database in the DBASE IV data capturing programme. The statistical analyses of the data was carried out on the Epi Info 5 statistical package. The Wordperfect 5.1 word processing package was utilised for preparing the written report.

Resources

All stationary, computer and other resources for the study was acquired from the Faculty of Dentistry, University of the Western Cape. The dissertation was bound by the printing department of the University of the Western Cape.



Ethical Considerations

This study did not pose any major ethical considerations in that most of the information is of public concern and interest. No individual confidential data from members of the community was utilised or divulged. The constructive utilisation and feedback of the findings of the study to the relevant role players in the delivery of health care as well as community organisations was essential.

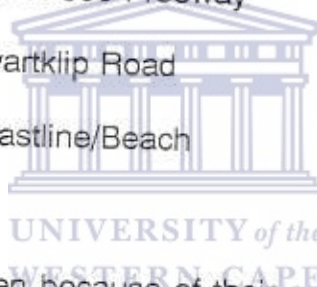


RESULTS
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Boundaries of the District of Mitchell Plain

The District Health Care System is characterised by a number of discrete geographical units that have exactly defined boundaries. For the purposes of this study the following boundaries were chosen for the district of Mitchells Plain:

Western side	-	Vanguard Drive
Northern side	-	The R 300 Freeway
Eastern side	-	Swartklip Road
Southern side	-	Coastline/Beach



These boundaries were chosen because of their convenience. The boundaries are similar to those proposed by the Strategic Management Team for Health in the Western Cape (SMT, 1994). See Appendix 3 for map of area.

Brief History of the District of Mitchells Plain

In December 1974, a 3 000 hectare tract of land, 27 kilometres from the Cape Town central business district, was demarcated for the construction of a new residential town called Mitchells Plain. Plans, jointly developed by the Cape Town City Council and Department of Community Development, were drawn to house a quarter million

people in more than 40 000 homes within ten years. The first families moved into Mitchells Plain in April, 1976. The 10 000th family moved into the area in 1980. In July 1980 the railway line from Cape Town was opened. Today there are eleven residential areas in the district. In Westridge, Portlands, Rocklands, Lentegour, Weltevreden Valley and Colorado the houses are almost all privately owned. In Woodlands, Tafelsig, Eastridge and Beacon Valley the houses and flats are privately owned or rented. There are presently approximately 40 000 housing units in the district. The size of plots are on average 272 square metres and the houses range from 45 square metres to over 100 square metres. These are mainly two and three bedroom units. The official occupancy rate is 5.5 people per house. Most of the houses cost between R 20 000 and R 30 000. All the houses are fully serviced with waterborne sewage, water, electrical and telephone connections. There are a few sports facilities, libraries, public halls, post offices, police stations and shopping centres.

Demography of the Population of Mitchells Plain

The demographic data of the district was essential to collect to be able to calculate the per capita allocation of health care resources for comparison with regional and national allocations. Other variables that influence the health of the community such

as housing status, education, employment and incomes levels were also assessed for the district. Most of the demographic data presented was gathered from the 1991 Census reports of the Central Statistical Services (CSS, 1991).

Population Size by Age and Gender

The population of Mitchells Plain as determined from the Population Census of 1991 and after adjustments for undercounts, showed that 37.5% of the population was below the age of 15 years and 9.5% above the age of 45 years (see table 1). The age distribution is typical of a developing community with many young people and fewer older people. The gender distribution showed similar numbers of males and females (see appendix 4 for a graphic representation of the age and gender distribution of the population). The area distribution of the population showed that the Tafelsig and Lentegeur residential suburbs account for the largest number of people, with Woodlands and Westridge the fewest.

Table 1: Population of Mitchells Plain after adjustment for undercount (UNISA, 1993)

Age Category	Male	Female	Total
0 - 4 years	15 511	15 264	30 775 (12.8%)
5 - 14 years	29 697	29 565	59 262 (24.7%)
15 - 24 years	25 466	25 498	50 964 (21.3%)
25 - 34 years	21 789	22 495	44 284 (18.5%)
35 - 44 years	15 667	15 852	35 519 (13.2%)
45 - 59 years	7 627	9 393	17 020 (7.1%)
60 + years	2 189	3 648	5 837 (2.4%)
Total	117 946	121 715	239 661

Number of Persons per Household and Habitable Room

An analysis (based on the Population Census of 1991) carried out by the Urban Studies section of the City Planner's Department showed that the number of persons per household ranged from a high of 5.8 and 5.5 in Eastridge and Beacon Valley respectively to a low of 5.1 and 5.2 in Portlands and Westridge respectively. The

number of persons per habitable room ranged from 1.5 and 1.4 in Lentegeur and Eastridge respectively to 1.3 and 1.4 in Westridge and Portlands respectively.

Home Language

The most common home language spoken by the people of Mitchells Plain showed that 68% of the population spoke Afrikaans at home, 30% spoke English and 2% spoke both.



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Education level of Mitchells Plain community

An analysis of the education level of the people of Mitchells Plain showed that although access to primary and secondary schools is readily available, very few people had access to tertiary levels of education (see appendices 5 - 7).

Employment Status and Income Levels of Mitchells Plain community

The Population Census of 1991 found that almost 59.4% of the population was not economically active. Of these 25% were males and 34.4% females. Of the 40.6% who were economically active, 24% are males and 16.6% females. Approximately 60% of the total population were between 15-59 years old. Of these 68% were economically active. The level of income showed that almost all employed persons

earned less than R 30 000 per year, i.e. R 2 500 per month. Almost 60% of the earning population had an income less than R 10 000 per year. The income distribution in terms of gender showed that women generally earned less than men in that there were more women earning in the lower income categories and more men earning the higher income categories (see appendix 8). The area distribution of non-income earners showed that Tafelsig and Beacon Valley had the highest percentage and Westridge the lowest.

The Urban Studies section of the City Planner's Department analysed in greater detail the income level of people in Mitchells Plain (see table 2). They found that a third of the people of Mitchells Plain had no income and that most people earned less than R 15 000 per annum (less than R1300 per month). The comparison of the two residential suburbs shows differences in the income levels. There were more people in Tafelsig who earned lower incomes compared to the people in Portlands.

Table 2: Percentage Distribution of Income Level in Mitchells Plain

Income Per Annum (Rands)	Mitchells Plain	Tafelsig	Portlands
No Income	35	37	33
1 - 4 999	14	17	10
5 000 - 9 999	22	26	17
10 000 - 14 999	14	12	17
15 000 - 19 999	6	3	9
20 000 - 29 999	4	2	8
30 000 +	2	0	3

Types of Occupations

Most people were employed in production, supervisor, miner, quarry related types of work, clerical and sales categories. Few people were employed in managerial, executive and administrative positions.

Table 3: Comparison of Demographic Variables (Development Bank of Southern Africa, 1994; Erasmus 1992; Epidemiology Comments, 1994)

Region/Area/District	RSA	W/Cape Region A	W/Cape Province	W/Berg District	M/Plain
Indicator					
Population ('000)	40 715	3 632	3 620	1 319	239
Density (persons per km ²)	33.3	14	28		7 989
Economically Active Population ('000)	12768 (31%)	1561 (43%)	1535 (42%)	570 (43%)	87 (41%)
Unemployment Rate (%)	14.9	9.6	13.3	12.7	32
Per Capita Income Per Annum (Rands)	2370	4343	4188		

The per capita income was not available for the Wynberg and Mitchells Plain districts. The density of people per km² and unemployment rate in Mitchells Plain is higher than national and regional levels.

Primary and Secondary Schools

There were 43 primary schools in the Mitchells Plain area (as at February 1993). The primary schools were attended by 41 284 children and the numbers of children per standard from Sub A to Std 5 were similar (see appendices 9 and 10).

There were 14 secondary schools in the Mitchells Plain area. The total number of students attending high school was 15 779. The number of students decreased steadily from Std 6 to Std 10 (see appendices 11 and 12).



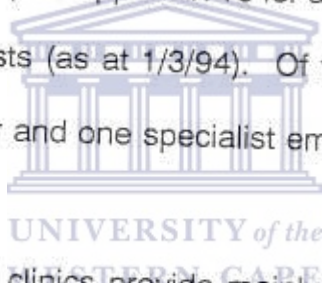
Types of Health Care Facilities in Mitchells Plain, their Personnel Structures and Utilisation Rates

Public Health Care Facilities

Presently there are three public health authorities delivering health services in the Mitchells Plain district. These are the Hospital and Health Services Department of the Cape Provincial Administration, the Health Department of Cape Town City Council and the Department of National Health and Population Development (see appendix 13 for a list of public health facilities by health authority).

The psychiatric hospital offers in- and out-patient care to mentally disabled and psychiatric patients (see appendix 14 for global statistics). The hospital employed a total of 1369 people (as at 29/11/93). Of these approximately 720 were nursing staff (see appendix 15 for a table of employees by categories and numbers).

The Midwife Obstetrics Unit (MOU) offers out- and in-patient ante-natal, delivery and post-natal care to the community of Mitchells Plain. There are 12 authorised beds and 16 actual beds in the unit (see appendix 16 for a record of the statistics). At the MOU there were 87 filled posts (as at 1/3/94). Of these 76 were nursing staff and there was one medical doctor and one specialist employed.



The Cape Town City Council clinics provide mainly preventive and promotive care such as child health, family planning, ante-natal care, TB and STD treatment and geriatric care. The statistics for 1992/93 are too considerable to present (Provincial Administration of the Cape of Good Hope, 1992/93). There were a total of 70 staff employed at these clinics (as at 30/11/93). Of these 33 were professional nurses, 8 staff nurses and 15 nursing assistants.

The community health centre (day hospital) in Mitchells Plain provides mainly curative medical and nursing care, radiography, physiotherapy, social work, nutrition advice, paediatric care, theatre and a 24 hour emergency care. The community health centre employed a total of 106 people (as at 27/9/94) of whom ten were medical

officers and 46 nursing personnel (see appendices 17 and 18 for list of staff employed and the statistics for 1993 of the community health centre respectively).

The University of the Western Cape Oral Health Centre is a training institution and provides comprehensive dental care and the three community dental clinics provide preventive and curative care and negligible rehabilitative or specialist care. The training centre employs approximately 150 academic and non-academic staff. The Lentegeur clinic employs one dentist, two oral hygienists, two chair-side assistants and one driver. The driver is employed simultaneously by both dental clinics in the district. The Westridge clinic employs one dentist, one oral hygienist and two chair-side assistants. The Westridge staff also provides the services at the Lentegeur Psychiatric dental clinic (see appendix 19 for the statistics of these oral health institutions).

Private Health Care Personnel

The list of medical private practitioners shows that there are approximately 54 private general medical practitioners and 21 medical specialists practising in the district (see appendix 20). All the specialists are located in the private hospital. There are 23 dentists practising in the private sector in Mitchells Plain (see appendix 21), as well as two maxillo-facial oral surgeons located in the private hospital. There are twelve pharmacies in Mitchells Plain with five located in the Town Centre. (see appendix 22).

The Mitchells Plain Private Hospital has 131 registered beds. 86 nurses and a variety of medical specialists (see appendix 23 for list of specialists in the private clinic).

The Distribution of Health Care Facilities and Personnel

Table 4: Comparison of Public General Beds/1000 people and Number of People per Public Sector Clinic (Chetty, 1993; Erasmus, 1992; Development Bank of Southern Africa, 1994)

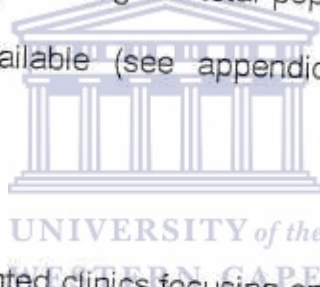
Variable	Beds/1000 population	Population/Clinic
Area/District		
National	4.4	16190
Cape ¹	6.1	10097
Cape ²	7.9	17900
Western Cape Province	5.6	5000
Mitchells Plain	0.6 ³	39944

¹ Cape Province excluding the "Homelands".

² Metropolitan Cape excluding the "Homelands".

³ There are only private general beds in the Mitchells Plain district

There are no public sector general hospital beds in the Mitchells Plain district. There are 1525 beds in the psychiatric hospital which caters for mentally disabled and psychiatric patients from throughout the Western Cape region. There is a midwife obstetrics unit with 16 actual beds for maternity patients. The psychiatric and MOU beds are not available to the general population. There is one private hospital with 131 registered beds and a variety of specialist care, catering for those who can afford to pay for the services. The 0.6 beds per 1000 people are thus all private sector beds. This was calculated by dividing the total population of Mitchells Plain by the number of private beds available (see appendices 24 and 25 for a graphic presentation of the table).



There are five preventive-oriented clinics focusing on mother and child care and one community health centre (curative-oriented) in the area. The clinic to population ratio was calculated by dividing the total population by the number of clinics and community health centres.

The ratio of people to clinic far exceeds the WHO (1981) recommendation of 10 000 people per clinic and 3.5 general beds per 1000 people. In accordance with these recommendations the Mitchells Plain district needs a general hospital with 800 beds and 18 primary health care community clinics.

Table 5: Comparison of Medical Doctor, Dentist, Nurse and Pharmacist to Population Ratio (DNHPD, 1992)

Personnel ⁴	Medical Doctors	Dentists	Registered / Enrolled Nurses	Pharmacies
Area/District				
National	1981	9493	235	4026
Cape Province	1308	6280	162	3022
Western Cape Development Region A	1027	4707	147	2671
Wynberg District	1230	6263	164	3472
Mitchells Plain	3329	9586	312	9217
Mitchells Plain ⁵	3687	9586	908	12614

The ratios for Mitchells Plain were arrived at by dividing the total population by the numbers of health personnel as determined from the data collected. The ratios of health personnel to population in Mitchells Plain compares unfavourably to national and provincial ratios in all the categories listed. The ratio of medical doctors to

⁴ Includes both the public and private sectors.

⁵ Excludes the staff at Lentegeur Psychiatric Hospital.

population in Mitchells Plain is more than double the national ratio, similar for dentists and four times worse for pharmacists. For registered and enrolled nurses the ratio for Mitchells Plain is about a quarter more than the national figure and more than double that of the regional figure. If the nursing staff at the psychiatric hospital are excluded the number of people per nurse increases three-fold.

