Perceptions of people living in
the catchment area of Madwaleni Hospital, South Africa
regarding the health and social problems
facing their community

Dissertation

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“…communities of the poor (are) in fact rich in potential and amply supplied with bright and creative people.”

H. Jack Geiger
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

I Table of contents

1 Introduction ...........................................................................................................1
  1.1 Motivation and purpose of the study .............................................................1
  1.2 Community Oriented Primary Care ..............................................................2
  1.3 Background: South Africa .............................................................................5
    1.3.1 Historical overview ..............................................................................5
    1.3.2 The Xhosa ...........................................................................................9
    1.3.3 Primary health care in South Africa ......................................................11
  1.4 Background: HIV/AIDS ............................................................................14
    1.4.1 HIV/AIDS worldwide ........................................................................14
    1.4.2 HIV/AIDS in South Africa ..................................................................16
    1.4.3 HIV/AIDS in Madwaleni .................................................................17
  1.5 Aim and objectives of the study ................................................................19
    1.5.1 Aim of the study ...............................................................................19
    1.5.2 Objectives of the study ......................................................................19

2 Methods ..............................................................................................................20
  2.1 Study design ...............................................................................................20
  2.2 Period of the study .....................................................................................20
  2.3 Setting of the study ....................................................................................21
  2.4 Study population .......................................................................................24
  2.5 Study samples, sampling methods and sample sizes ................................24
    2.5.1 Preliminary survey sample, sampling method and sample size ..........25
    2.5.2 Group 1 and 2 samples, sampling methods and sample sizes ..........25
    2.5.3 Group 3 and 4 samples, sampling methods and sample sizes ..........26
  2.6 Data collection methods and instruments ...................................................28
    2.6.1 Data collection methods and instruments used in the preliminary survey....28
    2.6.2 Data collection methods and instruments used for the questionnaire-based structured interviews .................................................................29
      2.6.2.1 Development process of the questionnaire ..................................30
      2.6.2.1.1 Section 1: Community profile .............................................30
      2.6.2.1.2 Sections 2 and 3: Health and social problems and needs .......31
      2.6.2.2 Description of the questionnaire ..............................................33
2.6.2.3 Xhosa version of the questionnaire ..............................................................34
2.6.2.4 Administration of the questionnaire ..........................................................34

2.7 Pilot process ........................................................................................................34

2.8 Data collection procedure ..................................................................................35
2.8.1 Data collection procedure applied in the preliminary survey .........................35
2.8.2 Data collection procedure applied for the questionnaire-based structured interviews ..................................................................................................35

2.9 Ethical considerations .......................................................................................36

2.10 Data reliability and validity ............................................................................37
2.10.1 Data reliability .............................................................................................37
2.10.2 Data validity ................................................................................................37

2.11 Data analysis ....................................................................................................38
2.11.1 Data analysis strategy in the preliminary survey ........................................38
2.11.2 Data analysis strategy for the questionnaire-based structured interviews .....39
2.11.3 Data analysis strategy for the comparison of the Madwaleni community with the general South African population .........................................................41

3 Results ................................................................................................................42
3.1 Madwaleni community profile .........................................................................42
3.1.1 Existing data about the Madwaleni community ............................................42
3.1.2 Results from the questionnaire, section 1 – Madwaleni community profile ..53
3.1.2.1 Sex .........................................................................................................53
3.1.2.2 Age ........................................................................................................53
3.1.2.3 Marital status and sexual behaviour ....................................................54
3.1.2.4 Children .................................................................................................56
3.1.2.5 Education ..............................................................................................56
3.1.2.6 Employment status ..............................................................................58
3.1.2.7 Household income ................................................................................58
3.1.2.8 Housing ................................................................................................62
3.1.2.9 Water .....................................................................................................64
3.1.2.10 Sanitation ............................................................................................68
3.1.2.11 Energy ................................................................................................68
3.1.2.12 Land .....................................................................................................73
3.1.2.13 Access to health care and transport .....................................................75
3.1.3 Comparison of the Madwaleni community with the general South African population .................................................................78

3.2 Results from the questionnaire, section 2 – Health and social problems facing the Madwaleni community .................................................................84
3.2.1 Improvement of living conditions .........................................................84
3.2.2 Weightiest health and social problems ...................................................84
3.2.3 Health problems .................................................................85
3.2.4 Social problems ...............................................................87
3.2.5 Additional health and social problems .............................................89

3.3 Results from the questionnaire, section 3 – Relevant health education and
disease prevention topics for the Madwaleni community.............................89
3.3.1 Relevant health education and disease prevention topics ....................89
3.3.2 Additional health education and disease prevention topics...............91

4 Discussion.........................................................................................................92
4.1 The Strengths of the study ........................................................................108
4.2 Limitations of the study.............................................................................109

5 Summary.........................................................................................................111

6 References......................................................................................................115
II  List of figures

Figure 1-1: The COPC cycle.................................................................4
Figure 1-2: South African homelands (1979)........................................7
Figure 1-3: Worldwide HIV prevalence rates (2007).............................15
Figure 2-1: Map of South Africa, indicating the Eastern Cape and Umtata (2007)........21
Figure 2-2: Administrative structure of South Africa..........................22
Figure 2-3: Map of the Madwaleni area (2008)......................................23
Figure 2-4: Description of the questionnaire.....................................33
Figure 2-5: Analysis strategies for the questionnaire.........................40
Figure 3-1: Total population by age group – Eastern Cape and South Africa (2001)......43
Figure 3-2: Age groups of the Madwaleni community sample (N=199)........53
Figure 3-3: Marital states of the Madwaleni community members (N=200).......54
Figure 3-4: Condom use amongst the sexually active Madwaleni community (N=169) ....55
Figure 3-5: Location of the partners of the Madwaleni community members (N=171)......55
Figure 3-6: Highest level of education amongst the Madwaleni community (N=200)........57
Figure 3-7: Literacy rates amongst the Madwaleni community members (N=198)........57
Figure 3-8: Employment status of the Madwaleni community members (N=200)..........58
Figure 3-9: Household sizes of the Madwaleni community sample (N=196)........59
Figure 3-10: Monthly household income of the Madwaleni community (N=197).........59
Figure 3-11: Monthly incomes per capita of the Madwaleni community sample (N=193) .60
Figure 3-12: Daily incomes per capita of the Madwaleni community members (N=193) ...61
Figure 3-13: Sources of household income of the Madwaleni sample (N=197).........62
Figure 3-14: Number of dwellings per household in the Madwaleni area (N=199).........63
Figure 3-15: Number of rooms per Madwaleni household (N=199)...............64
Figure 3-16: Main sources of drinking water of the Madwaleni sample (N=200).........65
Figure 3-17: Fetching of drinking water in the Madwaleni area – Allocations (N=171)......65
Figure 3-18: Fetching of drinking water in the Madwaleni area – Trips per day (N=166) .66
Figure 3-19: Fetching of drinking water in the Madwaleni area – Times per trip (N=171) .67
Figure 3-20: Fetching of drinking water in the Madwaleni area – Litres per trip (N=167) .67
Figure 3-21: Toilet facilities used by the Madwaleni community members (N=198).........68
Figure 3-22: Electricity supply in the Madwaleni area (N=200)..........................68
Figure 3-23: Sources of energy for cooking in the Madwaleni community (N=200)........69
Figure 3-24: Sources of energy for lighting in the Madwaleni area (N=200)...............69
Figure 3-25: Sources of energy for heating in the Madwaleni community (N=200).........70
Figure 3-26: Collection of wood in the Madwaleni area – Allocations (N=170)...........71
Figure 3-27: Collection of wood in the Madwaleni area – Trips per week (N=165)........71
List of figures

Figure 3-28: Collection of wood in the Madwaleni area – Times per trip (N=165) .......... 72
Figure 3-29: Goods owned by the sampled Madwaleni households (N=200) ................. 73
Figure 3-30: Land owned by the sampled Madwaleni community members (N=197) ......... 73
Figure 3-31: Use of owned land in the Madwaleni area (N=196) ........................................ 74
Figure 3-32: Livestock owned by the Madwaleni community (N=198) .............................. 74
Figure 3-33: Closest clinics of the sampled Madwaleni community members (N=200) .... 75
Figure 3-34: Closest clinics in the Madwaleni area – Times to access (N=194) .............. 76
Figure 3-35: Closest clinics in the Madwaleni area – Ways of access (N=196) ................. 76
Figure 3-36: Madwaleni Hospital – Times to access (N=172) ........................................... 77
Figure 3-37: Madwaleni Hospital – Ways of access (N=181) ............................................ 78
III List of tables