There is maldistribution of personnel between the private and the public sector in Mitchells Plain (see table 6). Most of the professional health care personnel are located in the private sector while most of the nursing staff are located in the public sector. In the public sector most of the staff are located at the psychiatric hospital, which caters to the needs of the province rather than to the community of Mitchells Plain.

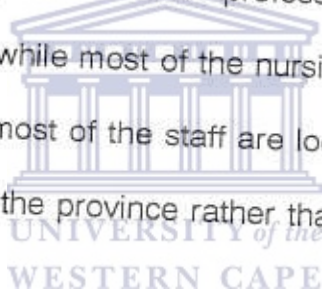


Table 6: Distribution of Categories of Health Personnel by private and public sectors in Mitchells Plain

Category of Health Personnel	Private Sector	Public Sector	Public ⁶ Sector
Medical Doctor	54	18	11
Dentist	23	4 ⁷	4
Pharmacist ⁸	12	14	7
Professional Nurse	37	247	64
Staff Nurse	24	192	53
Nursing Assistant	25	244	61
Physiotherapist	1	3	2
Occupational Therapist	-	18	-
Clinical Psychologist	2	14	-
Social Worker	-	23	2

⁶ These figures exclude the Lentegeur Psychiatric Hospital staff.

⁷ Includes only the service rendering dentists at the UWC Oral Health Centre.

⁸ Includes pharmacy assistants.

Expenditure on Health Care in Mitchells Plain

The expenditure on health care in the Mitchells Plain district was calculated by assessing public sector expenditure by health authority and overall, private sector expenditure through the medical aid schemes, non-governmental organisations expenditure and cash out-of-pocket payments for health services.

Public Sector Health Care Expenditure



The public sector expenditure was analysed separately for the various health authorities in the district for the 1991/92 and 1992/93 financial years.

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House of Representatives (HoR): Department of Health

In the previous constitution (of 1984) separate health departments were created for "whites", "indians" and "coloureds". The HoR Health department was responsible for the delivery of health services to the "coloured" population. Table 8 presents expenditure on health care in Mitchells Plain for the financial year 1991/92. During the 1992/93 the own affairs departments were transferred to the Cape Provincial Administration and budgets for this period were difficult to obtain.

Table 7: Analysis of House of Representative Expenditure in Mitchells Plain for the period 1991/92 (in SA Rands)

	Mitchells Plain Admin. Office	Lentegeur Psychiatric Hospital	Mitchells Plain Day Hospital	Faculty of Dentistry, UWC
Personnel	829 070	33 420 950	2 057 763	6 659 006
Administration	5 022	982 742	34 457	147 538
Treatment		6 996 364	563 440	967 134
Drugs			1 404 149	
Others	2 630	3 237 018	268 216	955 826
Total	836 722	44 637 074	4 328 025	8 729 504
Grand Total	58 531 325			
Grand Total⁹	13 894 251			
Grand Total¹⁰	5 164 747			

⁹ This total excludes the budget for the Lentegeur Psychiatric Hospital.

¹⁰ This total excludes the budgets for the psychiatric hospital and the UWC Oral Health Centre.

The Lentegeur Psychiatric Hospital is not a strictly district facility. The facility has a catchment area that extends beyond the district of Mitchells Plain. During 1991/92 the UWC Oral Health Centre was not located in the Mitchells Plain. In mid-1992 the training centre re-located from Tygerberg Hospital in Bellville to Mitchells Plain. The budget of the institution is thus reflected here for greater accuracy in the health care budget of the district. The dental school is both a training and service rendering institution. The entire budget has been included in the calculation due to difficulty in separating budgets dedicated to training and service rendering.

The total budget of the HoR health department for the district of Mitchells Plain was R 58 531 325. If the Lentegeur Psychiatric Hospital is excluded the figure is R 13 894 251. If the budget of the UWC Dental Training Centre is excluded the figure decreases to R 5 164 747.

Cape Town City Council: Department of Health

The Cape Town City Council is the local authority for the greater part of the metropolitan Cape Peninsula. Table 9 is an analysis for their health expenditure in the district of Mitchells Plain for the financial years of 1991/92 and 1992/93.

Table 8: Analysis of City Council Expenditure in Mitchells Plain - Global Figures for all the City Council Clinics for the periods 1991/92 and 1992/93

Description	1991/92	1992/93
Salaries, Wages and Allowances	2 596 550	3 085 670
General Expenses	1 509 055	1 951 215
Repairs and Maintenance	43 880	50 460
Capital Charges	56 990	-
Total	4 206 475	5 087 345

The City Council of Cape Town spent about R 5 087 345 in the district of Mitchells Plain during 1992/93. Of this, about 60% was spent on staff costs such as salaries, wages and allowances. The budget was divided between the five preventive-oriented clinics in the area.

Cape Provincial Administration (CPA): Department of Hospital and Health Services

The CPA provided predominantly curative care to the population of the Cape Province (prior to the Interim Constitution of 1993). Table 10 is an analysis of their expenditure in Mitchells Plain for the financial year 1992/93.

Table 9: Analysis of Cape Provincial Administration Expenditure in Mitchells Plain for the period 1992/93



Mitchells Plain Midwife Obstetrics Unit (MOU)	1992/93
Personnel	2 021 187
Administration	26 246
Stores	357 530
Equipment	9 766
Professional and Special Services	33 868
Total	2 448 592

The Cape Provincial Administration finances the midwife obstetrics unit (MOU) and two dental clinics in the Mitchells Plain district. The budget for the dental clinics was not available. An approximate budget for a full-time dental clinic is approximately R 200 000 per annum (according to Dr Charl de La Harpe - Director Oral Health Services - CPA). This figure (X 2) plus the budget for the MOU amounts to R 2 848 592. For the MOU almost 80% is spent on personnel costs.

Total Public Sector Health Care Expenditure in Mitchells Plain

The total public health care expenditure in the district for Mitchells Plain for the financial years of 1991/92 and 1992/93 amounts to R 64 958 533 and R 72 320 395 respectively (see table 10). The budget decreases three-fold if the expenditure on the psychiatric hospital is excluded.

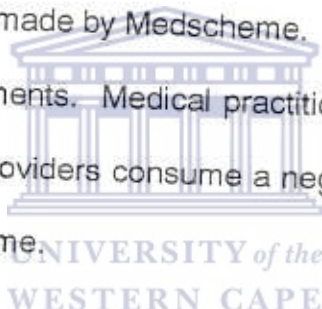
Table 10: Analysis of Total Health Care Expenditure by Public Health Care Authority in Mitchells Plain for the periods 1991/92 and 1992/93

Health Authority	1991/92	1992/93
Cape Provincial Administration	2 220 733	2 848 592
Cape City Council	4 206 475	5 087 345
House of Representatives - Including Psychiatric Hospital	58 531 325	64 384 458
House of Representatives - Excluding Psychiatric Hospital	13 894 251	15 283 676
Grand Total	64 958 533	72 320 395
Grand Total¹¹	20 321 459	23 219 613

¹¹ Excludes the Lentegeur Psychiatric Hospital Budget.

Expenditure by Medical Aid Schemes

The data on expenditure by medical aid schemes to health care providers in Mitchells Plain was extremely difficult to gather. Only national global data was available. Data was not available on the types of services provided by the various health care providers (see appendix 26 for a summary of Pro Sano Medical Aid expenditure by health care provider for 1992). Expenditure on medicines accounted for almost a third of the total benefit payments made by Medscheme. Private Hospital expenditure was 18% of the total benefit payments. Medical practitioner/specialist and dental claims totalled about 38%. Other providers consume a negligible proportion of the benefits paid by the medical aid scheme.



The Annual General Meeting of Pro Sano (1994) reports that there were 231 608 members and dependants who belonged to the scheme. According to the liaison officer of Pro Sano Medical Aid Scheme approximately 54% (125 068) were located in the Western Cape of which 15% (18 760) reside in Mitchells Plain. The total benefits paid for 1992 was R 267 695 100. The per capita expenditure nationally was R 1156. The Pro Sano expenditure in Mitchells Plain, based on equal per capita expenditure is R 21 686 560.

The data from the sick benefit funds were gathered from the annual reports and from the principal officers of the funds. Data was collected from the South African

Municipal Workers Union (SAMWU) and the South African Clothing and Textiles Workers Union (SACTWU) sick benefit funds. The Food and Allied Workers medical benefit fund had no members living in Mitchells Plain.

Table 11: Sick Benefit Funds expenditure in Mitchells Plain

Sick Benefit Fund	SAMWU	SACTWU
% Membership in Mitchells Plain	22	40
Number of members in Mitchells Plain	9431	18932
Total Benefits paid in 1992	R 13 617 516	R 21 364 698
Expenditure in Mitchells Plain	R 2 995 854	R 8 545 879

The total membership of Pro Sano Medical Aid Scheme and the SAMWU and SACTWU Sick Benefit Funds living in Mitchells Plain is approximately 47123. This is about 20% of the total district population. The total medical scheme expenditure by Pro Sano, SAMWU and SACTWU amounts to R 33 228 293 in Mitchells Plain. The total is an underestimate of the medical scheme expenditure because of the exclusion of other medical aid/benefits/sick funds from the amount calculated.

Due to the difficulty in ascertaining medical aid expenditure for districts since data has not been collected at this level, the following is an alternative method of calculating this expenditure. According to Strachan (1994) the mean medical aid scheme beneficiary payment for "coloured" people in the Western Cape for 1993 was R 141. The number of "coloured" people on medical aid schemes in Mitchells Plain varies from 16% (Meijer and McLoughlin, 1992) to 38% (Edmondson and Molloy, 1993). Strachan (1994) reports that 60% of "coloured" people in the Western Cape are covered by medical insurance. If one estimates the percentage of people covered by medical aid schemes in Mitchells Plain to be 27% (average of two figures for Mitchells Plain), which is approximately 64708 people and the per capita expenditure to be R 141, then the total medical aid expenditure for 1993 in Mitchells Plain would amount to about R 9 123 894. This figure is much lower than the one calculated earlier.

Non-Governmental Organisation Expenditure on Health Care

This data was extremely difficult to ascertain due to a constant non-response of the Mitchells Plain Advice Office to my request for this information. According to Riedewaan Arendse, a member of the Mitchells Plain Health Committee, there are no NGOs involved in health care delivery in the district. There are a few NGOs involved with health related issues such as the Cancer Association, Heart

Foundation, South African National Tuberculosis Association (SANTA), Community Partnerships Project (CPP) and others.

"Out-of-Pocket" Expenditure

Data on national and regional "out-of-pocket" payments on health care was not available. The South African Reserve Bank reports private consumption expenditure on medical and pharmaceutical products and medical services. These figures include contributions to medical aid and benefit schemes (McIntyre, 1993). The private consumption on health for 1990/91 was R 8.2 billion (Registrar of Medical Schemes, 1993). Of this R 6 billion (73%) was attributable to members of medical schemes. The total "out-of-pocket" expenditure on health care nationally (based on the SARB report) was approximately R 2.2 billion and the per capita expenditure was R 58. Erasmus (1992) reported the household cash expenditure on medical and dental services in the Western Cape for 1985 was R 339 million. If it is assumed that 70% of this amount was attributable to medical scheme members then the total "out-of-pocket" expenditure was R 102 million and the per capita expenditure was approximately R 34 in 1985. An inflation figure of 10% per annum would increase this amount to approximately R 60 in 1991.

Table 12: Total Health Care Expenditure in Mitchells Plain for 1991/92

Category	Total Amount (Rands)	% of Grand Total
Public Sector ¹²	20 644 458	30
Medical Aid/Sick Funds ¹³	33 228 293	49
Out-of-Pocket ¹⁴	14 379 660	21
Grand Total	68 252 411	

The table shows that medical aid/sick fund expenditure constitutes the major proportion of health care expenditure (49%). The total per capita expenditure on health care for the Mitchells Plain district amounts to R 285.

¹² Excludes the psychiatric hospital budget.

¹³ Based on estimates of Pro Sano, SAMWU and SACTWU expenditure in the district.

¹⁴ Based on R 60 per capita expenditure.

Comparison of Per Capita Health Care Expenditure for 1991/92

The report of the Registrar of Medical Schemes (1993) showed that 20% of the total population were beneficiaries of a medical aid/benefit/sick scheme. The first table comparing per capita health care expenditures utilises the population covered and not covered by a medical aid or benefit scheme as denominators. The second comparison utilises the total population as the denominator. The former denominator assumes that the population covered by a medical aid scheme utilises the private sector and those without cover are dependent on the public sector. This may not always be valid in that people not covered by a medical scheme also utilise the private health care sector.

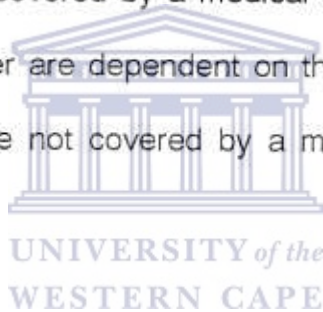


Table 13: Comparison of Public and Medical Aid/Benefit Scheme Health Care Expenditure for 1991/92 utilising different denominators (McIntyre, 1994; Registrar of Medical Schemes, 1993; Strachan, 1994)

Area/District	Public Sector Per Capita Expenditure ¹⁵ (in SA Rands)	Medical Scheme Per Capita Expenditure ¹⁶ (in SA Rands)
National	356	914
Western Cape Province	679	
Western Cape Province ¹⁷	380	
Mitchells Plain ¹⁸	340	693
Mitchells Plain ¹⁹	108	

¹⁵ Calculated by dividing the expenditure by 80% of the population.

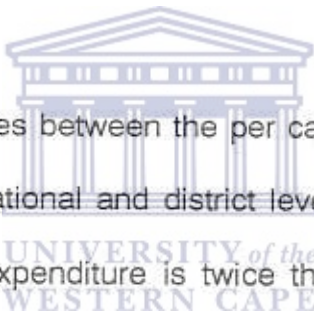
¹⁶ Calculated by dividing the benefits paid by 20% of the population.

¹⁷ Excludes the expenditure on academic hospitals.