Table 1-1: Madwaleni HIV/ARV programme statistics (2010) ..................................................18
Table 2-1: Timeline of the study ...............................................................................................21
Table 2-2: Distribution of the Madwaleni HIV programme members (July 2007) .................27
Table 2-3: Distribution of the group 3 and 4 interviews ..........................................................28
Table 3-1: Mean and median age of the different sample groups .............................................53
Table 3-2: Distribution of welfare grants in the Madwaleni area (N=198)...............................61
Table 3-3: Distribution of dwellings in the Madwaleni area (N=199)..........................................63
Table 3-4: Livestock owned by the Madwaleni community (N=198)........................................75
Table 3-5: Comparison of the Madwaleni community with the South African population ....83
Table 3-6: Weightiest health problems of the Madwaleni community sample (N=200) ......85
Table 3-7: Weightiest health problems of the four sub-samples (N=200).................................86
Table 3-8: Weightiest social problems of the Madwaleni community sample (N=200).......87
Table 3-9: Weightiest social problems of the four sub-samples (N=200).................................88
Table 3-10: Relevant health education topics for the Madwaleni community (N=200) ......90
Table 3-11: Most relevant health education topics of the four sub-samples (N=200).........90
Table 4-1: Weightiest problems of the Madwaleni community sample (N=200)...................102
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHP</td>
<td>Allied Health Professional</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ANC</td>
<td>African National Congress</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis Of Variance</td>
</tr>
<tr>
<td>ART</td>
<td>Anti-Retroviral Therapy/ -Treatment</td>
</tr>
<tr>
<td>ARV</td>
<td>Anti-Retroviral (Medication)</td>
</tr>
<tr>
<td>CHC</td>
<td>Community Health Centre</td>
</tr>
<tr>
<td>CHW</td>
<td>Community Health Worker</td>
</tr>
<tr>
<td>CIA</td>
<td>Central Intelligence Agency</td>
</tr>
<tr>
<td>COPC</td>
<td>Community Oriented Primary Care</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic Obstructive Pulmonary Disease</td>
</tr>
<tr>
<td>CSG</td>
<td>Child Support Grant</td>
</tr>
<tr>
<td>DG</td>
<td>Disability Grant</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Surveys</td>
</tr>
<tr>
<td>DOTS</td>
<td>Directly Observed Therapy-Shortcourse</td>
</tr>
<tr>
<td>FAS</td>
<td>Fetal Alcohol Syndrome</td>
</tr>
<tr>
<td>FCH</td>
<td>Foster Care Grant</td>
</tr>
<tr>
<td>GCIS</td>
<td>Government Communication and Information Service</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>HAART</td>
<td>Highly Active Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>HBC</td>
<td>Home-Based Care</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immuno-deficiency Virus</td>
</tr>
<tr>
<td>HIV+</td>
<td>Human Immuno-deficiency Antibodies</td>
</tr>
<tr>
<td>MDR</td>
<td>Multi-Drug-Resistance/ -Resistant</td>
</tr>
<tr>
<td>NHIS/SA</td>
<td>National Health Information System of South Africa</td>
</tr>
<tr>
<td>NMAH</td>
<td>Nelson Mandela Academic Hospital, Umtata</td>
</tr>
<tr>
<td>OAP</td>
<td>Old-Age Pension</td>
</tr>
<tr>
<td>OPD</td>
<td>Out-patients Department</td>
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<tr>
<td>OVC</td>
<td>Orphans and Vulnerable Children</td>
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<tr>
<td>PART</td>
<td>Paediatric Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>The U.S. Government’s President’s Emergency Plan for AIDS Relief</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Clinic</td>
</tr>
<tr>
<td>PLWHA</td>
<td>People Living with HIV/AIDS</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother-To-Child-Transmission</td>
</tr>
<tr>
<td>SADHS</td>
<td>South African Demographic and Health Survey</td>
</tr>
<tr>
<td>SASSA</td>
<td>South African Social Security Agency</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<tr>
<td>StatsSA</td>
<td>Statistics South Africa</td>
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<tr>
<td>STD</td>
<td>Sexually Transmitted Disease</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>TAC</td>
<td>Treatment Action Campaign</td>
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</table>
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>TRC</td>
<td>Truth and Reconciliation Commission</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on HIV/AIDS</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children's Fund</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary Counselling and Testing</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>ZAR</td>
<td>South African Rand</td>
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1 Introduction

1.1 Motivation and purpose of the study

Madwaleni Hospital is situated in a deeply rural area of the former apartheid homeland Transkei in South Africa. It is a primary level hospital serving a catchment population of approximately 100,000. (ECDoH, 2008)

History, traditions and current living circumstances and conditions of the local Xhosa community (e.g. poor education, high unemployment rates, poor access to clean water and electricity) differ substantially from the background experienced by most of the health care professionals working at the hospital. Therefore, there was the need to explore their socio-demographic and community setting characteristics. In addition, the purpose was to analyse their perceptions regarding the health and social problems facing their community.

The aim was to detect and assess their health and social needs, in order to establish the basis for planning and implementing future health education and disease prevention programmes for the Madwaleni community.

Madwaleni and South Africa as a whole are currently facing the world’s largest HIV epidemic. The South African HIV prevalence is 18.1 %, equalling a total of approximately 5.7 million people who are currently infected with HIV. The statistics of the Madwaleni HIV programme indicate an equally high HIV+ testing rate of 13.0 % for the catchment area of the programme, equalling approximately 13,000 HIV+ individuals. (UNAIDS, 2008d; Wilkinson, 2010)

Since the Madwaleni community in general is facing poor access to health care and social support systems, the question was if the People Living With HIV/AIDS (PLWHA) who have joined the local HIV programme feel better cared for and serviced than the rest of the community, particularly if their perceptions regarding their health and social problems differ from the perceptions of the rest of the community.

Besides, the idea was to observe whether those who are educated about HIV/AIDS and the associated health and social topics on the programme on a regular basis, evaluate and judge the challenges and difficulties that come along with HIV/AIDS differently from the rest of the community members who are unaware of their HIV status.

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1 The term ‘apartheid’ originated from the Afrikaans word ‘apartness’, meaning ‘separateness’.
1.2 Community Oriented Primary Care

Primary health care needs to be accessible, coordinated, comprehensive, continuous and accountable. It should be rooted in communities, for communities and with communities to obtain knowledge on disease patterns, costs and benefits, in order to facilitate prevention, early intervention and health promotion programmes. (Geiger, 1993; IOM, 1978; Mullan and Epstein, 2002)

The World Health Organization (WHO) promotes that primary care professionals and underserved communities need to work together to care for the ill, prevent diseases and maximise health potential. Since the Declaration of Alma-Ata in 1978, special emphasis has been put on the involvement of communities in the definition of health priorities and the allocation of limited health resources at a district level. Community Oriented Primary Care (COPC) was endorsed as the favoured approach to this. (Connor and Mullan, 1983; WHO, 1978b; WHO, 1978a)

Definition of COPC

COPC is an interdisciplinary, dynamic model for planning, implementing and evaluating primary health care, disease prevention and health promotion in a community setting. It is a continuous process, integrating principles derived from epidemiology, public health practices and primary care, in order to deliver targeted, prioritised services to a defined community on the basis of its assessed needs. (Gillam and Miller, 1997; Iliffe and Lenihan, 2003; Longlett et al., 2001b; Mullan and Epstein, 2002; Nutting et al., 1985)

Historical overview

The roots of COPC can be traced back to the 1840s, when Friedrich Engels showed that mortality was inversely related to social class and Rudolf Virchow developed the theory of ‘multifactorial etiology’, emphasising that various material deprivations interact to produce disease in the individual and transmit it throughout the community.¹ (Brown and Fee, 2002; Yach and Tollman, 1993)

In the 1920s, Will Pickles, the ‘Grand old man of General Practice’, used epidemiologic techniques and basic elements of modern COPC to improve his primary

¹ Rudolf Virchow: ‘Medicine has imperceptibly led us into the social field and placed us in a position of confronting directly the great problems of our time. (…). If we wish to intervene (…), we must begin to promote the advancement of the entire population. (…) The people must acquire what they need by their own efforts.’ (VIRCHOW, R. 1848. Report on the typhus epidemic in Upper Silesia. In: RATHER, L. J. (ed.) Rudolf Virchow: Collected Essays on Public Health and Epidemiology. Canton, Mass: Science History Publications.)
Introduction

Two decades later in the early 1940s, Sidney and Emily Kark set up an innovative socially-oriented health centre and public health outreach programme in a remote rural area of Natal, South Africa. The Karks believed that the existing primary health care system was inadequate to address the health and disease-associated problems of the communities. They implemented a strategy of ‘community assessment and diagnosis’, viewing the entire community of the tribal reserve Pholela as ‘the patient’ and aiming to trace the high prevalence of syphilis and the occurrence of malnutrition. The community members were intensively studied, surveyed, educated and counselled. This new approach showed that health was more affected by cultural, social, environmental and economic determinants than by particular disease-causing agents. (Brown and Fee, 2002; Geiger, 2002; Marks, 1997; Mullan and Epstein, 2002; Susser, 1993; Tollman, 1991; Tollman, 1994)

In 1945, the South African Parliament adopted the recommendation to establish a national network of health centres. However, the election of the National Party in 1948 and the subsequent imposition of apartheid led to restrictions on the Karks’ work and to their eventual departure from South Africa. As a consequence, the 44 health centres that had been built until 1949 withered away. A few years later, Pholela was even more impoverished; its population, however, stuck out with unusually high educational achievements. (Abramson, 1988; Abramson et al., 1994; Geiger, 1994)

Following a brief stay in the United States, the Karks continued to work in rural communities in Israel. They settled in Jerusalem where Sidney Kark became the chairman of the School of Public Health and Community Medicine of the Hebrew University. Using the health centre in a local neighbourhood of immigrants, the Karks continued to apply COPC, focusing on a variety of health conditions. (Abramson, 1988; Abramson et al., 1994; Epstein et al., 2002; Longlett et al., 2001b)

In the 1970s, Sidney Kark and J.H. Abramson defined the ‘COPC model’ with its specific features, principles and requirements. Accordingly, COPC is a dynamic process that starts with a multistage community diagnosis and characterisation, including historical, cultural, geographical, demographical and economical information as well as data on the health status of the community and on the accessibility of health and social services. COPC centres on engaging and mobilising the community but may not necessarily follow linear, sequential steps (figure 1-1). (Abramson and Kark, 1983; Brown and Fee, 2002; Epstein et al., 2002; Kark and Kark, 1983; Nutting, 1987; Rhyne et al., 1998; Susser, 1999)
H. Jack Geiger carried the COPC approach forward when he implemented the model in the United States of America. As a final year medical student he had spent a six-month elective at Pholela. Inspired thereby and using the opportunities of the Kennedy and Johnson administrations' 'war on poverty', he gained the sponsorship of the U.S. Office of Economic Opportunity to establish two health centres in the Mississippi Delta in the early 1960s. The results were so impressive that the Institute of Medicine recommended the widespread application of COPC in the United States in 1982. To date, a network of more than 900 health centres persists. (Connor and Mullan, 1983; Geiger, 1969; Geiger, 1993; Geiger, 1994; Geiger, 2002; Longlett et al., 2001b)

COPC has played an important role in the development of health care systems in many parts of the world. Although it is not the predominant mode of practice in any country, its concepts have influenced programmes as important and as varied as the general practice movement in the United Kingdom and recent reforms in the public health system of South Africa. (ANC, 1994b; Dresang et al., 2005; Mullan and Epstein, 2002; Tollman and Pick, 2002)

**Conclusions**

A number of developments have occurred in the world of health service delivery that facilitate the practice of COPC and make its application to practice more compelling, including the advent of increasingly accessible electronic information technology, the quality and outcomes movement in health care in general and the growing recognition of the importance of public health infrastructures and family medicine of all nations. (Longllett et al., 2001a; Mullan and Epstein, 2002)
COPC has been shown to have positive health benefits for communities all over the world. It helps primary health care teams to acquire skills to identify and respond to the needs of local communities. If successful, its process of identifying health problems and targeting effective interventions at those persons at highest risk could lead not only to improved health but also to decreased needs and hence decreased costs of future health care. (Longlett et al., 2001a; Nutting, 1985; Plamping, 1994)

However, various political, managerial, human resource and structural obstacles can constrain the effective implementation of COPC. Historically, most successful COPC practices have required additional time and efforts as well as considerable external funding. Furthermore, COPC identifies opportunities to expand services as it identifies populations that have been unsuccessfully or poorly served in the past. (Longlett et al., 2001b; Mullan and Epstein, 2002; Tollman and Pick, 2002)

In conclusion, COPC is a powerful public health approach. The application of its main steps, however, is a challenge in the perspective of involving the community in deciding about their health problems to be worked on by the health system. It involves the recognition that, in line with the WHO definition of health as far more than the absence of disease, health services should be responsive to health needs and flexible in their response to changes in these needs. (Epstein et al., 2002)

As an approach for managing primary care delivery, COPC is neither revolutionary nor unique. A variety of other systems propose similar structured approaches to community health practice, for example the Planned Approach to Community Health programme of the Centres for Disease Control and Prevention as well as the Assessment, Analysis and Action programme of the United Nations Children’s Fund (UNICEF). However, only COPC seems to provide a format to detect, prioritise, address and integrate the multiple health effects of major social problems such as illiteracy, poverty or the HIV/AIDS epidemic. (CDC, 1992; Kreuter, 1992; Mullan and Epstein, 2002; UNICEF, 1997)

1.3 Background: South Africa

1.3.1 Historical overview

Around 2500 AD, the pastoralist Khoi-Khoi, hunter-herders who lived along the coast, and the foraging San, hunter-gatherers who inhabited the interior, had established themselves in Southern Africa. From 200 AD, people of the original Bantu language group migrated south from central Africa, settling in today’s South African region with their advanced Iron Age culture, forming the first farming communities and permanent settlements in the area. (Burger and Tibane, 2007; SAHO, 2009; SAinfo, 2009b)
In 1488, the Portuguese were the first Europeans to reach the Cape of Good Hope. However, permanent colonial settlement, mainly of Dutch, German and French Huguenot origins, only began in 1652 when the Dutch established the Cape Colony. In 1806, the British took the Cape over from the Dutch, whereupon many Dutch settlers moved inland to found their own republics. This so-called ‘Great Trek’ had far-reaching political and social effects on the native inhabitants and the discovery of diamonds in 1867 and gold in 1886 only intensified their subjugation. (Ibid.)

As a result of the Anglo-Boer Wars between 1880 and 1902, British colonies and Dutch republics were united in 1910. They formed the Union of South Africa, a self-governing dominion of the British Empire, which by constitution kept all political power in the hands of the whites. As an opposition to these segregating politics, the South Africa Native National Congress (renamed as African National Congress, ANC in 1923) was founded in 1912. (Ibid.)

Apartheid years

After the two World Wars, the National Party came into power in 1948. Its ideology of apartheid was implemented as an official policy, classifying all South Africans into racial groups and segregating education, medical care and other public services. The country was ruled from the centre, backed by a strong military and police force. (Burger and Tibane, 2007; Lodge, 1983; Pillay, 2001; SAHO, 2009; SAinfo, 2009b)

Following the passage of the Bantu Authorities Act in 1951, black South Africans, who made up approximately 80 % of the population, were involuntarily confined to geographically restricted ‘reserves’ (or ‘homelands’ as they were subsequently called), which amounted to an estimated 13 % of the country’s land, losing their original South African citizenship and voting rights. (Burger and Tibane, 2007; Lodge, 1983; SAHO, 2009; SAinfo, 2009b; Tollman, 1991)

The homelands were small and fragmented (figure 1-2). The limited land available, lacking natural resources and much of it poor in quality, could not support traditional subsistence farming. As a consequence, an entrenched migrant labour system servicing the mining and manufacturing industry developed, leaving the homelands with a

---

1 Reaching further than the preceding Native Land Act from 1913, this act was the first piece of legislation established to support the government’s ultimate plan to create self-governing, quasi-independent states out of the homelands. In accordance with their favoured theory of multi-nationalism, the declared aim was to remove the entire black population from South Africa.

2 In 1980, the homelands accommodated 35.7 % of the South African population, yet only produced 3.4 % of the country's gross domestic product (GDP), whereas more than 90 % of this income was generated by migrant workers.
skewed population profile of predominantly the young, the old and the sick and with women carrying the responsibility for the major part of domestic and agricultural work. (Burger and Tibane, 2007; SAHO, 2009; SAinfo, 2009b; Tollman, 1991)

Local tribal leaders were appointed to run the homelands. However, with the homelands lacking the autonomy of independent states and being not economically viable, their positions remained entirely dependent on South African support and subsidies. Large proportions of these funds were allocated to police, armed forces and prisons, while poverty and malnutrition remained widespread amongst the population. (Burger and Tibane, 2007; Lodge, 1983; Mbeki, 1964; SAHO, 2009; SAinfo, 2009b)

At the same time, South Africa's non-white population was exposed to a massive programme of forced relocation. Between the 1950s and the early 1980s, approximately 3.5 million people were removed from their homes, being resettled in homelands or townships on the outskirts of the cities, contributing critically to the high levels of underdevelopment, overpopulation, unemployment and poverty in these areas. (Andrew, 1992; Burger and Tibane, 2007; Lodge, 1983; SAHO, 2009; SAinfo, 2009b)

Meanwhile, after a referendum in 1960, the government established the Republic of South Africa. Apartheid experienced significant resistance in the following years. After a series of popular uprisings and protests, Nelson Mandela and other anti-apartheid leaders were convicted and imprisoned on charges of treason. As a consequence, the ANC was forced to operate from underground and formed its military
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Introduction

Wing ‘umkhonto we sizwe’. Between 1976 and 1981, four homelands were declared ‘independent countries’ (Transkei, Bophuthatswana, Venda and Ciskei), while the other six remained ‘self-governing national states’. (Burger and Tibane, 2007; Lodge, 1983; Mbeki, 1964; SAHO, 2009; SAinfo, 2009b)

In 1989, FW de Klerk became president and began negotiations to end apartheid. In 1990, the ANC was unbanned and Nelson Mandela released from 27 years in prison. (Ibid.)