¹⁸ This estimate includes the budget for the Lentegeur Psychiatric Hospital.

¹⁹ This estimate excludes the budget for the Lentegeur Psychiatric Hospital.

The per capita public sector expenditure for Mitchells Plain was calculated by using the estimated population of Mitchells Plain divided by the total public health care expenditure as obtained from the Health Financing and Expenditure Survey. The per capita medical aid expenditure in Mitchells Plain is based on the crude estimates of the Pro Sano Medical Aid Scheme, the SAMWU and SACTWU Sick Benefit Fund expenditure in the district (see appendix 27 for graphic presentation of the comparison). A per capita medical aid expenditure for Western Cape province is not available as empirical data.



The table shows vast differences between the per capita public sector and medical aid scheme expenditures at national and district levels. In Mitchells Plain the per capita medical aid/sick fund expenditure is twice the public sector figure (R 693 compared to R 340) and the comparison is worse if the psychiatric hospital is withdrawn (R 693 compared to R 108).

The difference in the per capita public sector expenditure at provincial and district levels is also evident. When excluding the psychiatric hospital budget the district of Mitchells Plain received seven times less per capita than the province. The per capita medical scheme expenditure is higher at the national level compared to the Mitchells Plain district (R 914 compared to R 693).

Table 14: Comparison of Public and Medical Aid/Benefit Scheme Health Care Expenditure for 1991/92 utilising a common denominator²⁰
(McIntyre, 1994; Registrar of Medical Schemes, 1993; Strachan, 1994)

Area/District	Public Sector Per Capita Expenditure (in SA Rands)	Medical Scheme Per Capita Expenditure (in SA Rands)
National	285	177
Western Cape Province	543	
Western Cape Province ²¹	304	
Mitchells Plain ²²	272	139
Mitchells Plain ²³	86	

²⁰ The total population is utilised as the denominator.

²¹ Excludes the expenditure on academic hospitals.

²² This estimate includes the budget for the Lentegour Psychiatric Hospital.

²³ This estimate excludes the budget for the Lentegour Psychiatric Hospital.

The calculations are the same as in the previous table, except different denominators were utilised. The latter comparison shows a much lower per capita health care expenditure in all the categories due to the increased number of people in the denominator. The differences noted in the previous comparison are reduced significantly (see appendix 28 for graphic presentation of comparison). At the district level the per capita public sector expenditure is greater than the private sector expenditure if the psychiatric hospital budget is included in the calculation. The per capita private sector expenditure is however greater if the psychiatric hospital's budget is withdrawn. There were also differences between the province and district levels within the public sector. When excluding the psychiatric hospital budget the district received almost six times less than the province.

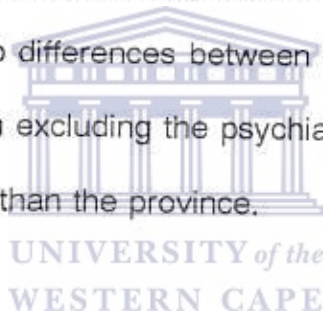
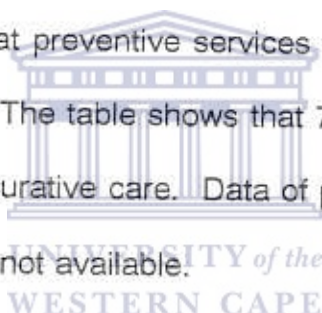


Table 15: Public Sector Expenditure by Type of Services - 1991/92

	Preventive Care ²⁴ (%)	Curative Care ²⁵ (%)
Total Expenditure in District	5 087 345 (7%)	67 233 049 (93%)

This is a crude estimate in that preventive services were provided by the HoR and CPA Departments of Health. The table shows that 7% of the budget was spent on preventive care and 93% on curative care. Data of private sector expenditure for a similar profile of services was not available.



Health Burden: Mortality and Morbidity Indicators

The health burden of the Mitchells Plain community was discerned from local authority, provincial administration and national health reports. The data obtained was then compared to national and regional figures.

²⁴ The preventive care expenditure is based on the City Council clinic budget for health care in Mitchells Plain.

²⁵ The curative care expenditure is based on the Department of Health (HoR) and Cape Provincial Administration health care budgets for Mitchells Plain.

Table 16: Comparison of Mortality Data (DNHPD, 1994; City of Cape Town, 1993)

Indicator (per 1000 births)	Infant Mortality Rate (1992)	Under Five-year Mortality Rate (1990)
Area/District		
National ²⁶	49	22
Western Cape Region ²⁷	36	49
Mitchells Plain Health District	15	

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The mortality data shows that the IMR for the Mitchells Plain district compares favourably with the national and provincial figures. The figure for the Mitchells Plain district was calculated by dividing the number of deaths below the age of one-year by the number of live births in these districts during 1992. The under five-year old mortality data for the Mitchells Plain district was not available.

²⁶ This figure may be an underestimate due to the under-registration of deaths in the "black" communities.

²⁷ This figure represents the estimated IMR for the "coloured" population in the country. The majority of the "coloured" population are resident in the Western Cape region.

Table 17: Comparison of Morbidity Data (Epidemiology Comments, January 1991; Epidemiology Comments, January 1994; Development Bank of Southern Africa, 1994)

Disease Level ²⁸	Measles	Viral Hepatitis	Tuberculosis
Area/District			
National	57.2	6.4	207
Western Cape	40.2	15.9	670
Mitchells Plain			420

The incidence for Tuberculosis is very high in the Western Cape province and in the district of Mitchells Plain. The rates are treble and double the national rate respectively. Incidence rates per 100 000 for measles and viral hepatitis for the district of Mitchells Plain was not available.

²⁸ Incidence Rate per 100 000.

Table 18: Comparison of Percentage Immunisation Coverage for under one-year old babies for 1992 (Epidemiology Comments, February 1994; City of Cape Town, 1993)

Disease	BCG	Polio (3rd dose)	DTP (3rd dose)	Measles
Area/District				
National	66	79	79	85
Western Cape Region	41	100	100	100
Other District (Wynberg)	6	100	100	100
Mitchells Plain	2	100	100	100

The immunisation coverage was higher than the national coverage with regard to polio, DTP and measles. The coverage for BCG was very poor compared to the national coverage. The percentage coverage in the Wynberg and Mitchells Plain was calculated by dividing the number of immunisations carried out by the number of live births in the districts during 1992. The BCG coverage may be an underestimation because the vaccination is administered at birth at MOU outside the district. This is not reflected in the statistics of the district.



DISCUSSION
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The need to develop indicators at district level to assess levels of equity and monitor progress towards improved equity has been clearly established in the literature (ANC, 1994a; Whitehead, 1990; Zwarenstein and Barron, 1992). In this section the variables presented in the previous section will be assessed for their feasibility as indicators to monitor equity in the health care system at the district level. The possibility of using selected demographic characteristics, health facilities and health personnel to population ratios, per capita expenditure on health care and the prevalence of ill-health as indicators for assessing and monitoring levels of equity will be discussed.



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Equity and Demographic Characteristics

An accurate assessment of population size is essential in the monitoring of equity in the health care system as this figure is utilised as the denominator for many of the indicators calculated. Calculations include the ratios of health facilities and personnel to population number, the per capita expenditure on health care, the immunisation coverage and incidence rates.

There are other demographic characteristics that impact on the health status of the community such as those related to housing, education and labour. Equity in these sectors is essential for improving the health status of communities (ANC, 1994b). Their inclusion as indicators in the monitoring of equity in the health care system

appears to be more complex than the health systems and status indicators. In the long-term these characteristics must be considered when allocating health care resources and monitoring equity at district level. These characteristics include the number of people per household, the levels of education, employment and income per household. Districts with inadequate housing and schools, high levels of unemployment and low income should be apportioned greater health care resources to offset the negative consequences of these characteristics and improve equity in resource allocation. Socio-demographic indicators must form an integral component of the health care resource allocation formula. The level of female education is an important issue that needs to be assessed in that it is related to levels of mortality and morbidity in the community (Stanton, 1994). The levels of employment and income are associated with the prevalence of ill-health in a community as well as the ability to overcome financial barriers to seeking health care (Whitehead, 1990).

An indicator or indicators measuring equity in the other sectors must be developed for inclusion in the health care resource allocation formula. Health services alone cannot ensure equity in the health care system. Intersectoral collaboration and the establishment of intersectoral development committees at district level will enhance the possibilities of collaborative efforts to achieving equity and justice. The role of other sectors and the inputs of the health sector into the Reconstruction and Development Programme (1994b) of the ANC (which has been accepted by the Government of National Unity as a policy document) will be important to address

inequities in the health care system. The RDP is an intersectoral approach to the provision of housing, water and sanitation, education, nutrition, health care services and many others. The main aim of the RDP is social justice and the social upliftment of communities.

Health Care Facilities and Health Care Personnel

Health systems data on the types and distribution of health care facilities and personnel at district level may be utilised to monitor equity in access to health care services. This study showed that the data is available and easy to collect. The distribution of health personnel can be monitored over the medium- to long-term as staff can be re-deployed in under-resourced districts without much delay. The distribution of health facilities can only be monitored over the long-term as clinic building programmes take a number of year to complete. The types and distribution of health facilities and personnel should be assessed for the public / private sectors and types of services provided (preventive / curative). To assess equity the ratio of health facilities and personnel to the population should be assessed and compared to other districts, provinces and nationally and linked to levels of health burden. This comparison will immediately highlight districts and provinces that are over-resourced in terms of facilities and/or personnel. Comparisons can also be made with international health organisation recommendations such as the World Health Organisation (WHO).

In the Mitchells Plain district the distribution of beds per 1000 people and number of people per clinic compares unfavourably with national and provincial figures (see Table 19). These comparisons of district ratios of beds and clinics to population to provincial, national and WHO recommendations show massive inequities in the distribution of health care facilities. These district ratios are not often found in urban areas as they are often found in rural areas. These ratios are easy to calculate if reliable demographic and health facility data is available. The indicator is able to illustrate access to health care services at the various levels. The geographic distribution within an urban district such as Mitchells Plain is not as critical issue for access as it is in rural areas since the entire district population resides within a 5-6 kilometre radius.



Table 19: The Ratio of Beds and Health Care Facilities to Population (Chetty, 1993; Erasmus, 1992; Development Bank of Southern Africa, 1994)

Indicator	Beds/1000 people	Population/Clinic
Area/District		
National	4.4	16190
Western Cape Province	5.6	5000
Mitchells Plain	0.6	39944

A similar table can be produced for the ratios of the various categories of health personnel to population at national, provincial and district levels to illustrate some gross inequities in the distribution of health personnel. The district of Mitchells Plain compares unfavourably with the national and provincial ratios (see Table 20).

Table 20: The Ratio of Health Personnel to Population (DNHPD, 1992)

Personnel	Medical Doctor	Dentist	Nurse	Pharmacists
Area/District				
National	1981	9493	235	4026
Western Cape Region	1027	4707	147	2671
Mitchells Plain	3687	9586	908	12614

The distribution of health personnel between the private and public sector within a district could also be utilised to monitor equity in the health care system. The ability of the population to pay for health care services in the private sector or their dependence on the public sector for care is important in the assessment of the private / public sector distribution of health personnel. In a district which is poor and unemployment is high, the distribution of health personnel should favour the public sector. The distribution of medical doctors, dentists and pharmacies in Mitchells Plain shows a marked bias in favour of the private sector (see Table 21). Excluding the

staff at the psychiatric hospital there are almost five times as many medical doctors and dentists in the private sector compared to the public sector. Most of the nurses are employed in the public sector. Based on current employment and income levels as well as the small percentage of people on medical schemes in this district, one can safely assume that the community is dependent on the public sector for most of their health care. Based on this assumption, most health personnel should therefore be located in the public health sector. Of the nurses employed, approximately 75% are at the psychiatric hospital which provides psychiatric care to people of the entire Western Cape region. There are relatively few nurses providing preventive, promotive and general medical curative care to the population of the district. The PHCA emphasises the prevention of disease and promotion of health as a principle to achieve "Health for All by the year 2000" (WHO, 1978). An assessment of the distribution of health personnel according to the type of service they provide also needs to be carried out to further understand the level of equity present in this sphere.

Table 21: The Distribution of Health Personnel in the Public and Private Sectors in the Mitchells Plain District

Sector	Private	Public	Ratio
Category of Health Personnel			
Medical Doctor	54	11	5:1
Dentist	23	4	6:1
Nurse	86	178	1:2

Health systems data on the types and distribution of health facilities should be utilised to assess and monitor equity in the allocation of health care resources at the district level because of the availability and ease of collecting this type of data. The ratios of facilities and personnel must be calculated for the overall district and separately for the public and private sectors and according to the types of services provided. These comparisons highlight inequities in the distribution of personnel and facilities between the various levels and sectors. The gradual attainment of ratios for district, province and national figures can be monitored. The assumption made in utilising these indicators is that increased allocation of health care resources such as personnel and facilities will improve the health of the community. Clearly the increased allocation of curative-oriented personnel and facilities will not necessarily bring about greater equity in health status.

Health Care Expenditure in the Mitchells Plain District

The allocation of financial resources to districts is a fundamental measure of equity. Per capita health care expenditure allocation at district level can be compared to other districts, provincial and national figures. These comparisons should be carried out for the total expenditure in the district as well as for the public and medical scheme sectors.

In the public sector a total of R 64 958 533 was spent for the 1991/92 financial year in the Mitchells Plain district. The most prominent inequity in the distribution of this expenditure is that 68% was absorbed by the psychiatric hospital. The district health care facilities (clinics, community health centre, MOU and the Oral Health Centre) received R 20 644 458. The curative facilities received the major proportion of the financial resources. The distribution of health expenditure by the types of services provided can also function as an indicator for monitoring equity in the health care system.

The per capita public sector health care expenditure in the Mitchells Plain district compares unfavourably to provincial and national figures (see Table 22). This indicator is easy to assess because data on public sector health care expenditure is readily available. The monitoring and comparison of the per capita expenditure on

preventive versus curative care at the various levels may provide a more accurate assessment of the level of equity in health care expenditure. However this data was not readily available.