Post-apartheid years and current developments

South Africa’s first democratic election was held in 1994. Prior to the election nine new provinces were formed, replacing the former four provinces and ten homelands. The ANC won with a majority of 62.6 % of the votes, inaugurating Nelson Mandela as the new president. (ANC, 1994a; Burger and Tibane, 2007; SAHO, 2009; SAinfo, 2009b)

As a first step to end division and suspicion and unite the diverse nation, the new government created the Truth and Reconciliation Commission, a court-like body to conduct hearings on human rights crimes committed during the apartheid years. (Burger and Tibane, 2007; Mandela, 1994; SAHO, 2009; SAinfo, 2009b)

The government also committed itself to reforming the country, trying to focus on social issues that were neglected during the apartheid era, such as housing shortages, unemployment and crime. However, restructuring the state machinery to address these imbalances required time. Of necessity, these restructuring processes began at national and provincial levels, only filtering down to local government levels later, leaving them with a vacuum and many problems in the interim time. (Burger and Tibane, 2007; Ntsebeza, 1999; SAHO, 2009; SAinfo, 2009b)

In 1998, the government adopted the policy of ‘affirmative action’ (or ‘positive action’ as it is also called), which aims to promote and achieve equality at universities and workplaces, by not only advancing people from designated groups2 but also specifically disadvancing the others. A common argument in its favour is that it can correct deep inequalities. However, the imminent risk is that it can also encourage

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1 ‘Umkhonto we sizwe’ means ‘spear of the nation’ in Xhosa and Zulu.
2 By legal definition of the Black Economic Empowerment Act, these designated groups include all people of colour as well as white females, people with disabilities and people from rural areas. The system is quota-based, with a complex underlying scoring system and specific required outcomes. However, in plain numbers it still means that the government’s legislation reserves approximately 75 % of university places and jobs for black people regardless of their qualification.
prejudices and lead to reverse discrimination. As a matter of fact, ‘affirmative action’ is often cited as the main reason for emigration by highly skilled white South Africans. (BEESA, 2009; Guest, 2004)

In the following election in 1999, the ANC further increased its majority and won 66.4 % of the votes. Thabo Mbeki became the next president, shifting the focus of the government from reconciliation to transformation, particularly on the economic front. In 2004, the ANC and Thabo Mbeki were confirmed with 69.7 % of the votes. However, in 2008, the president had to resign over allegations that he had interfered in the corruption case against Jacob Zuma. Interestingly, these internal differences remained without consequences for the ANC, remaining the ruling party in the 2009 general election with 65.9 % of the votes and entrusting Jacob Zuma as the newly sworn-in president to take on the existing and pressing challenges. (ANC, 1994a; Burger and Tibane, 2007; SAHO, 2009; SAinfo, 2009b)

1.3.2 The Xhosa

Ethnically, the Xhosa people belong to the greater Bantu language group. They are divided into several sub-groups with related but distinct heritages. The main sub-groups are the Bhaca, Bomvana, Mfengu, Mpondo, Mpondomise, Thembu, Xesibe and Xhosa. The Xhosa refer to themselves as the amaXhosa and to their language as isiXhosa1. The name ‘Xhosa’ derives from that of the legendary leader uXhosa, meaning ‘angry’ or ‘fierce’ in the Khoi-Khoi and San languages. (JRank, 2007; RHI, 2009)

History and current demographic developments

Around 1600, uXhosa’s descendents settled in the south-eastern regions of South Africa, absorbing the indigenous Khoi-Khoi and San people. The Xhosa society consisted of essentially sovereign chiefdoms that were based loosely on familial clans. From the 1700s, their expansion resulted in the contact with the European colonists. Both the Africans and the Europeans depended on cattle and competed for the prime grazing lands. During the following wars, the colonists gained ascendancy over the Khoi-Khoi, the San and the Xhosa chiefdoms. (AfricanVoices, 2009; Burger and Tibane, 2007; JRank, 2007; RHI, 2009)

Christian missionaries established their first posts amongst the Xhosa in the 1820s. However, the Xhosa only converted to Christianity in substantial numbers after they had been suffering from the European invasion, diseases and drought. Today, Christianity in one form or another is accepted by most of the Xhosa people. The majority

1 IsiXhosa is a Bantu language, with a Latin alphabet-based system and three click consonants derived from the Khoi-Khoi and San languages (a dental click/‘c’, a palatal click/‘q’ and a lateral click/‘x’).
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Introduction

belongs to independent denominations that combine Christianity with traditional beliefs and practices, distinguished by complex and lengthy rituals and initiations. (JRank, 2007)

Under apartheid, the homelands Transkei and Ciskei were specifically set aside for the Xhosa people. They were severely neglected in terms of social services and became increasingly overcrowded and eroded as the population expanded through forced removals and natural increase. With the new constitution and the first democratic election in 1994, the homelands were re-integrated into South Africa and the legitimate Xhosa heirs were re-installed to their respective chiefdoms. Most chiefs enjoy ceremonial powers only, while a few are directly involved in politics. (JRank, 2007; RHI, 2009)

Today, at 7.9 million, the Xhosa-speaking population is the second largest ethnic group in South Africa, with a long line of social activists and prominent historical figures, such as Nelson Mandela, Thabo Mbeki and Desmond Tutu. The majority of them live in the Eastern Cape province and in Cape Town. (AfricanVoices, 2009; RHI, 2009)

Traditions and traditional medicine

To date, the traditional Xhosa family is patriarchal; men are considered the heads of their households and women and children are expected to defer to their authority. Polygamous marriages are accepted when the husband has the means to pay the ‘lobola’ for each wife and to maintain his families. (JRank, 2007)

For most Africans good health requires not only a healthy body but also a healthy environment. The Xhosa believe that ancestral spirits, sorcerers with evil intentions and witches may all be causally related to misfortune and ill-health and that it is possible to absorb harmful elements from the environment. They take measures to protect themselves by strengthening their own resistance and that of their family members to withstand harm by establishing and maintaining a form of balance with their surroundings. To achieve this balance a number of activities need to be performed, such as communication with the ancestors. Within the realm of social relations maintaining one's dignity, avoiding envy and jealousy, limiting the effects of bad luck and giving support to the sick are regarded as strategies for maintaining good health. Wearing protective necklaces or using medicines and remedies are further health maintenance strategies. (Buhrmann, 1986; Du Pisani, 1988; Du Toit, 1980; Gelfand, 1957; Ngubane, 1977)

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1 The ‘lobola’ or bride’s price is a traditional African custom by which the man pays the family of his fiancée for her hand in marriage. The size of the lobola is determined by the wealth of the families involved, their status within the community and the level of education of the bride-to-be. Traditionally, the lobola was paid in cattle. Today, money can be used instead.
Approximately 27 million South Africans use indigenous medicines. It is estimated that Xhosa families use traditional medicines to manage 70% of their diseases themselves, such as headaches, influenza, pneumonia and diarrhoea. Moreover, there are approximately 200,000 traditional healers in South Africa who are the first health care providers to be consulted in up to 80% of all cases, especially in rural areas. In addition, a broad variety of herbal remedies are freely available in ‘amayeza stores’. (Burger and Tibane, 2007; Cocks and Møller, 2000; Kepe, 2000; Mander, 1997; Simon, 1989)

1.3.3 Primary health care in South Africa

Under apartheid, the South African health system was hospital-based, curative in orientation and favoured urban areas and the white population, while rural areas and the black population were neglected and largely served for by networks of missionary hospitals and clinics. (Benatar, 1990; Benatar, 2004; De Villiers and De Villiers, 1999; Pillay, 2001; Van Rensburg and Harrison, 1995; WHO, 1978c; Zwarenstein, 1994)

Primary health care since 1994

In 1994, the ANC published its National Health Plan and established the concept of primary health care as the central tenet of future health practice in South Africa to ensure equitable, accessible and affordable health care services for all citizens. Above all, this development involved the decentralisation of organisational services, with divided
authority and service delivery structures between national, provincial and district levels, and the proliferation of Community Health Centres (CHCs) and Primary Health Clinics (PHCs) to provide the basis for a balanced system of health promotion, prevention, curative and rehabilitation services. (De Villiers and De Villiers, 1999; DoH, 1995; Kale, 1995; Kolehmainen-Aitken, 1999; Larbi, 1998; Owen, 1995; Pick, 1995; Pillay, 2001; Pillay et al., 2002; Sait, 2001; Tollman and Pick, 2002; Van Rensburg and Pelser, 2004; WorldBank, 1997; Zwarenstein, 1994)

Today, South Africa’s primary health care system is nurse-based, with a structured referral system and doctors providing the second, more specialised level of care for patients with diseases or complications that cannot be treated at a CHC or PHC level. (ANC, 1994b; De Selincourt, 1992; De Villiers and De Villiers, 1999; Pick, 1995; Tollman and Pick, 2002; Van Rensburg, 1994)

One of the main challenges of the health system transformation was to achieve equity in the resource allocation within the public sector, between solely curative care delivered in hospitals and holistic primary health care, between urban and rural areas of the country and amongst the various racial groups. Resources were shifted away from the Western Cape and Gauteng provinces towards the previously disadvantaged Eastern Cape and KwaZulu-Natal provinces. In addition, further finances were redistributed on a per capita basis towards poorer regions. In order to protect tertiary and academic hospitals, additional grants from the national budget were allocated to highly specialised services, research and teaching. (Benatar, 2004; Mbatsha and McIntyre, 2001; Moorman, 2001; National Treasury, 2003; Pillay, 2001; Segall, 1999)

To date, the government further increased the access to health services by eliminating fees for primary health care; eliminating fees for all health services for pregnant and lactating women, children and patients with chronic ailments; increasing the number of clinics by building or upgrading 1,600 clinics; introducing ‘community services’ in rural and underserved areas for medical doctors, Allied Health Professionals (AHPs) and pharmacists and launching the Community Health Worker (CHW) programme. (Benatar, 2004; Burger and Tibane, 2007; DoH, 1998; EditorsInc., 2001; Pillay, 2001; Terreblanche, 2002)

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1 CHWs are local level volunteers who are trained in health promotion, disease prevention and basic primary health care. As members of the communities within which they work they know and understand the health needs of those around them. To date, the majority of the 40,000 CHWs in South Africa are involved in monitoring patients on TB treatment.
Current obstacles and challenges

The South African health system consists of a large public sector and a smaller but fast-growing private sector. Health care varies from the most basic primary health care, offered free by the state, to highly specialised hi-tech health services, available in the private sector for those who can afford it. The public sector is overused and under-resourced, serving for approximately 82% of the population, while the private sector caters to the remaining 18%, who tend to be members of medical schemes. (SAinfo, 2009a; Zwarenstein, 1994)

Thus, a two-tier health care system continues, with discrimination in access to care on economic grounds replacing the racial discrimination of the past. Then although the national budget for the public health sector has grown to 60.8 billion Rand in 2008/09 and approximately 9.9% of the nation’s GDP is spent on health care, the disparities are still evident, with approximately 60% of these funds going to care for the 18% of citizens who have private insurance. Similarly, 66% of the registered health care professionals work in the private sector and care for the minority of the South African population, while the shortage of nurses and doctors in the rural and remote areas remains. (Benatar, 2004; Burger and Tibane, 2007; Doherty and McLeod, 2002; Doherty et al., 2002; EditorsInc., 2001; Goudge et al., 2001; McIntyre, 1995; NationalTreasury, 2003; SAinfo, 2009a; Van Rensburg, 1999)

Due to a lack of finances and personnel, poor administration and expanding demands health care delivery in the majority of the clinics is characterised by overcrowding and long waiting times. Patients are complaining of poor services and only brief encounters with nurses or doctors in which they have no opportunity to express their concerns and are given medicines without proper explanations as to the cause of the illness or the effects of the drugs. (Benatar, 2004; Brice et al., 2000; EditorsInc., 2001; Keraan et al., 2000; Mji, 2008; Mtwana, 2005; Terreblanche, 2002)

Summarising these findings, 16 years into democracy, South Africa is struggling to translate its progressive national policy into effective provincial and district practice, whereas geographical location, racial divisions and socio-economic conditions as well as a lack of managerial capacity and limited community-based experience have been isolated as the main determinants of inequality in the provision, allocation and distribution of health care. (Baldwin-Ragaven et al., 2000; Benatar, 2004; Tollman and Pick, 2002; Van Rensburg and Fourie, 1994)
1.4 Background: HIV/AIDS

1.4.1 HIV/AIDS worldwide

The global HIV/AIDS pandemic remains a health problem of unprecedented dimensions. Although only known since 1981, HIV has already caused more than 25 million deaths worldwide and generated profound demographic and multi-sectoral changes in numerous countries, affecting their development and economic growth, communities, households and individuals. (KFF, 2007b; KFF, 2008a; UNAIDS, 2008c)

In 2007, the global HIV prevalence rate\(^1\) has stabilised at 0.8 % for the adult population aged 15 to 49 years. However, the overall number of PLWHA has steadily increased to 33 million, due to continuing new infections, as Anti-Retroviral Therapy (ART) extends life and people live longer with HIV/AIDS, as new infections still outnumber AIDS deaths and due to the general population growth. New HIV infections have peaked in the late 1990s and are declining since then. However, there were 2.7 million new HIV infections in 2007, more than 7,500 each day, and HIV/AIDS remains a leading cause of death worldwide, causing approximately 2 million deaths each year. (KFF, 2008a; UNAIDS, 2008c)

Although HIV/AIDS cases have been reported from all regions around the world, more than 95 % of PLWHA live in middle and low-income countries. Sub-Saharan Africa continues to bear a disproportionate share of the global burden, accounting for two thirds, namely 22 million of all HIV+ people (figure 1-3). Other heavily-affected regions are the Caribbean and parts of Eastern Europe and Asia, especially the Russian Federation, Ukraine, Pakistan, Viet Nam and Indonesia. (KFF, 2008a; UNAIDS, 2008c; UNAIDS, 2008a; UNAIDS, 2008d)

The epidemics in sub-Saharan Africa vary significantly from country to country in both scale and scope. However, almost all nations in this region have generalised HIV/AIDS epidemics, with national HIV prevalence rates greater than 1 %. In 2007, seven countries had prevalence rates exceeding 15 %, namely Botswana, Lesotho,swana,

\(^1\) To obtain geographically more representative and therefore more reliable estimates of HIV prevalence data many countries conduct national population-based surveys in which HIV testing is included for both men and women. These surveys have shown that the HIV prevalence derived from antenatal clinic surveillance data is generally overestimated by about 20 % in both urban and rural areas. (GHYS, P. D., WALKER, N., McFARLAND, W., MILLER, R. & GARNETT, G. P. 2008. Improved data, methods and tools for the 2007 HIV and AIDS estimates and projections. Sexually Transmitted Infections, 84 (Suppl I), i1-i4, GOUWS, E., MISHRA, V. & FOWLER, T. 2008. Comparison of adult HIV prevalence from national population-based surveys and antenatal clinic surveillance in countries with generalised epidemics: Implications for calibrating surveillance data. Sexually Transmitted Infections, 84 (Suppl I), i17-i23.)
Namibia, South Africa, Swaziland, Zambia and Zimbabwe (figure 1-3). Of these, South Africa is the nation with the worldwide highest number of an estimated 5.7 million PLWHA, while Swaziland is the country with the highest adult prevalence rate of 26.1%. (CSO, 2007; DoH, 2007b; KFF, 2008a; UNAIDS, 2008c; UNAIDS, 2008a; UNAIDS, 2008d)

Globally, HIV is primarily transmitted heterosexually, with an increasing impact on women, especially in sub-Saharan Africa where women represent 59% of all adults living with HIV/AIDS and the HIV prevalence rate among young women aged 15 to 24 years is nearly three times higher than the rate among young men in the same age group. In virtually all regions outside sub-Saharan Africa, however, HIV disproportionately affects men who have sex with men, sex workers and injecting drug users. (KFF, 2008a; UNAIDS, 2008c; UNAIDS, 2008a)

Worldwide, there were 2 million children living with and 270,000 children dying due to HIV/AIDS in 2007. It is estimated that more than 90% of the HIV+ children acquired the HI-virus during pregnancy, birth or breastfeeding, forms of HIV transmission that can be prevented. In addition, approximately 15 million children have lost one or both parents to the epidemic up to 2007. Similarly to the adult population, the majorities of children directly or indirectly affected by HIV/AIDS originate from sub-Saharan Africa, with 90% of all HIV+ children and 77% of all AIDS orphans living in the southern African countries. (Hauri et al., 2004; Kenegya-Kayondo et al., 1995; KFF, 2008a; Kiwanuka et al., 2004; Mulder et al., 1996; Schmid et al., 2004; UNAIDS, 2008c; UNAIDS, 2008a)
1.4.2 HIV/AIDS in South Africa

South Africa is facing the world's largest HIV epidemic with a national prevalence of 18.1%, equalling a total of approximately 5.7 million people who are currently infected with HIV, 280,000 of whom are children under the age of 15 years. Life expectancy dropped from 61 years in 1985 to 49 years in 2010. Total deaths from all causes increased by approximately 90% over the past ten years, they more than tripled for women aged 20 to 39 years and more than doubled for men aged 30 to 44 years. An estimated 350,000 South Africans die due to HIV/AIDS every year, more than 900 every day, cumulating in 2.5 million AIDS deaths up to 2008. In addition, there are 2.2 million AIDS orphans in South Africa, of whom 450,000 have lost both their parents. (Anderson and Phillips, 2006; ASSA, 2005; Bradshaw et al., 2004; Dorrington et al., 2006; KFF, 2008b; MRC, 2005; StatsSA, 2005; UN, 2007; UNAIDS, 2008d; UNAIDS, 2008b)

By April 2010, there were 1,015 accredited Anti-Retroviral Medication (ARV) sites in South Africa. The country has the largest number of people on ARVs in the world, with 460,000 people receiving ART in 2007. However, with an estimated 1.7 million people needing ARVs, the national coverage is only 28%. In addition, only 127,000 of the estimated 220,000 pregnant women infected with HIV and in need of ART, received ARVs for Prevention of Mother-to-Child Transmission (PMTCT) in 2007. (AFSA, 2009; DoH, 2008; Motsoaledi, 2010; TAC, 2008; UNAIDS, 2008d; UNAIDS, 2008b; UNAIDS, 2008e)

Politics and financing

A combination of factors seems to be responsible for the extend of the epidemic in South Africa, including social instability and poverty, the low status of women, sexual violence and high rates of Sexually Transmitted Infections (STIs) as well as high mobility, particularly the migrant labour system. In addition, the approach of the government to HIV/AIDS has been a major contributing and highly criticised factor within the country and around the world. (AFSA, 2009)

Over the past decade, the national government, contrary to the consensus scientific opinion, argued that HIV was not the cause of AIDS and ARVs were not useful but in fact toxic and dangerous for patients. It declined to accept freely donated HIV test kits, restricted the use of freely donated Nevirapine for PMTCT and obstructed the acquisition of grants from The Global Fund to Fight AIDS, Tuberculosis and Malaria.