Table 22: Per Capita Health Care Expenditure in the Public Sector (McIntyre, 1994)

Level	Per Capita Expenditure ¹ (Rands)	Per Capita Expenditure ² (Rands)
National	285	356
Provincial	543	679
Provincial (excluding academic complexes)	304	380
Mitchells Plain	272	340
Mitchells Plain (excluding psychiatric hospital)	86	108

Equity in per capita health care expenditure can greatly be improved in the short-to medium term by allocating equal per capita expenditure on health care at the district level. This increased financial allocation must be accompanied by increasing the

¹ Utilising the total population as the denominator.

² Utilising 80% of the population as the denominator.

personnel deployed and expanding the infrastructure to deliver increased care to the community. The per capita public sector expenditure (excluding academic hospitals) in the Western Cape for 1991/92 was R 304. The per capita public sector expenditure (excluding the psychiatric hospital) was R 86. There is a three-fold difference between the provincial and Mitchells Plain district per capita allocation. Based on the provincial per capita figure the Mitchells Plain district should have received R 73 million (district population X R 304). The district received only R 21 million (28% of calculated amount). The additional money could be utilised to build and maintain a district hospital.



The resource allocation formula can be sensitised by including other indicators such as the health burden, utilisation rates and cross-border flow of patients once data are available. Reliable data on health burden and utilisation rates still need to be collected and analysed. The SAHRA regional resource allocation formula suggested by Bourne et al. (1990) could be utilised at the district level once reliable data is available on the district population size by age and gender, life expectancy, utilisation rates and levels of ill-health. In the interim, equalising per capita expenditure will do a great deal to improve the level of financial equity in public sector health care.

The major proportion of private expenditure on health in the Mitchells Plain district is through the medical aid/sick fund system. The total Pro Sano, SAMWU and SACTWU medical scheme expenditure is in excess of R 33 million in 1992. The per

capita medical scheme expenditure shows that the national figure is higher than the district one if the total population is utilised as a denominator. This difference is more apparent if 20% of the population, who are on medical schemes, is utilised as a denominator (see Table 23). This indicator was difficult to assess as data is not collected for districts. Data on the expenditure by types of services provided was not available. The national Pro Sano benefit payments showed that major proportion of benefits went for medicines and to private hospitals. One assumes that these were predominantly for curative services.

Table 23: Per Capita Health Care Expenditure by the Medical Schemes

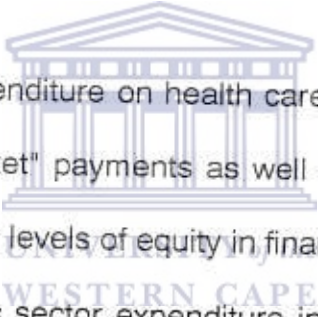
(McIntyre, 1994; Registrar of Medical Schemes, 1993)

Level	Per Capita Expenditure ³ (Rands)	Per Capita Expenditure ⁴ (Rands)
National	177	914
Mitchells Plain	139	693

³ Utilising the total population as the denominator.

⁴ Utilising 20% of the population as the denominator.

The comparison of per capita expenditure between national / district levels and the public / private could be utilised to monitor equity in expenditure in the health sector. This study shows the inequities in the per capita health care expenditure between the national and district levels and the public and private sectors. Careful monitoring of these differences will be important and strategies need to be developed to reduce the differences. The NGO and "out-of-pocket" cash payments for health care services will need to be added to the public and medical scheme expenditure to obtain a more accurate estimate of total expenditure on health care at all levels.



In summary the per capita expenditure on health care by the public sector, private sector, NGOs and "out-of-pocket" payments as well as the total amount provide a very effective assessment of the levels of equity in financial resource allocation in the health care system. The public sector expenditure information is readily available. Methods of obtaining information on the other components of the total health care expenditure need to be developed. Comparisons can be made between the district, regional and national figures and within the district between the various sectors. The public and private sector expenditure can be assessed by utilising both denominators (total population figures and medical scheme membership). The expenditure on the types of services provided must be assessed to monitor movements towards the prevention of diseases and the promotion of health. Increasing the financial resources allocated will not ensure equity in health and the nature of the relationship between health resources and health outcomes needs to be more thoroughly

examined at district level. Further investigation into the impact of resources on the prevention of disease and the promotion of health will also be important for equity

Demographic Characteristics and Access to Health Services in relation to Mortality and Morbidity Indicators

The relationship between the levels of health burden (health need) to population data, access to and coverage of health services and per capita expenditure are essential for monitoring equity in the health sector. The following tables compare the mean income and the health facility and personnel to population ratios to infant mortality rates at the district, provincial and national levels.

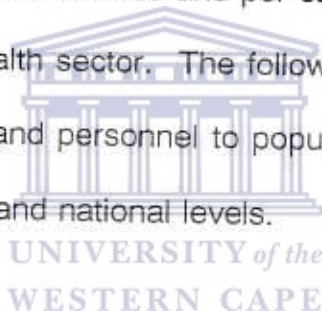


Table 24: Comparison of Income and Infant Mortality Rates (Development Bank of Southern Africa, 1994; DNHPD, 1994; City of Cape Town, 1993)

Variable	Mean Income Per Annum (Rands)	Infant Mortality Rates
Area/District		
National	2506	49
Western Cape	4188	36
Mitchells Plain	3750	15

Similar tables can be presented comparing other demographic variables such as literacy levels, household crowding to mortality and morbidity rates. These relationships will only be valuable if data from a number of districts and provinces are compared which could possibly be the basis for a future study.

Table 25: Comparison of Health Facility to Population Ratio and Infant Mortality Rates (Chetty, 1993; Erasmus, 1992; Development Bank of Southern Africa, 1994; DNHPD, 1994; City of Cape Town, 1993)

Variable	Health Facility to Population Ratio	Infant Mortality Rates
Area/District		
National	16190	49
Western Cape	5000	36
Mitchells Plain	39944	15

At national and regional levels there is a direct relationship between the number of people per health facility and IMR. At the district level this relationship is reversed. The IMR calculated may be an underestimate of the actual figure due to under-reporting of deaths and undercount of total births.

Table 26: Comparison of Population to Nurse Ratio and Infant Mortality Rates

(DNHPD, 1992; DNHPD, 1994; City of Cape Town, 1993)

Variable	Population to Nurse Ratio	Infant Mortality Rates
Area/District		
National	235	49
Western Cape	162	36
Wynberg District	164	16
Mitchells Plain	908	15

There seems to be a relationship between the number of people per nurse and the IMR at national, regional and Wynberg district levels. In Mitchells Plain the IMR is the lowest with the highest population to nurse ratio. The reason for this discrepancy may be due to the underestimation of the IMR.

The monitoring of demographic characteristics, distribution of health facilities, health personnel and per capita health care expenditure data in relation to mortality and morbidity rates (health need) can be utilised to monitor levels of equity in the health care system. Accurate data needs to be collected on mortality and morbidity rates at the district level to provide reliable comparisons.

Summary of Indicators to Monitor Equity in Health Care at District Level

The indicators utilised all depend on the availability and reliability of the information. The assessment and monitoring of equity in the health care system may change over time as more information becomes available. Accurate baseline data on the population size by age and gender is essential as these figures are utilised to calculate health systems and status indicators. The indicators that could immediately be utilised to monitor equity include the ratio of the various types of health facilities and categories of health personnel to population and the per capita expenditure on health care by the public and private sectors. Comparisons can be made between districts, provincial and national ratios and expenditures.

Table 28 : *The coverage of the health care services and the IMR at national, provincial and district level (not all the data is available)*

Level	Percentage Immunisation Coverage				Percentage supervised births	IMR
	BCG	Polio	DTP	Measles		
National	66	79	79	85		49
Provincial	41	100	100	100		36
District	2	100	100	100		15

The district of Mitchells Plain is only worse in one of the five indicators presented. The accuracy of the BCG coverage at the district level may be questionable as babies are normally vaccinated at birth. These vaccinations may have been carried out at a facility outside the district. The low BCG coverage may explain the high TB incidence in the district.

An important indicator that should be assessed and monitored is the levels of ill-health at the district level compared to provincial and national rates. Accurate data on the incidence of ill-health at district level is presently not available and needs to be collected. The health burden rates can be related to social and economic characteristics such as housing status, employment, income, literacy and education levels in the district community compared to other districts, regional and national

figures. Accurate data on these variables still need to be collected for district communities. Similar comparisons of health burden to health systems indicators such as the ratio of health facilities and personnel to population could be carried out.

Table 29 : *The incidence rate of TB, demographic characteristics and the ratios of health facilities and personnel to population at the national, provincial and district levels (some cells have been left blank as data was not available)*

Level	TB Incidence Rate per 100 000	Demographic Data UNIVERSITY of the WESTERN CAPE			Number of people per CHC	Number of people per Medical Doctor
		Unemployment Levels	Per Capita Income	Literacy Level		
National	207	15%	2370	61	16 190	1981
Provincial	670	13%	4188	72	5 000	1027
District	420	32%	3750		40 000	3687

The levels of disease at the three levels and its relationship to other determinants of health such as employment and income levels as well as the health care resources allocated. Other demographic data that should be included in the comparison are

the housing status and the number of people per household and room. The table shows that the high TB incidence rate may be due to the high unemployment rate which is an indicator of the levels of poverty and social deprivation and the poor accessibility of health services indicated by the health facility and personnel to population ratios.



Table 30 : Summary table of indicators to monitor equity at district level

Indicator	Availability of Data	Capacity to Measure Equity	Short-, Medium or Long-Term Indicator
Equity in Access to Health Services			
Ratio of Clinics to Population	Yes	Moderate	Long
Ratio of Categories of Health Personnel to Population	Yes	Moderate	Medium/Long
Equity in Health Care Expenditure			
Per Capita Public Sector Expenditure	Yes	Good	Medium/Long
Per Capita Medical Scheme Expenditure	No	Moderate	Medium/Long
Expenditure on Preventive Care	No	Good	Medium/Long
Equity in Coverage of Health Care Services			
Percentage Fully Immunised Children	Yes	Good	Medium/Long
Percentage Supervised Births	Uncertain	Good	Medium/Long
Health Need Indicators			
Mortality Rates (e.g. infant, child, maternal)	Uncertain	Good	Long-Term
Morbidity Rates (e.g. Tuberculosis)	Uncertain	Good	Long-Term
Perceived Health Needs of the Community	No	Good	Medium/Long

Table 30 (cont)

Indicators in relation to mortality and morbidity rates	Availability of Data	Capacity to Measure Equity	Short-, Medium or Long Term Indicator
Population Characteristics and Health Burden			
Housing, access to water and sanitation, education, employment and income	No	Good	Long-Term
Access to Health Services and Health Burden			
Distribution of health facilities and personnel	Uncertain	Good	Medium/Long
Expenditure and Health Burden			
Public and medical scheme expenditure	Uncertain	Good	Medium/Long
Expenditure on preventive care	No	Good	Medium/Long
Coverage of Health Services and Health Burden			
Percentage fully immunised children	Yes	Good	Medium/Long
Percentage supervised deliveries	No	Good	Long-Term

Table 31 : Summary of the main findings for which data is available in terms of the levels of equity in the district of Mitchells Plain compared to provincial and national figures

Indicator	Level of Equity
Ratio of Clinics to Population	Worse
Ratio of Personnel to Population	Worse
Per Capita Public Sector Expenditure	Worse
Per Capita Medical Scheme Expenditure	Worse
Immunisation Coverage	Better
Infant Mortality Rate	Better
Morbidity Rate, e.g. TB	Similar

The level of equity in the district of Mitchells Plain is worse in four of the seven indicators listed. All these relate to the allocation of infrastructure (clinics), personnel and financial resources. The immunisation coverage and infant mortality rate is better in the district compared to regional and national figures.



CONCLUSIONS

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The well-being of all the people of this country depends upon the creation of a fair and just society. In the health care system the issue of achieving equity is very important. The creation of a health care system that is equitably distributed, accessible, affordable and acceptable needs to be developed based on the principles of fairness and justice (equity). The assessment and monitoring of equity in the health care system at district level is essential and sensitive indicators need to be devised and used to measure the success or failure of achieving greater equity. This study evaluated the feasibility of using demographic, health systems and health status indicators to assess and monitor equity at a district level by using Mitchells Plain as a case study.



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The study shows that data on demographic characteristics of district communities may need to be evaluated for their levels of accuracy. A population census may be necessary in certain districts where the data is inaccurate and flawed. In other districts the data is accurate enough to be used for assessing and monitoring equity in the health care system. The health systems data on the types and distribution of public sector health facilities and personnel was easy to collect due to the availability of information. This, however, is not the same for the private sector. More effective methods of obtaining reliable data on the facilities and personnel in this sector need to be developed. Public sector health care expenditure was also available for the district. For the private sector only national global data was available from medical

aid/benefit/sick schemes. The district private expenditure had to be estimated using national per capita medical aid expenditure and the percentage of medical scheme members in the district. No data was available on "out-of-pocket" expenditure and crude estimates had to be made based on national South African Reserve Bank figures. More accurate data on the private sector and "out-of-pocket" expenditure needs to be collected at district level if reliable estimates of total health care expenditure are to be made at the district level. Information on the coverage of the population by the health services, the mortality and morbidity rates (health burden) and perceived community needs was deficient and must be assessed and monitored.

The study shows that the indicators chosen to assess and monitor equity in the health care system are very dependent on the availability and reliability of data at district level if their use is to be meaningful.

The demographic characteristics of the district such as population size, housing status, employment, income, literacy and education levels particularly amongst women need to be collected directly for each district.

The indicators that can be used immediately to assess the levels of equity in terms of access and expenditure at district level are the distribution of public sector health facilities, personnel and expenditure in relation to population distribution. The number of people per community health centre, general bed, medical doctor, nurse and per

capita expenditure can be compared between districts, provinces and nationally. Similar comparisons can be carried out for the private sector once better information is available. Comparisons can also be carried out between the public and private sectors at the various levels. The monitoring of the distribution of health personnel can be carried out over the medium to long-term as these changes can be effected quite rapidly. With regard to the distribution of health facilities, monitoring will need to take place over the long-term as clinic building programmes may take many years to complete. Health expenditure can be monitored over the medium to long-term as financial resources can be shifted to the district level with the implementation of a decentralised health care system. The coverage of the health care system at district level can be assessed by immediately monitoring the percentage of children fully immunised and the percentage of deliveries that are supervised by a trained personnel. The levels of mortality and morbidity in the district community can be similarly compared to other districts, provinces and nationally. In some districts this data still needs to be collected. The monitoring of these rates will need to continue in the future. The levels of mortality and morbidity can be related to demographic characteristics, distribution of health facilities and personnel and to per capita health care expenditure.

An essential but often difficult indicator to collect and analyse is the perceived health needs of the community. The opinions of the community can be the most accurate

assessment of the levels of equity in the health care system. Information of perceived health needs at district level needs to be collected to supplement the technical and biomedical indicators mentioned earlier.

The National, Provincial and District Health Information Systems should collect data and provide information on the levels of equity in the health care system. Data on the demographic characteristics needs to be collected in conjunction with other sectors. Data on the distribution of health facilities, personnel, expenditure and equipment at the various levels and in the public and private sectors needs to be regularly collected for the district. The coverage of health care services, levels of ill-health and perceived health needs in the district community needs to be assessed. All this data should be collected and compared across the public / private sectors at district, provincial and national levels in order to monitor changes in equity in the health care system at the district level now and in the future.

This study has identified a number of crude indicators that may be used to monitor equity in the interim, however, there are limitations in obtaining empirical district data needed to meaningfully apply them. There is also a great need to establish more directly, the ability to predict actual improvements in health status. Their relationship to broader determinants of community development and health is also not established, and it is therefore not possible yet to determine with certainty which variables are actually making the greatest impact on health status equity.



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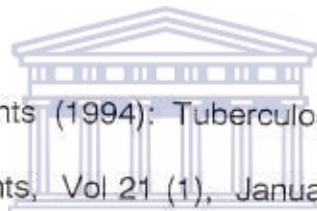
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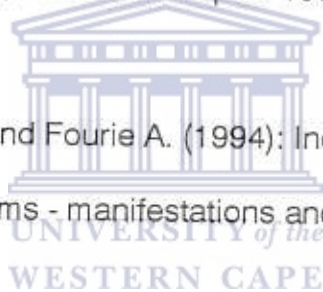
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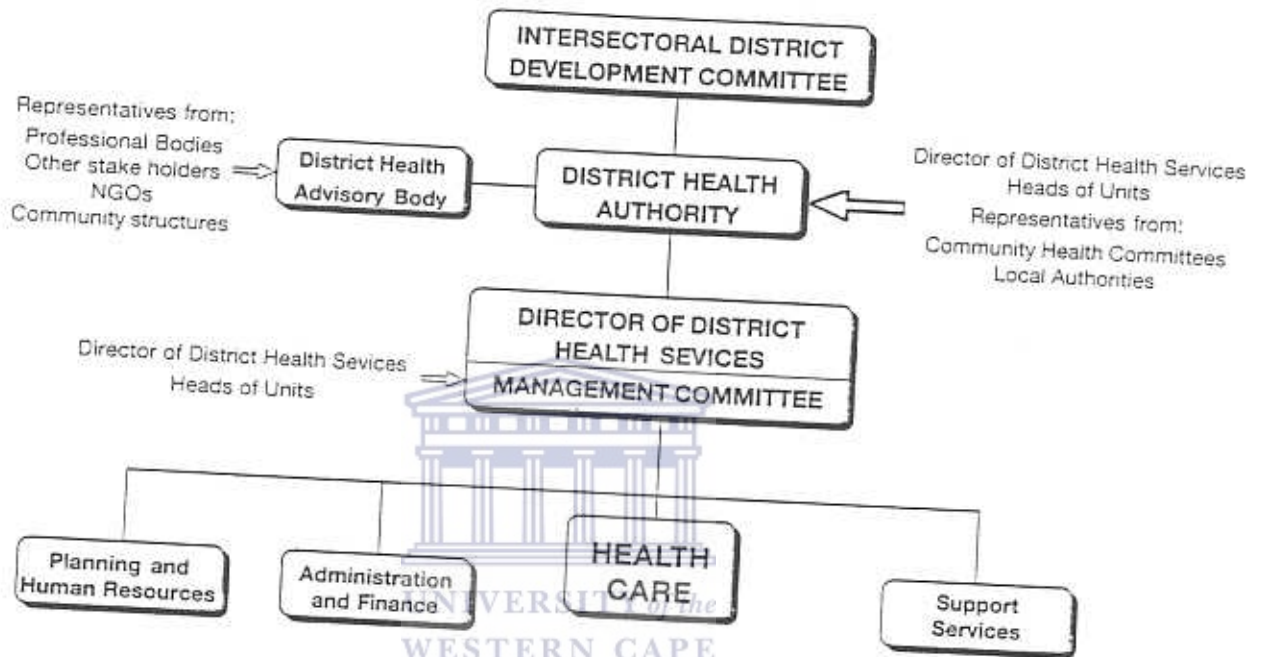




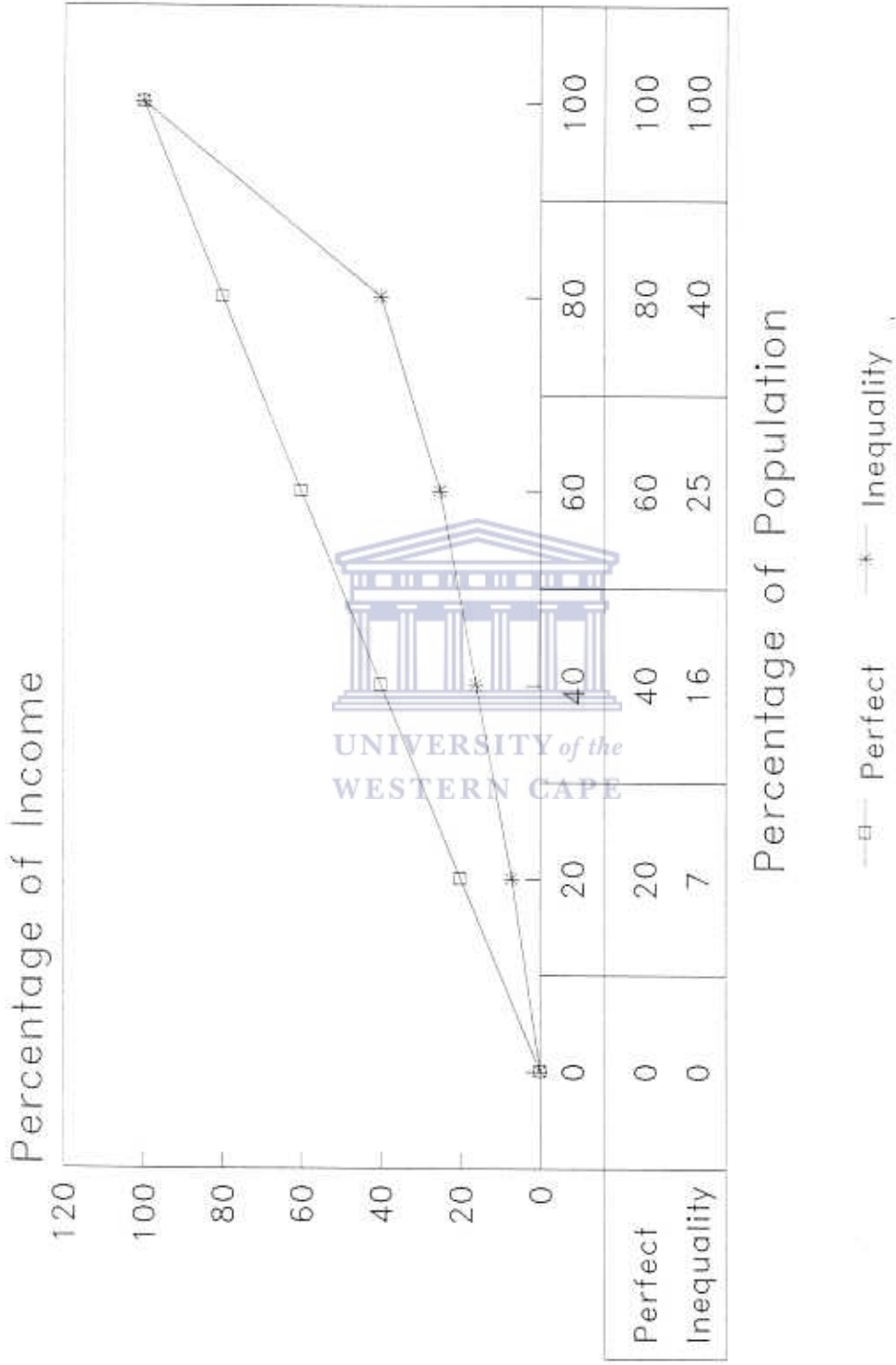
APPENDICES
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Appendix 1

Organogram of N.H.S. at District Level (from the ANC National Health Plan for South Africa)



Lorenz Curve



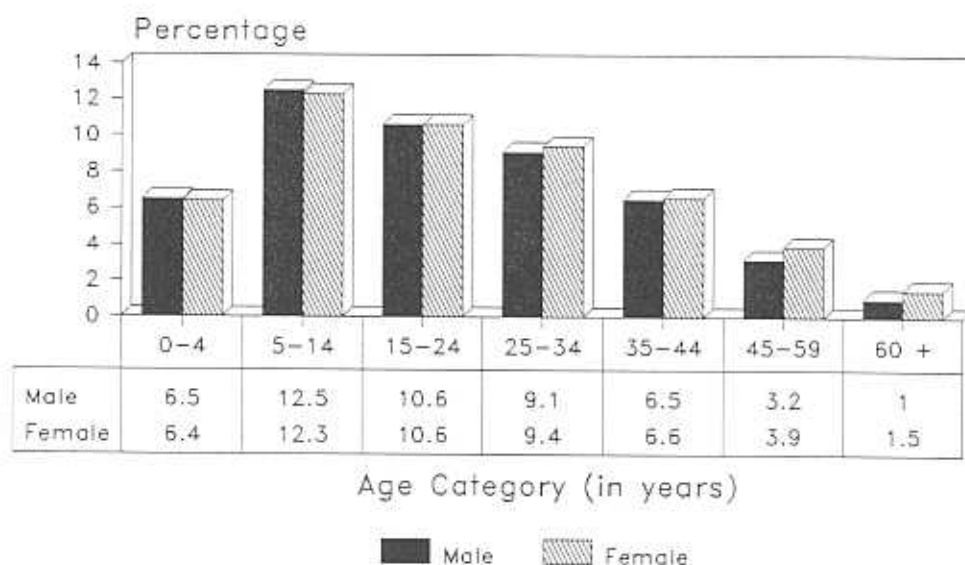
Appendix 2

Appendix 3

Map of the District of Mitchells Plain
(from the Urban Studies Department
of the Cape Town City Council)