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1 Approximately 360,000 South Africans receive their ARVs in the public sector, while 100,000 initiated ART in the private health system.
Introduction

Through its statements and actions, the South African government contributed to a sustained and pervasive denial of the existence of the HIV epidemic and a perpetuation of the stigma associated with HIV/AIDS. It is responsible for an estimated 330,000 unnecessary deaths due to its failure to accept the use of available ARVs to prevent and treat HIV/AIDS in a timely manner. (Ibid.)

In November 2003, after considerable pressure from advocacy groups, the government finally started the roll-out of ARVs in the public health sector, but only with major capacity, drug procurement and infrastructure constraints. Today, its multi-sectoral response to HIV/AIDS is grounded in the HIV and AIDS and STI Strategic Plan for South Africa 2007-2011 which requires an estimated 45 billion Rand for the five year period. It is primarily financed through the national health budget. In addition, various governments provide funding and additional support, including the United States, the United Kingdom, Belgium, Australia, Germany and the European Union. (AFSA, 2009; Benatar, 2004; DoH, 2007a; DoH, 2008; Kenyon et al., 2001; KFF, 2008b; Mukotsanjera, 2008; PEPFAR, 2010; TheGlobalFund, 2009; UNAIDS, 2007)

1.4.3 HIV/AIDS in Madwaleni

The Madwaleni HIV/ARV programme was accredited by the Eastern Cape Department of Health in February 2005; its roll-out of ARVs began in June 2005. The programme’s main pillars are Voluntary Counselling and Testing (VCT) and the ‘HIV wellness programme’ for adults, children and pregnant women which includes counselling and health education, regular check-ups and investigations as well as the supply of vitamins, nutritional supplementation and prophylactic treatment. In addition, the wellness programme includes the ARV programme. The backbones of the programme are the ‘HIV support groups’, run by lay counsellors. Over the past years, the total staff complement

1 In September 2000, President Thabo Mbeki told the parliament that ‘a virus cannot cause a syndrome’. In the consecutive years, he repeatedly questioned the statistics on HIV infection and AIDS-related mortality, attacking advocacy groups, such as the Treatment Action Campaign (TAC), its supporters and opposition politicians who were demanding that the government needs to provide ART. In addition, Health Minister Manto Tshabalala-Msimang continued to advocate and support ‘a diet of beetroot, olive oil and garlic’ instead of ARVs for HIV+ people, amongst other occasions also during the XVI International AIDS conference in Toronto in August 2006.

2 South Africa is one of the focus countries of the U.S. Government’s President’s Emergency Plan for AIDS Relief (PEPFAR). PEPFAR funding for South Africa was 551.2 million US $ in the fiscal year 2009. The United States also provide support through its contributions to the Global Fund, which has approved five HIV/AIDS grants in South Africa, equalling a total of 228.7 million US $.
has increased dramatically from only three staff members in early 2005 to 35 staff members at the time of writing\(^1\). (Cooke and Wilkinson, 2006)

At end April 2010, the Madwaleni HIV/ARV programme caters for 3,452 HIV+ patients, including 1,730 patients on ART (table 1-1). The programme is decentralised; it is run at Madwaleni Hospital and six attached peripheral clinics. (Cooke and Wilkinson, 2006; Wilkinson, 2010)

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### Table 1-1: Madwaleni HIV/ARV programme statistics (2010)

<table>
<thead>
<tr>
<th>Total people tested for HIV*</th>
<th>36,473</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(from October 2005 to September 2009)</em></td>
<td></td>
</tr>
<tr>
<td>HIV+ testing rate</td>
<td>13.0 %</td>
</tr>
<tr>
<td>Total no. of patients on HIV/ARV programme</td>
<td>3,452</td>
</tr>
<tr>
<td>Patients currently on ART</td>
<td>1,730</td>
</tr>
<tr>
<td>Adults</td>
<td>1,582 (91.4 %)</td>
</tr>
<tr>
<td>Children</td>
<td>148 (8.6 %)</td>
</tr>
<tr>
<td>Patients transferred in from other sites</td>
<td>114</td>
</tr>
<tr>
<td>Patients initiated on ART</td>
<td>2,185</td>
</tr>
<tr>
<td>Adults</td>
<td>1,813 (83.0 %)</td>
</tr>
<tr>
<td>Male</td>
<td>599</td>
</tr>
<tr>
<td>Female</td>
<td>1,214</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>205 (9.4 %)</td>
</tr>
<tr>
<td>Children (0 – 14 years)</td>
<td>167 (7.6 %)</td>
</tr>
<tr>
<td>Male</td>
<td>87</td>
</tr>
<tr>
<td>Female</td>
<td>80</td>
</tr>
<tr>
<td>Patients transferred-out to other sites</td>
<td>520 (23.8 %)</td>
</tr>
<tr>
<td>Patients died on ARV treatment</td>
<td>216 (9.9 %)</td>
</tr>
<tr>
<td>Patients lost to follow-up</td>
<td>138 (6.3 %)</td>
</tr>
<tr>
<td>Patients ARV treatment stopped</td>
<td>64 (2.9 %)</td>
</tr>
<tr>
<td>Total no. of PMTCT patients enrolled on ART</td>
<td>331</td>
</tr>
<tr>
<td>Mean absolute CD4* – Baseline/‘Decision to treat’ (cells/μl)</td>
<td>148.3</td>
</tr>
<tr>
<td>Adults on ARV treatment for 6 and 12 months</td>
<td></td>
</tr>
<tr>
<td>– Mean increase in absolute CD4 counts (cells/μl)</td>
<td></td>
</tr>
<tr>
<td>6 months</td>
<td>191.2 (Average increase: 42.9)</td>
</tr>
<tr>
<td>12 months</td>
<td>227.3 (Average increase: 79.0)</td>
</tr>
</tbody>
</table>

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\(^1\) The staff includes one manager, one site co-ordinator, one administrator, two data capturers, 22 lay counsellors (of whom 18 are peer educators who are HIV+ members of the programme themselves and four are CHWs), three nurses, two doctors and three drivers.
1.5  

**Aim and objectives of the study**

1.5.1  

**Aim of the study**

The aim of this study was to determine the perceptions of people living in the catchment area of Madwaleni Hospital, South Africa regarding the health and social problems facing their community, in the context of their social-demographic and community setting characteristics.

1.5.2  

**Objectives of the study**

The specific objectives of this research were:

- To obtain a holistic profile of the Madwaleni community, including social-demographic characteristics (e.g. education, employment, income) and community setting characteristics (e.g. housing, access to water and sanitation, access to electricity, distance to hospital and nearest clinic, transportation).

- To assess to what extent the Madwaleni community differs from the general South African population.

- To identify and explore the perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community.

- To assess whether these perceptions differ between male and female members of the community who are unaware of their HIV status and therefore not part of a special health or social programme and male and female members of the Madwaleni community who are HIV+ and have joined the Madwaleni HIV/ARV programme.

- To obtain and assess the health education and disease prevention topics that these different groups of members of the Madwaleni community would like to learn about.

- To make recommendations to the health care providers working at Madwaleni Hospital regarding future health education and disease prevention programmes.
2 Methods

2.1 Study design

Following the approach of descriptive epidemiology, this study used a cross-sectional design.

Descriptive studies can depict individuals’ various characteristics with respect to person, place and time. They are used to identify existing health problems by characterising disease frequency and distribution within a population. The three main objectives of descriptive epidemiology are:

- To permit an evaluation of trends in health and disease as well as comparisons among populations and sub-groups within populations
- To provide a basis for planning and evaluating health services
- To identify problems to be studied by analytic methods and to suggest areas that may be fruitful for further research investigations

The challenges of descriptive studies are related to the quality of the description and the generalisation of the results. (Friis, 2008; Ruben, 2004)

Cross-sectional studies are a variety of descriptive epidemiology. They aim to describe the relationship between health-related states and other factors of interest as they exist in a specific population at a particular time. They can identify the existence of health problems, measure the prevalence of conditions and demonstrate associations. However, they cannot identify cause-and-effect relationships. Cross-sectional studies are useful to gather information on important health-related aspects of people’s attitudes, knowledge and practices. Their greatest utility is for collecting data to describe the magnitude and distribution of health problems; data essential for planning health services, targeting appropriate interventions and educational materials and administering medical care facilities. Therefore, cross-sectional studies are often used as a basis for health policy decisions. (Abramson, 1999; Friis, 2008; Kelsey, 1996)

2.2 Period of the study

This research was carried out over 43 months, starting in January 2007 and ending in July 2010 (table 2-1).