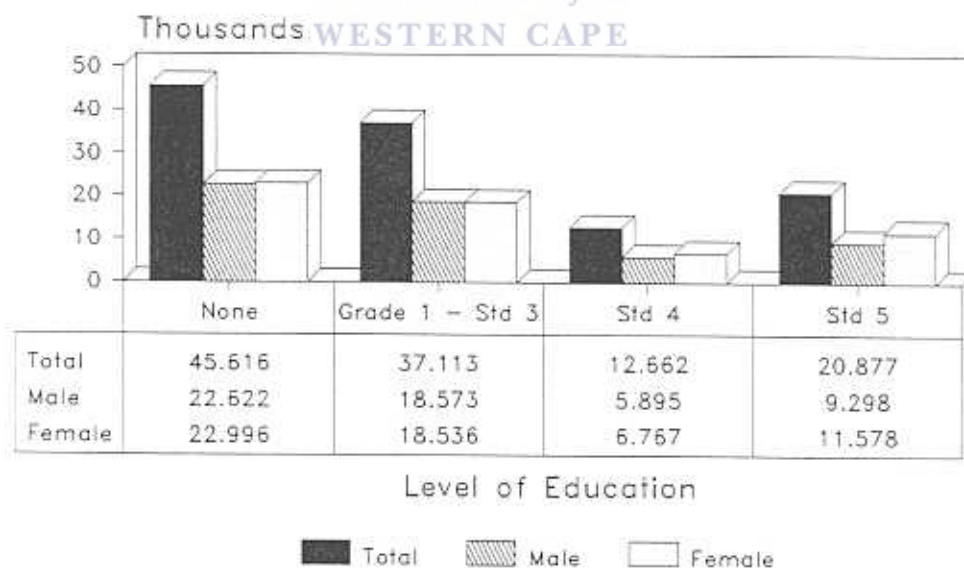


Age and Gender Distribution of Mitchells Plain Population



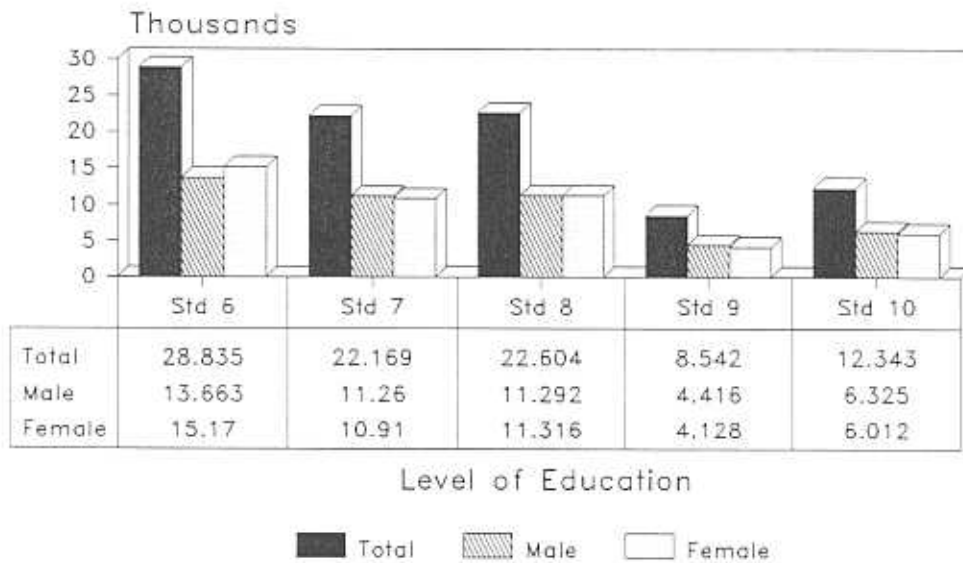
Appendix 4

Level of Education (primary) of Mitchells Plain Community



Appendix 5

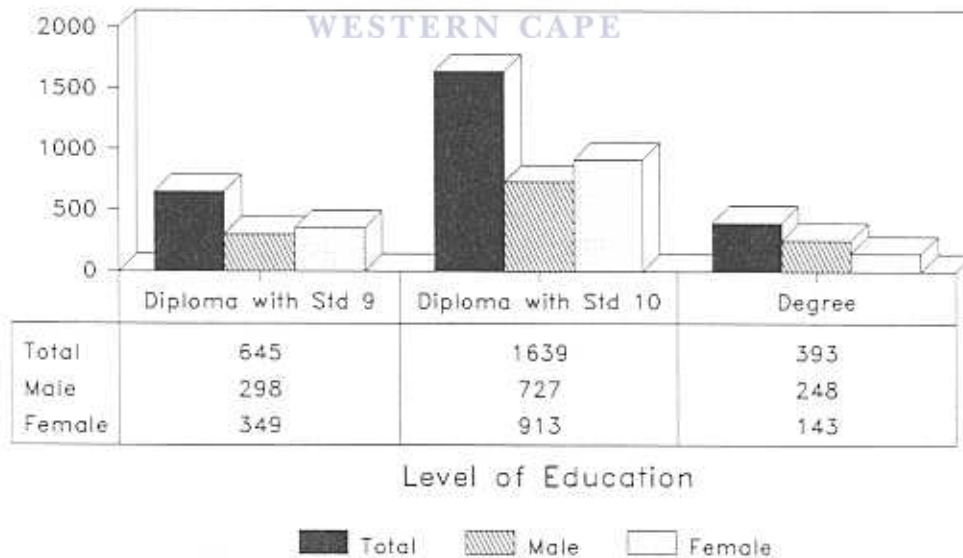
Level of Education (secondary) of Mitchells Plain Community



Appendix 6

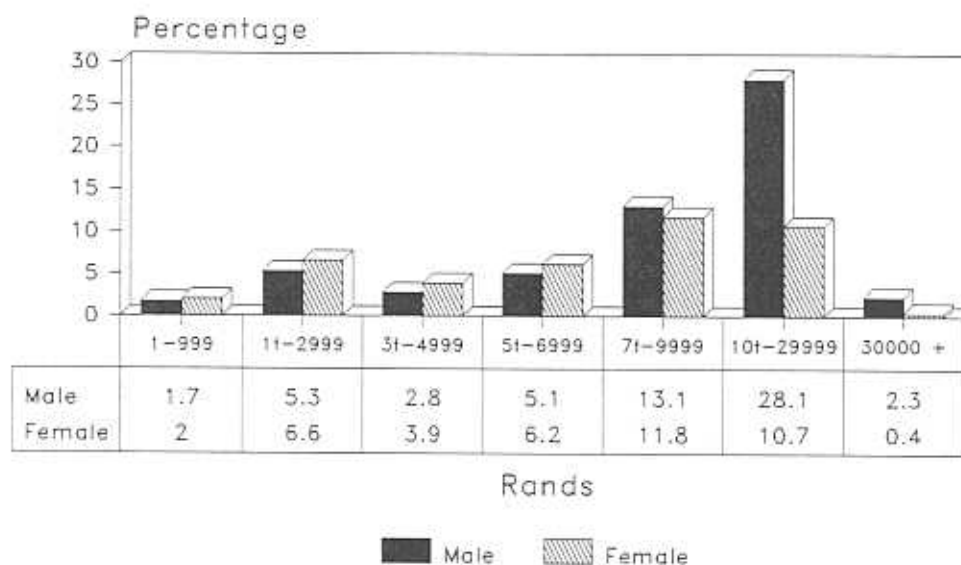
Level of Education (tertiary) of Mitchells Plain Community

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Appendix 7

Income Level of Earners in the M/Plain Community by Gender



Appendix 8



Appendix 9

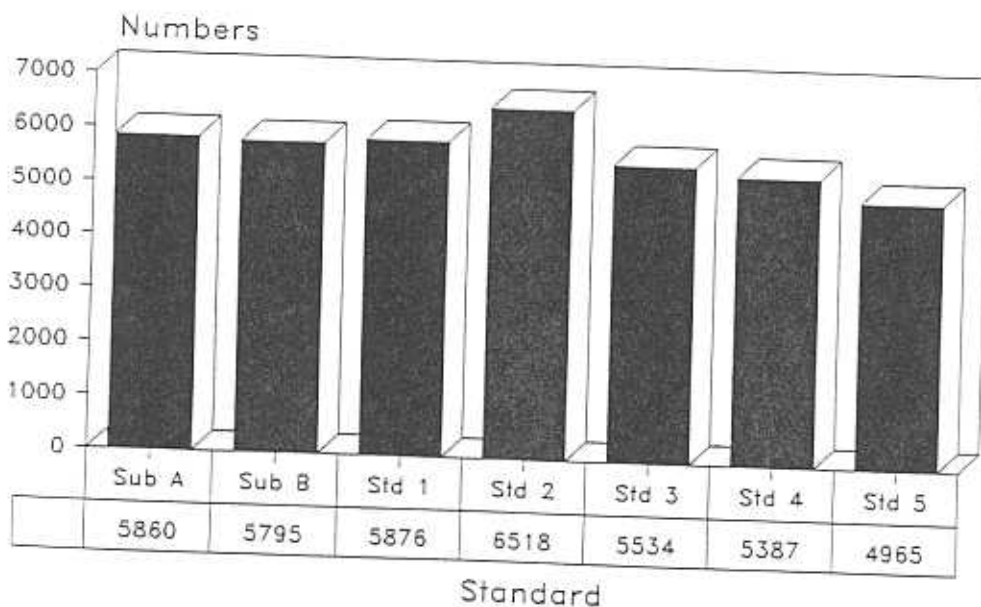
List of Primary Schools in Mitchells Plain

School	Sub A	Sub B	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Total
A.Z.Berman	144						222		366
Aloe	131	141	118	121	112	137	120	97	977
Alpine	184	283	244	226	251	256			1444
Alpweg	134	101	88	85	83	48	43		582
Beacon View	211	231	216	215	232	216	188		1509
Buckingham	99	22	127	121	116	98	103	61	852
Caradale	100	111	113	98	102	107	99	41	771
Caravelle	93	83	94	94	101	83	89		637
Cascade	167	194	244	171	174	193	161		1304
Cornflower	120	111	117	109	125	119	148	92	941
Duneside	136	139	130	139	114	115	93		866
Eastville	189	196	195	144	163	146	160		1193
Eislebenweg	122	114	113	105	125	72	97		748
Harvester	133	130	108	112	120	124	106		833
Hazeldene	137	112	133	133	118	119	111	61	924
Highlands	119	112	127	153	133	114	130		888
Hillside	111	116	105	92	100	102	70	78	774
Hugenot	125	133	167	137	131	104	99		896
Hyacinth	135	171	138	133	161	140	126		1004
Imperial	182	220	202	210	206	234	214		1468
Jamaicaweg	106	127	116	125	115	111	101	92	893
Lantana	119	140	139	157	145	148	93	64	1005
Liesbeeck	119	131	106	126	117	115	133	80	927
Littlewood	250	252	290	187	201	175	192		1577
Meadowridge	148	144	136	137	145	134	101		945
Merrydale	111	125	123	112	124	147	109	44	895
Mitchells Plain	112	116	122	105	82	103	100	147	887

School	Sub A	Sub B	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Total
Montagurylaan	104	102	104	99	94	127	119	58	807
Northwood	132	129	143	140	115	132	129		920
Parkhurst	156	109	128	140	142	128	135		938
Portlands	89	94	100	99	101	90	95	80	748
Ridgeville	113	90	108	80	102	122	79		694
Rocklands	119	111	128	96	136	108	99		797
Seaview	135	140	145	154	125	133	126	69	1027
Spineview	114	116	113	136	108	90	93		770
Springdale	117	108	141	129	118	97	100	75	885
Tafelsig	214	207	186	159	138	166	135		1205
Wespoort	208	174	114	134	139	126	112		1007
West-end	117	150	151	159	141	161	108	110	1097
Westville	132	117	111	112	106	106	106		790
Woodville	136	133	146	155	138	123	120		951
Yellowwood	130	158	145	177	160	127	107		1004
Weltevreden	107	102	102	102	75	91	94	100	773
Grand Total	5860	5795	5876	6518	5534	5387	4965	1349	41284

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Distribution of Primary School-children by Standard

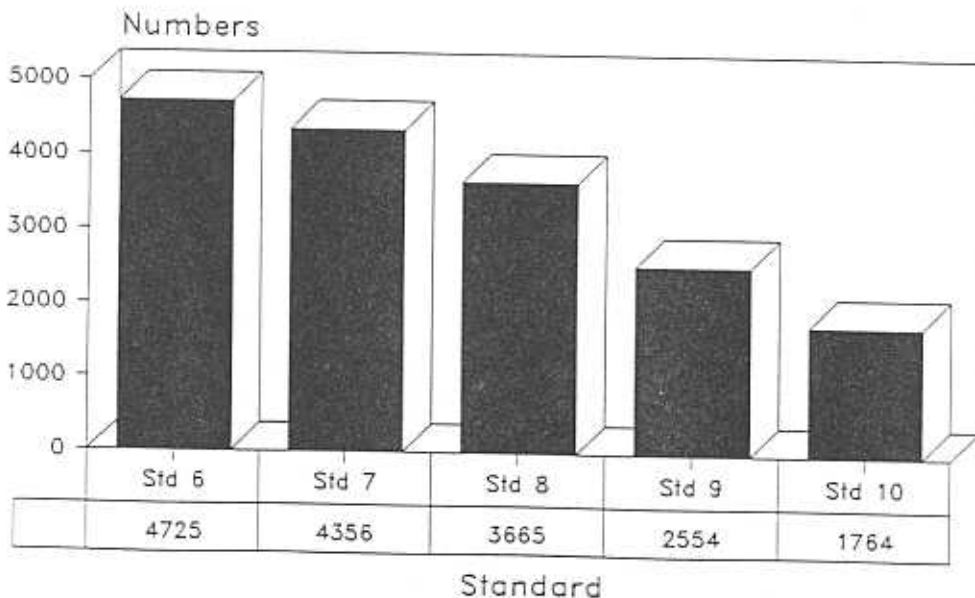


Appendix 11

List of Secondary Schools in Mitchells Plain

School	Std 6	Std 7	Std 8	Std 9	Std 10	Total
Aloe	112	350	338	203	163	1166
Beacon Hill	384	271	241	156	129	1181
Cedar	89	303	347	197	151	1087
Glendale	258	311	201	127	83	980
Lentegeur	268	350	231	180	118	1147
Mondale	169	329	259	256	180	1193
Portland	119	394	320	302	208	1343
Princeton	255	222	177	118	96	868
Rocklands	339	292	238	222	142	1233
Spineweg	286	299	291	193	123	1192
Tafelsig	386	345	206	112	96	1145
Westridge	192	255	250	197	144	1038
Woodlands	291	254	240	167	131	1083
No. 17 (Technical)	228	401	326	124		1123
Grand Total	3376	4356	3665	2554	1764	15779

Distribution of Secondary School-children by Standard



Appendix 13

Health Care Facilities of the Cape Provincial Administration - Hospital and Health Services

Name of Facility	Address of Facility	Tel. No.	Person in-charge
Lentegeur Psychiatric Hospital	Lentegeur Hospital, Private Bag, Mitchells Plain, 7785	34 3111	Dr Muller
Mitchells Plain Midwife and Obstetrics Unit (MOU)	Mitchells Plain Day Hospital, 4th Avenue, Rocklands	404-9111	Dr Kane-Berman

Health Care Facilities of the City Health Department - City of Cape Town

Name of Clinic	Address of Facility	Tel. No.	Person in-charge
Eastridge	1st Avenue, Eastridge	32 7125/6/7	Mrs V. Dekenah
Lentegeur	Off Merrydale Street, Lentegeur	31 2126/7/8	Mrs V. Dekenah
Rocklands	Park Venue, Rocklands	325121/2/3	Mrs V. Dekenah
Tafelsig	13-15 Dassenberg Road, Tafelsig	397 6005	Mrs. V Dekenah
Westridge	Westpoort Street, Westridge	32 4124/5/6	Mrs. V Dekenah

Health Care Facilities of the Department of National Health and Population Development

Name of Facility	Address of Facility	Tel.No.	Person in-charge
Mitchells Plain Community Health Centre	1st Avenue, Eastridge	32 5161/2/3/4	Dr. A. Nackerdien SPN N. Fritz

Public Dental Facilities in Mitchells Plain

Name of Facility	Address of Facility	Tel. No.	Person in-charge
U.W.C. Oral Health Centre	Medical Centre, Town Centre, Rocklands	328 116	Prof M Hobdell
Lentegeur	Community Health Centre, Merrydale Road, Lentegeur	34 5204	Dr CA Cornelius
Lentegeur Psychiatric Hospital	Lentegeur Hospital, Private Bag, Mitchells Plain	34 3111 ext 2164	Dr M Vanmali
Westridge	Community Health Centre, Westpoort Drive, Westridge	32 8173	Dr M Vanmali



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Appendix 14

Global statistics of the Lentegour Psychiatric Hospital

In-Patients Data (1525 beds):

Year	Psychiatric Patients			Mentally Handicapped		
	New pts	Re-Adm.	Dis-charges	New	Re-Adm.	Dis-charge s
1989	2124	2146	4196	143	75	222
1990	2086	2149	4280	178	51	392
1991	1474	2035	3701	155	60	181

Out-Patient Data:

Year	New Patients	Follow-up
1989	1637	18886
1990	1419	15626
1991	1525	17113

Appendix 15

Staff Employed at the Lentegour Psychiatric Hospital

Category	Number
Nursing Assistants	380
Staff Nurses	139
Professional Nurses	183
Pharmacists	7
Medical Officers	7
Physiotherapists	1
Occupational Therapists	17
Clinical Psychologists	14
Social Workers	21

Appendix 16

Statistics of the Midwife and Obstetrics Unit (authorised 12 beds):

Description	
In-Patients	4832
In-Patient Days	6053
Daily Average Number In-Patients	16.58
Average Length of Stay	1.25
Average % Bed Occupancy (authorised)	138.2
Average % Bed Occupancy (actual)	103.7
Out-Patient Head Counts	33078



Appendix 17

Staff structure of Mitchells Plain Community Health Centre

Staff Category	Number
Medical Officers	10
Pharmacists	3
Pharmacy Assistants	4
Professional Nurses	18
Enrolled Nurses	12
Nursing Assistants	16
Radiographers	2
Social Workers	2
Physiotherapists	2
Receptionists	16
General Assistants	18

Appendix 18

Statistics of the Community Health Centre (DNHPD)

Description	Numbers
Patient Intake	136523
New Patients	30569
Children under 5 years	27854
Geriatrics over 60 years	30622
Patients seen by the Medical Officer	91035
Patients X-rayed	9646
Patients seen by Physiotherapists	2004
Patients seen by Social Worker	2357
Patients seen by Nutrition Advisor	8864
Patients seen at Dispensary	130543
Items Dispensed	438214

Appendix 19

Scholars treated during 1992 at Community Dental Clinics

Type of Treatment	Westridge	Lentegeur
Attendances	4205	3771
X-Rays	8	24
Education - Individual	1661	797
Scaling and Polish	1639	736
Fluoride Application	533	67
Fissure Sealants	3327	1365
Temporary Fillings	225	6
Amalgam Fillings	189	182
Composite Fillings	253	237
Root Canal Therapy	169	32
Primary Teeth Extractions	1334	1590
Permanent Teeth Extractions	750	1345
Partial Dentures	3	4

Pre-Scholars and Adults treated during 1992 at Community Dental Clinics

Type of Treatment	Westridge	Lentegeur
Attendances	863	1085
X-Rays	8	1
Education - Individual	400	266
Scaling and Polish	400	229
Fluoride Application	52	22
Fissure Sealants	90	202
Temporary Fillings	15	
Amalgam Fillings	11	8
Composite Fillings	33	22
Root Canal Therapy	30	2
Primary Teeth Extractions	507	942
Permanent Teeth Extractions	321	795
F/F Dentures	9	28

Faculty of Dentistry - University of the Western Cape (March 1992 to February 1993)

Type of Treatment	Faculty of Dentistry
Attendances	45740
X-Rays	13735
Education - Individual	592
Scaling and Polish	684
Fluoride Application	146
Fissure Sealants	779
Temporary Fillings	566
Amalgam Fillings	1585
Composite Fillings	1182
Root Canal Therapy	651
Primary Teeth Extractions	4546
Permanent Teeth Extractions	4442
F/F Dentures	483
Partial Dentures	46
Other	8327

Appendix 20

List of Private Medical Practitioners

Name of Doctor	Address of Surgery	Tel No.
Z Abdurahman	The Plain, Allegro Lane, Mitchells Plain	32 8271
CGA Abrahamse	Westgate Mall, Mitchells Plain	31 6726
L Abrahams	Woodlands Shopping Centre, Woodlands	31 8817
SA Adam	Rocklands Centre, Park Ave, Rocklands	32 0937
RR Allen	Azad Centre, Fox Street, Mitchells Plain	397 5363
F Ally	Beacon Valley Shopping Centre, Beacon Valley	376 1112
JA April	24 Botriver Road, Tafelsig	391 2811
E Beukes (ENT Surgeon)	Mitchells Plain Private Hospital	32 7147
A Bhoopchand	59 Alpine Street, Beacon Valley	376 1410
T Blake (Physician)	Mitchells Plain Private Hospital	32 3170
W Coetzee	Mitchells Plain Private Hospital	32 6141
J De Haan & pnts. (ENT Surgeon)	Mitchells Plain Private Hospital	32 5168
D de Villiers (General Surgeon)	Mitchells Plain Private Hospital	32 7147
Dietrich Street & Partners (Pathologists)	Mitchells Plain Private Hospital	32 6812
J Du Plessis	Clicks Building, Town Centre, Mitchells Plain	32 1820
J du Toit (Orthopaedic Surgeon)	Mitchells Plain Private Hospital	32 9993
AA Ebrahim	Shop 7, Don Carlos, Eastridge	397 1715
D Erasmus	4 Rocklands Centre, Rocklands	32 2433
J Eisenberg (Gynaecologist)	Mitchells Plain Private Hospital	32 7147
O Fakier	8 Katjeepering Street, Lentegour	34 3613
BJ Fortuin	23a Wellesley Road, Rocklands	32 6111
C Foord (Orthopaedic Surgeon)	Mitchells Plain Private Hospital	32 3170
F Frantz	8 Strandloper Street, Rocklands	32 5810

F Fredericks	17 Colorado City Centre, Colorado Park	31 9471
RE Fredericks	Perm Building, Town Centre, Mitchells Plain	32 1812
I Gallow	Mitchells Plain Private Hospital	32 7147
A Gamielien	Cnr De Duin & Silversands, Lentegour	34 7771
C George (Psychiatrist)	Mitchells Plain Private Hospital	32 7147
H Groenewald	Woolworths Building, Town Centre, Mitchells Plain	32 7903
A Hameker	Cnr Merrydale & Germiston, Portlands	32 2708
A Huber	Markhams Bldg, Town Centre, Mitchells Plain	32 8417
AT Hayat	11 Figaro Crescent, Eastridge	397 6158
G Jacobs	Quicktrip, Portlands	34 0387
AD Janari & S Maharaj	Lentegour Centre, Lentegour	376 1140
MA Jeeva (Gynaecologist)	708 Mitchells Plain Private Hospital	32 8141
S Jephtha	Westridge Shopping Centre, Westridge	31 4162
RJ Jonas	64 Mitchells Avenue, Woodlands	31 0230
MAT Jonker (Surgeon)	Mitchells Plain Medi-Clinic	32 3154
I Karjiker	1 Kimberley Way, Portlands	32 7548
R Kassen	2 Silverhurst Close, Westridge	32 0474
M Katz (Gynaecologist)	Mitchells Plain Private Hospital	32 3170
A Khatree	Allegro Lane, Town Centre, Mitchells Plain	32 8271
G Khobane (Gynaecologist)	Mitchells Plain Private Hospital	391 4132
F Lagardien	5 Gymkhana Street, Lentegour	376 1130
E Laubcher (Paediatrician)	Mitchells Plain Private Hospital	32 6177
MA Lecuona (Ophthalmologist)	Mitchells Plain Private Hospital	32 6177
L Leve (Orthopaedic Surgeon)	Mitchells Plain Private Hospital	32 7147
C Marais	Mitchells Plain Private Hospital	32 6141
D Mitha	11 Figaro Road, Eastridge	397 6158
MAH Moola	Rocklands Centre, Park Avenue, Rocklands	32 5139
H Movsowitz (Radiologist)	Mitchells Plain Private Hospital	32 7167

M Mullajee	Osman Centre, Eisleben Road, Lentegour	31 8186
S Noordien	Perm Building, Town Centre, Mitchells Plain	32 2327
SL Naidoo	Bond Street, Weltevreden Valley	34 0461
S Nordien	CNA Bldg, Town Centre, Mitchells Plain	32 2327
SA Parker (Neurosurgeon)	Mitchells Plain Private Hospital	32 7147
ZA Parker	62 Johannes Meintjies Road, Woodlands	34 5911
F Patel & AK Bhabha	Town Centre, Mitchells Plain & Rocklands Shopping Centre, Park Ave.	32 5141 32 5138
Penman + ptrns. (pathologists)	702 Mitchells Plain Private Hospital	32 5322
CDG Quirke	15 Ponie Hof, Westridge	32 2984
S Raja	Mitchells Plain Private Hospital	32 8139
S Reddy	Mitchells Plain Private Hospital	391 2514
P Rimington (Urologist)	Mitchells Plain Private Hospital	32 7147
MS Saban	Westridge Centre, Westridge	32 5030
R Samson (Physician)	Mitchells Plain Private Hospital	391 2020
Y Sarvan	Hazeldene Medical Centre, Portlands	34 2502
AM Sebesteny & WJ Coetzee	44 Mitchells Plain Private Hospital	32 6141
H Surve	Lentegour Shopping Centre, Lentegour	34 1141
VJ Thackwray	1st Ave., Mitchells Plain	32 7198
F Van Der Schyff	Lentegour Centre, Merrydale Road, Lentegour	34 6594
M Vasta	Shephard Way, Westridge	31 4684
BG Venter	Community Health Centre, Lancaster Road, Rocklands	391 3025
P Viljoen (Orthotist)	Mitchells Plain Private Hospital	32 9993

Appendix 21

List of Private Dental Practitioners

Name of Dentist	Address of Surgery	Tel.No.
MI Abrahams	7 Woodlands Centre, Woodlands	31 1714
I Allie	Beacon Valley Centre	376 3093
D Dhaya	4 Weltevreden Street, Rocklands	32 7124
FI Ebrahim	Mitchell Avenue, Woodlands	31 1698
G Fortune & MS Adams	Woodlands Centre, Hans Aschenborn Street, Woodlands	31 0712
MF Isaacs	Westridge Centre, Simonsig Avenue, Westridge	391 4185
S Ismail	Merrydale Road, Lentegour and Park Avenue, Rocklands	31 3608 & 391 3803
EJ Karjiker	25 Silversands Avenue, Portlands	31 2300
C Links	1st Avenue, Mitchells Plain	32 9380
A Mahatey	Rocklands Centre, Caravelle Street	32 6745
AZ Mohamed	3 Hazeldene Medical Centre, Portlands	31 2121
IDJ Moola	8 Katjeepering Street, Lentegour	34 4942
Y Omar & FC Patel	Mitchells Plain Town Centre, Colorado Centre and Westgate Centre	32 2680 31 9985 34 5216
U Padiachey	Merrydale Avenue, Portlands	34 7308
RS Pepper	Westridge Centre	32 3010
A Rawoot	Melkbos Street, Lentegour	34 3293
MC Roomaney, Mowzer E & Shyam S.	Mitchells Plain Private Hospital	32 8130
LXG Stephen	Allegro Lane, MP Town Centre	32 3404
Y Vallie	3b Minuet Lane, MP Town Centre	32 7770

Appendix 22

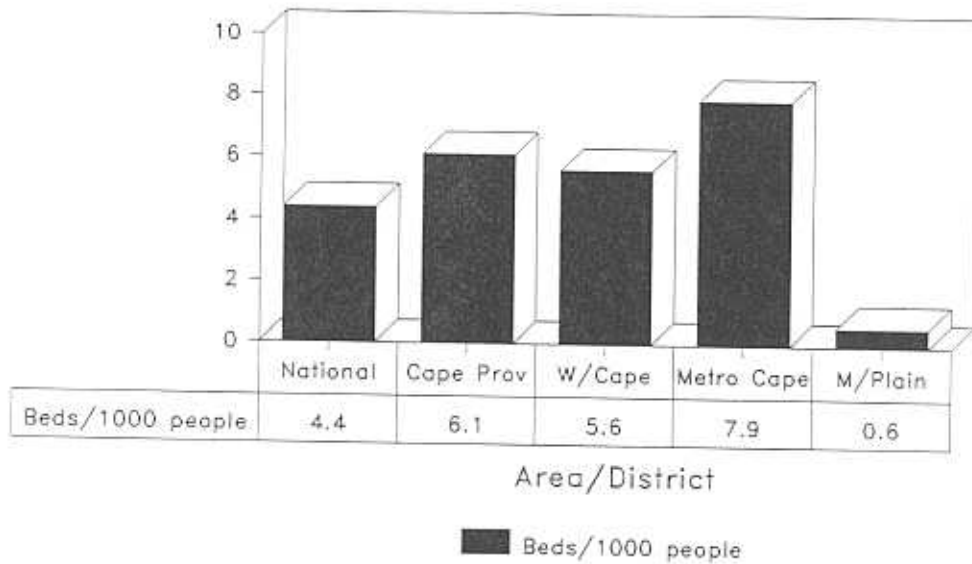
List of Private Pharmacies

Name of Pharmacy	Address	Owner	Manager	Tel.No.
Colorado	Colorado City Centre, Highlands Drive	MS. Sattar	MS. Sattar	34 1166
Crane	Shop E1, Symphony Walk, Town Centre	B. Krein	GR. Dramat	32 6294
Lentegeur	Lentegeur Shopping Centre, Merrydale Road	Ml. Salwary	WTF. Abraham	31 1775
Mandalay	Shop 22, Merrydale Shopping Centre, Ryan Road	I. Ismail	AJS. Feris	387 1153
Medley	1st Floor, MP Private Hospital, Symphony Walk, Town Centre	WJ. Visser	JH. Verwey	32 3126
Merrydale	Shop No.5, Lentegeur Shopping Centre,	CR. Augustine	CR. Augustine	34 4161
MP Central	Harmony Square, Town Centre	Late KE Rhoda		32 2320
Nu-Kem	18 Symphony Walk, Town Centre	M. Semaar	M. Semaar	32 2184
Rhodas Multi-Kem	4B Symphony Walk, Town Centre	RT. Rhoda	A. Bulbulia	32 2500
Rocklands Centre	Shop 9, Rocklands Centre, Park Ave & Caravella Road	A. Sattar	A. Sattar	32 6350
Westgate	Shop 81, Westgate Mall	M. v/d Berg	M. v/d Berg	31 6110
Westridge	Westridge Shopping Centre	Modderdam Chemist	IJ. Blassopeles	32 3210