<table>
<thead>
<tr>
<th>Period of time</th>
<th>Addressed aspects during that period</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2007 – April</td>
<td>Development of the research proposal</td>
</tr>
<tr>
<td>May 2007 – July 2007</td>
<td>Preliminary survey; Design of the questionnaire</td>
</tr>
<tr>
<td>August 2007</td>
<td>Counsellor training to conduct the structured interviews; Pilot process</td>
</tr>
</tbody>
</table>
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

### Methods

<table>
<thead>
<tr>
<th>Period of time</th>
<th>Addressed aspects during that period</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2007 – January 2008</td>
<td>Data collection process</td>
</tr>
<tr>
<td>February 2008 – March 2008</td>
<td>Design of the database; Data input</td>
</tr>
<tr>
<td>April 2008 – August 2008</td>
<td>Data analysis; Statistics</td>
</tr>
<tr>
<td>September 2008 – June 2010</td>
<td>Writing of the research</td>
</tr>
<tr>
<td>July 2010</td>
<td>Finalisation and submission of the research</td>
</tr>
</tbody>
</table>

Table 2-1: Timeline of the study

2.3 Setting of the study

The description of the setting of the study corresponds with the first step of the COPC approach which is ‘community definition’.

The setting of this study was the catchment area of Madwaleni Hospital, South Africa. The hospital is situated in a deeply rural area of the Eastern Cape province (figures 2-1 and 2-2). It serves a catchment population of approximately 100,000 within a 35 km radius. (ECDoH, 2008; Slingsby and Slingsby, 2008)

Figure 2-1: Map of South Africa, indicating the Eastern Cape and Umtata (2007)

(Data source: http://www.geology.com, 2008)
The studied Madwaleni community is situated in the Eastern Cape province, falling under the administration and jurisdiction of the Amatole district and the Mbashe municipality and under the authority of the Elliotdale magisterial district. (ECDoH, 2006; SAGI, 2008)

The hospital lies amidst a sparsely populated cluster of approximately 20 villages, 30 km south-east of the small town Elliotdale and 100 km south-east of Umtata, including 30 km of non-tarred gravel and dirt roads. Its referral centre, Nelson Mandela Academic Hospital (NMAH), is situated in Umtata. The route by ambulance takes approximately two hours, but at least three hours if the patients depend on public taxi transport.

Madwaleni Hospital itself, its five attached PHCs at Bomvana, Melitafa, Mqhele, Nkanya and Soga and its attached CHC in Elliotdale belong to the Mbashe municipality, the fifth most socio-economically deprived municipality in the country (figure 2-3; Appendix 1). (StatsSA, 2007a)
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Methods

Madwaleni Hospital was built by the Dutch Reformed Missionaries in 1959 and was taken over by the Department of Health of the South African government in 1976. It is a primary level hospital with 220 beds for in-patients, distributed between its seven wards Maternity, Paediatrics, Female General, Male General, Isolation (High care HIV ward), TB Female and TB Male. In the large Out-patients Department (OPD) between 70 and 120 out-patients are seen every day. Since there are limited laboratory, X-ray and theatre facilities, patients are referred to NMAH for all specialists’ consultations and surgery, except for minor operations and caesarean sections. Attached to the hospital are an HIV/ARV programme, a Home-Based Care (HBC) programme and an Orphans and Vulnerable Children (OVC) programme. (ECDoH, 2008)

At the time of writing, Madwaleni Hospital has a total of nine doctors, five AHPs, including two physiotherapists, two occupational therapists and one radiographer, as well as one pharmacist. Only one doctor, the radiographer and the pharmacist are members of the Xhosa community themselves, while the other twelve health care professionals are foreigners in this community. In addition, 233 nurses are employed by the hospital, of whom 174 are junior nurses with either one or two years of training and 59 are professional nurses with four years of training. Most nurses are Xhosa but not necessarily members of the Madwaleni community.
2.4 Study population

The preliminary survey population comprised 46 key informants, all of them health care providers working at the hospital. In addition, the main study population of 200 people from the local Xhosa community was divided into four equal-sized sub-groups depending on their sex and awareness of their HIV status.

- **Preliminary survey group:** Health care providers working at Madwaleni Hospital (N=46)
- **Group 1:** Male members of the Madwaleni community who were unaware of their HIV status and therefore not part of a special health or social programme (N=50)
- **Group 2:** Female members of the Madwaleni community who were unaware of their HIV status and therefore not part of a special health or social programme (N=50)
- **Group 3:** Male members of the Madwaleni community who were HIV+ and had joined the Madwaleni HIV/ARV programme (N=50)
- **Group 4:** Female members of the Madwaleni community who were HIV+ and had joined the Madwaleni HIV/ARV programme (N=50)

2.5 Study samples, sampling methods and sample sizes

This study used a two-staged sampling procedure, including interviews with the various key informants as part of the preliminary survey and questionnaire-based structured interviews with the main study population. Both sampling steps used convenience sampling as a sampling method.

Convenience sampling is a non-probability sampling method. It is an accidental sampling, using non-random methods to select the sample. Since members of a population are usually chosen based on their relative ease of access, volunteers constitute a great proportion of convenience samples. Although their selection may be unguided it is still non-random, applying the correct definition of every available element of a population having an equal chance of being sampled. As a consequence, non-probability samples are limited with regard to their generalisation. However, convenience sampling has its range of application in social research where it is not theoretically sensible, feasible or practical to do random sampling. The validity of this sampling method can be increased by eliminating as many sources of bias as possible. (NAU, 2008; Trochim, 2008; UCDAVIS, 2008)
2.5.1 Preliminary survey sample, sampling method and sample size

1) Inclusion criteria
   - Being a health care provider working at Madwaleni Hospital during the
dayshifts of the first half of the fourth week of May 2007 (21\textsuperscript{st} to 24\textsuperscript{th} of
May 2007)

2) Exclusion criteria
   - None

3) Sampling method and sample size
   To cover members of all different health care professions and from all
operational areas represented at the hospital, all health care providers who
were on duty during the mentioned dayshifts were approached for
interviews. The sampled health care providers included:
   - 6 doctors
   - 4 AHP (1 physiotherapist, 1 occupational therapist, 1 pharmacist and 1
social worker)
   - 6 nurses working at Maternity or Paediatrics ward
   - 6 nurses working at Female or Male General ward
   - 6 nurses working at Isolation, TB Female or TB Male ward
   - 6 nurses working in the OPD
   - 6 caregivers working in the OPD
   - 6 counsellors working on the HIV/ARV programme
   The participants were recruited by explaining the purpose of the study.
They were asked to take part in an interview. Prior to the conduction of the
interview, the verbal consent of each participant was obtained.

2.5.2 Group 1 and 2 samples, sampling methods and sample sizes

1) Inclusion criteria
   - Being a member of the Madwaleni community
   - Being unaware of his/ her HIV status (VCT untested)

2) Exclusion criteria
   - Age under 18 years
   - Pregnancy
   - Acute illness, requiring special attention and/ or admission
   - Being a member of a special health or social programme
3) **Sampling methods**

The participants were approached during their time in the OPD, after having been seen by the doctor and while waiting in the line for the pharmacy. This period of time had been chosen and agreed on prior to the pilot process and the actual data collection in the monthly OPD staff meeting in July 2007. It was assessed to be the most favourable period of time in terms of potential disruption to the patient flow in the OPD. In addition, all critically ill patients would have been detected and filtered out by then.

The men and women were recruited by explaining the purpose of the study. The participants were asked to take part in a questionnaire-based, structured interview. Prior to the conduction of the interview, the written consent of each participant was obtained (see chapter 2.9, page 36; Appendix 2).

4) **Sample sizes**

50 male and 50 female members of the Madwaleni community who were unaware of their HIV status and therefore not part of a special health or social programme were sampled for group 1 and 2.

From September 2006 to January 2007, the five months exactly one year prior to the actual data collection process, 7,235 patients were seen in Madwaleni Hospital’s OPD. The 100 participants who were interviewed for these two sample groups equalled to 1.38% of that total figure. (Nxokwana, 2007)

2.5.3 **Group 3 and 4 samples, sampling methods and sample sizes**

1) **Inclusion criteria**

- Being a member of the Madwaleni community
- Being HIV+
- Being a member of the Madwaleni HIV/ARV programme, i.e. the wellness programme but not necessarily the ARV programme

2) **Exclusion criteria**

- Age under 18 years
- Pregnancy
- Acute illness, requiring special attention and/or admission

3) **Sampling methods**

The participants were approached during their time at the HIV clinic, after having had attended the HIV support group and while standing in the queue.
for the pharmacy, to be issued their monthly supply of vitamins and/or ARVs. This period of time had been chosen and agreed on prior to the pilot process and the actual data collection process in the weekly HIV/ARV programme staff meeting on the 9th of July 2007. It was assessed to be the most favourable period of time in terms of potential disruption to the patient flow in the clinic. In addition, all critically ill patients would have been detected and filtered out by then.