Appendix 23**Types of Medical Specialists in the Private Clinic**

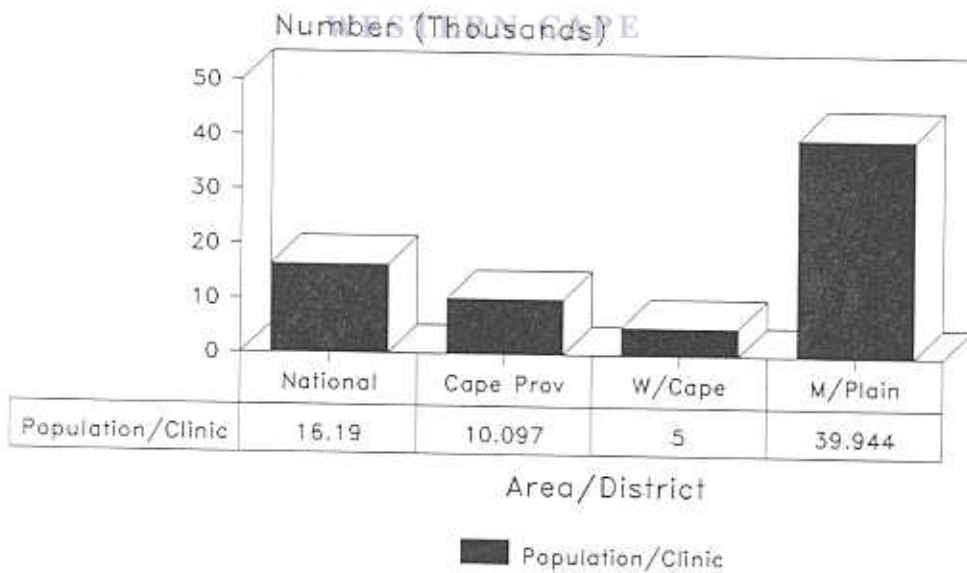
Type of Provider	Number
Clinical Psychologists	2
Dentists	1
E.N.T. Surgeons	2
General Surgeons	3
Gynaecologists	5
Maxillo Facial Surgeons	2
Neurosurgeons	1
Ophthalmologists	1
Orthopaedic Surgeons	3
Orthotists	1
Paediatricians	2
Pathologists	2
Physicians	2
Physiotherapists	1
Psychiatrists	1
Radiologists	1
Urologists	1

Comparison : Beds per 1000 people



Appendix 24

Comparison : Number of People per Clinic



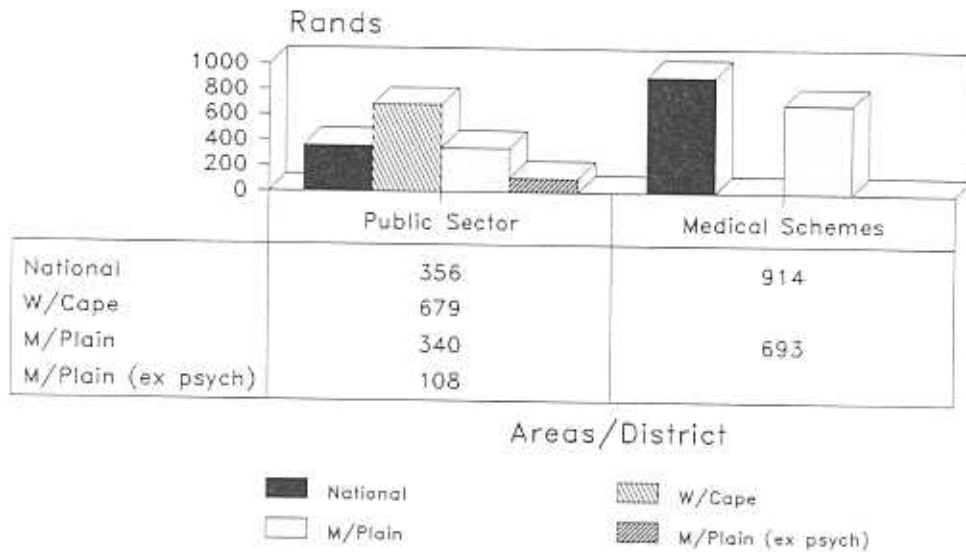
Appendix 25

Appendix 26

Summary of Expenditure by Pro Sano Medical Aid Scheme to various health care providers for the year 1992

Type of Provider	National Total	Percentage of Grand Total
Medical Practitioner	39560688	15.2
Medical Specialist	40694181	15.7
Dentistry	20392714	7.9
Medicine	78386716	30.2
Private Hospital	46995839	18.1
Provincial Hospital	14221209	5.5
Physiotherapy	1684948	0.7
Para-Medical Service	2129655	0.9
Optical	15551035	6
Associated Health Service	132837	0.1
Grand Total	259749822	

Per Capita Public and Med. Scheme Expenditure

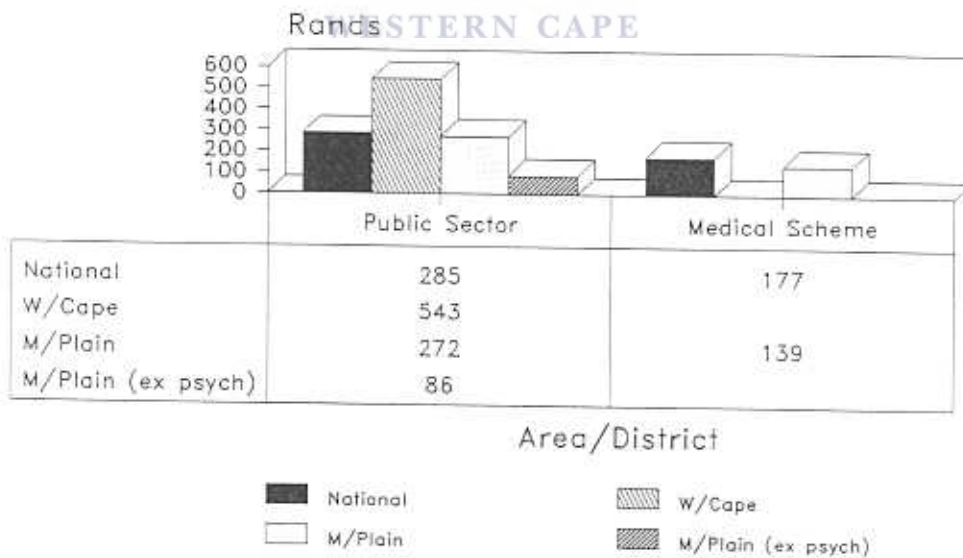


Appendix 27



Per Capita Public and Medical Scheme Expenditure

UNIVERSITY of the WESTERN CAPE



Appendix 28 (common denominator)

Appendix 29

Die doel van hierdie studiestuk was om 'n raming te maak van die toekenning van gesondheidsorg-hulp op distriksvlak in terme van regverdigheid, gebaseer op 'n gevallestudie in Mitchells Plain, 'n woongebied 27 km vanaf Kaapstad se sentrale besigheidsarea, waar nagenoeg 250 000 mense woonagtig is.

Die vorige regering het 'n rassistiese stelsel geskep wat die meerderheid van die swart bevolking uitgebuit en onderdruk het. Gekenmerk deur onregverdigheid en onderdrukking het die apartheidsbeleid stelselmatig basiese menseregte soos toeganklikheid tot goeie behuising, skoon water en sanitasie, onderwys, werkseleentheid, redelike salaris en gesondheidsorg-dienste weerhou. Die stelselmatige herinstelling van regverdigheid in die beskikbaarstelling van hierdie basiese dienste is 'n noodsaaklike sosiale en ekonomiese beginsel in die verandering van die Suid-Afrikaanse gemeenskap. Die sektor vir gesondheidsorg moet verseker dat die moontlikheid om gesond te wees en regverdige toegang tot gesondheidsorg-dienste tot alle mense se beskikking is. Regverdigheid in gesondheid, gesondheidsorg en alle ander terreine wat gesondheid raak is noodsaaklik vir die skepping van 'n geregverdigde, gelukkige gemeenskap.

Die primêre gesondheidsorg-benadering en die Distriksgesondheidsorg-stelsel word aanbeveel as belangrike middels vir die verbetering van regverdigheid binne die stelsel. Dit is noodsaaklik dat dit gemonitor word sodat die vordering na meer regverdigheid verseker kan word. Daar is verskeie verklarings vir regverdigheid op die terrein van gesondheidsorg, insluitend gelyke per capita besteding, gelyke besteding vir gelyke behoeftes, gelyke toegang tot dieselfde behoeftes, gelyke benutting vir gelyke behoeftes of selfs gelyke gesondheid. Die definisie van regverdigheid en die aanwysers wat geselekteer is as maatstawwe daarvoor moet gebaseer wees op die huidige staat van die gesondheidsorg-stelsel en die beskikbaarheid en betroubaarheid van data wat nodig is vir die bepaling van die veranderende vlakke van regverdigheid.



Data wat verwant is aan 'n verskeidenheid van potensiële aanwysings is versamel vir die gedefinieerde distrik van Mitchells Plain. Dit het die volgende ingesluit: demografiese data van die 1991 Bevolkings-sensus, data van gesondheidstelsels van openbare en private gesondheids-organisasies en data van gesondheidstaat van jaarverslae van gemeenskapsgesondheids-outeiteite en verskeie gemeenskapsopnames.

Die demografiese inligting verskaf die aanwysings vir baie van die gesondheidstelsels van statusaanduidings. Dit toon dat Mitchells Plain se inwoners jonk en ontwikkelend is. Inligting van die gemeenskapsgesondheid-sektor was beskikbaar en maklik bekombaar

terwyl inligting oor die privaatsektor moeilik was om in te win vanweë die afwesigheid van 'n volledige en betroubare databasis.

'n Aantal kenmerke dui daarop dat Mitchells Plain alreeds aansienlike onregverdigheid ondervind in die toekenning van gesondheidsfasiliteite in verhouding met ander gebiede. Volgens die data is daar geen beddens vir die algemene publiek in die hele distrik beskikbaar nie. Die verhouding van algemene beddens tot persoonsgetalle en klinieke tot bevolking vergelyk ongunstig teenoor streeks- en nasionale verhoudings. Gebaseer op W.G.O. aanbevelings van 3,5 beddens per 1 000 mense en een kliniek per 10 000 mense. Mitchells Plain benodig 800 algemene beddens en 18 primêre sorgklinieke. Meeste van die professionele gesondheids-personeel is betrokke by die privaatsektor en meeste van die verpleegsters is werksaam by die psigiatriese hospitaal. Die verhouding van mediese dokters, verpleegsters en aptekers tot bevolking vergelyk ook ongunstig met Wes-Kaapse en nasionale syfers. 'n Raming van uitgawes toon dat 'n totaal van R33 228 298 gedurende 1991/92 aan gesondheid bestee is. Daar was verskille in die per capita uitgawe op nasionale, provinsiale en distriksvlakke sowel as tussen die openbare en private gesondheidsorg-sektore. 'n Opname van gesondheidsorg toon dat 'n totaal van R33 228 293 gedurende 1991/92 aan gesondheid bestee is. Die per capita besteding op nasionale, provinsiale en distriksvlakke het verskil, asook tussen openbare en private gesondheidsorg sektore. Besonderhede oor die staat van gesondheid het getoon dat die kindersterftesyfer in Mitchells Plain laer was as die nasionale syfer.

Sterftesyfers vir heel klein kindertjies (onder 5 jaar) en die vir meerdersterftes in Mitchells Plain-distrik was nie beskikbaar nie. Die voorkoms van tuberkulose was baie hoog, hoër as die nasionale syfer.

Die voorkoms van aanmeldbare toestande soos hepatitis en masels was egter nie beskikbaar nie. Die dekking van polio-immunisering van een-jaar-oue babas was voltooi, asook die immunisering van witseerkeel en masels, maar dié teen masels was baie laag vergeleke met nasionale dekking.

Hierdie studie identifiseer 'n stel lewensvatbare aanwysers van gesondheidsregverdigheid op distriksvlak. Dit is egter geheel-en-al afhanklik van betroubare data van die distrik, insluitend grootte van bevolking, ouderdom en geslag. Dit is data waarop meeste ander aanwysers gebaseer is. Die voorgestelde maatstawwe vir die vasstelling van gelyke beregtiging sluit die volgende in: toegang tot, en dekking van gesondheidsdienste; gesondheidsorg-besteding; vlakke van swak gesondheid, en die waarneembare gesondheidsbehoefte van die gemeenskap.

Aanwysers wat dadelik gebruik kan word om regverdigheid te bepaal van toeganklikheid en besteding is die verhouding van gesondheidsfasiliteite en personeel tot bevolking en die per capita besteding aan gesondheidsorg in die openbare en private sektor op nasionale, provinsiale en distriksvlakke. Aanpassings in die verspreiding van

gesondheidspersoneel en per capita besteding kan meer bruikbaar gemonitor word in die mediumtermyn, terwyl die verspreiding van gesondheidsfasiliteite waarskynlik meer die langtermyn veranderings sal reflekteer soos bv. bouprogramme wat moontlik jare sal neem om te voltooi. Korttermyn aanwysers kan regverdigheid monitor in terme van dekking, soos bv. die persentasie kinders wat ten volle geïmmuniseer is en die persentasie geboortes wat onder toesig van opgeleide personeel plaasgevind het. Empiriese distriksdata op die vlakke van swak gesondheid (mortaliteits- en siekheidssyfers) behoort versamel te word en vergelyk te word met die demografiese data, soos bv. werks-, inkomste- en geleerheidsvlakke, asook met die beskikbaarheid van hulpmiddels en die per capita besteding. Die waarneembare gesondheidsbehoefes van die gemeenskap is 'n noodsaaklike maatstaf vir 'n regverdige gesondheidsorg-stelsel. Hierdie data is nie ingesamel vir hierdie studiestuk nie. Al die data wat benodig word vir die genoemde aanwysers behoort in die toekoms beskikbaar te wees deur die voorgestelde Distriks-gesondheids Inligtingstelsel, soos beskryf in die Nasionale Gesondheidsplan vir Suid-Afrika van die African National Congress. Die aanwysings sal so ver moontlik gestandaardiseer moet word om dit moontlik te maak om vergelykings te tref tussen openbare en private sektore en wel op nasionale, provinsiale en distriksvlakke sodat aanpassings in die gesondheids-sektor, tans en in die toekoms, gemonitor kan word.