The men and women were recruited by explaining the purpose of the study. The participants were asked to take part in a questionnaire-based, structured interview. Prior to the conduction of the interview, the written consent of each participant was obtained (see chapter 2.9, page 36; Appendix 2).

4) Sample sizes

50 male and 50 female members of the Madwaleni community who were HIV+ and had joined the Madwaleni HIV/ARV programme were sampled for group 3 and 4.

Until the end of July 2007, the month preceding the pilot process and the actual data collection process, 1,446 HIV+ people were registered on the Madwaleni HIV/ARV programme. The exclusion of children attending the Paediatric Anti-Retroviral Therapy (PART) clinic and pregnant women attending the Prevention of Mother To Child Transmission (PMTCT) clinic reduced this figure to 1,346. (Wilkinson, 2007)

The decentralisation of the programme resulted in the following distribution of these 1,346 members between the hospital and the six attached peripheral clinics (table 2-2).

<table>
<thead>
<tr>
<th>Madwaleni Hospital</th>
<th>Xhora CHC</th>
<th>Bomvana PHC</th>
<th>Melitafa PHC</th>
<th>Mqhele PHC</th>
<th>Nkanya PHC</th>
<th>Soga PHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>643</td>
<td>275</td>
<td>106</td>
<td>36</td>
<td>92</td>
<td>111</td>
<td>83</td>
</tr>
</tbody>
</table>

Table 2-2: Distribution of the Madwaleni HIV programme members (July 2007)

The 100 participants who were interviewed for these two sample groups equalled to 7.43 % of the total figure.

Since the Madwaleni HIV/ARV programme is decentralised, these 100 interviews were distributed in the following way, according to the places the specifically trained counsellors who conducted the interviews were allocated (table 2-3).
Methods

<table>
<thead>
<tr>
<th>Madwaleni Hospital</th>
<th>Xhora CHC</th>
<th>Bomvana PHC</th>
<th>Melitafa PHC</th>
<th>Mqhele PHC</th>
<th>Nkanya PHC</th>
<th>Soga PHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Pilot)</td>
<td>60</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 2-3: Distribution of the group 3 and 4 interviews

2.6 Data collection methods and instruments

This research used qualitative data collection methods, applying different data collections instruments. Open ended text questions were used in the interviews with the key informants as part of the preliminary survey and a questionnaire with various types of questions was used in the structured interviews with the participants of the main study population.

2.6.1 Data collection methods and instruments used in the preliminary survey

The preliminary survey was conducted to obtain an in-depth understanding of the key informants’ experiences, opinions and views regarding the health and social problems facing the Madwaleni community. It served as a basis to develop and design parts of the questionnaire for the structured interviews with the main study population.

Two open ended text questions were formulated, in order to detect and list as many potentially relevant health and social problems as possible.

Open ended questions seek to explore the qualitative in-depth aspects of a particular topic or issue. They allow the participants to respond in detail but place a few constraints on the nature of their responses. Open ended questions are important but very time-consuming and should therefore not be overused. (QSU, 2008; Trochim, 2008)

The two open ended questions used in the preliminary survey were:

1) What are the ten health problems that are – from your personal point of view and from your experience at work – the most common ones in the Madwaleni community?

2) What are the ten social problems that are – from your personal point of view and from your experience at work – the most common ones in the Madwaleni community?

The key informants were asked to name the health and social problems without putting them in any specific order or ranking.

As English is the lingua franca at the hospital and all health care providers are fluent in it, with English being either their native or their first foreign language, the researcher conducted all interviews with the key informants herself.
The interviews required a brief introduction to ensure validity. This introduction was kept short; simple instructions were given in one to two minutes but enough time was allowed for the participant to ask questions. The instructions were formulated as follows: ‘I’m currently working on a research project for my studies. The research question is: ‘What are the perceptions of people living in the catchment area of Madwaleni Hospital, South Africa regarding the health and social problems facing their community?’ To facilitate designing a questionnaire that includes as many relevant health and social problems as possible, I would be grateful for your input. In particular, I would like you to answer the following two questions.’

The interviews were planned with a flexible time window. It was possible to complete an interview in approximately 15 minutes.

2.6.2 Data collection methods and instruments used for the questionnaire-based structured interviews

The questionnaire-based structured interviews were conducted to detect and explore the health and social problems and needs of the main study population, focusing on the objectives of this study and therefore on factual information as well as on experiences, opinions and views.

Both the questionnaire and the structured interviews consisted of three different sections which aimed to:

1) Obtain a community profile, including social-demographic characteristics and community setting characteristics
2) Identify and explore the perceptions of the participants regarding the health and social problems facing their community
3) Obtain and assess the health education and disease prevention topics that the community members would like to learn about

A review of literature was done, in order to assess which instruments would be suitable to address these three sections. This review showed that various widely-used, reliable and valid instruments exist for the first objective, while no suitable instruments for the second and third objectives could be found. (MeasureDHS, 2008; NHIS/SA, 2003; StatsSA, 2006; StatsSA, 2007b)
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Methods

2.6.2.1 Development process of the questionnaire

The questionnaire was developed and designed to facilitate the second step of the COPC approach which is ‘community characterisation and diagnosis’.

Three different groups of variables were used in this development process to describe the health and social situation of the sample community:

- Demographic and social variables (e.g. sex, age, socioeconomic status and family structure)
- Variables related to the community infrastructure (e.g. quality of housing, social stability and residential mobility)
- Health-related outcome variables (e.g. alcoholism and drug abuse rates, magnitude of chronic and infectious diseases) (Friis, 2008)

2.6.2.1.1 Section 1: Community profile

The first section of the questionnaire was designed to obtain a profile of the Madwaleni community, including social-demographic and community setting characteristics.

Based on the literature review, the questionnaires of three national South African surveys were found to be the most suitable ones to address this section. These were the South African Community Survey 2007, the South African General Household Survey 2006 and the South African Demographic and Health Survey (SADHS) 2003:

- The South African Community Survey 2007 was conducted by Statistics South Africa (StatsSA) under the authority of the South African government. Being based on the two previous censuses from 1996 and 2001, this newest survey was the largest survey that had ever been carried out by StatsSA, covering 274,348 dwelling units across all provinces. It is the most comprehensive data source currently available in South Africa. The survey collected geographical, demographic and socio-economic data at a municipal level, using the StatsSA Household questionnaire. (StatsSA, 2007b)
- The South African General Household Survey 2006 was likewise conducted by StatsSA under the authority of the South African government. Being based on the four previous annual censuses, this nationally representative, multi-purpose survey was specifically designed to measure various aspects of the living circumstances of South African households, covering a total of 28,002 households throughout the country. The data collected in the General Household Survey is more in-depth than the
census data. The five broad areas that are covered are housing, education, activities related to work and unemployment, health as well as household access to services and facilities. (StatsSA, 2006)

The SADHS 2003 was conducted by the National Health Information System of South Africa (NHIS/SA) under the authority of the Department of Health of the South African government. Being based on the previous survey from 1998, it was the second of its kind to be carried out in South Africa since the 1994 democratic national elections, covering 12,860 households across all provinces. The survey collected a variety of demographic and health indicators, utilising three different core questionnaires. (NHIS/SA, 2003)

Amongst these, the Household questionnaire and the Woman’s questionnaire were found to be the most suitable ones for the purposes of this research. Its contents were adapted from the Demographic and Health Surveys (DHS) model questionnaires, national cross-sectional household surveys, using stratified random samples of clusters that are chosen to be representative of urban and rural areas. Their reliability, validity and utility have been demonstrated in various studies in countries all over the world. (MeasureDHS, 2008)

Although all three surveys collected a vast number of diverse data, all of them covered only selected aspects of the different descriptive variables that should be used to obtain a holistic community profile. As a consequence, eligible sections of the different questionnaires were selected and attuned to one another to design the first section of the questionnaire for the structured interview with the main study population of this research.

Since the first section of the questionnaire was designed to collect factual data, a structured response format with several contingency questions was applied. Dichotomous questions as well as multiple choice questions were used, whereas the multiple choice questions were designed as either single or multi-option questions.

### 2.6.2.1.2 Sections 2 and 3: Health and social problems and needs

The second and third sections of the questionnaire were designed to identify and explore the perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community as well as to obtain and assess the health education and disease prevention topics that this community would like to learn about.

Since no suitable instruments were found to detect and assess the health and social problems and needs of a community, completely new questionnaire sections
had to be developed. Based on the results from the preliminary survey, vast numbers of possible health and social problems were named and listed (Appendices 3 and 4). In addition, possible health education and disease prevention topics were compiled, using UNICEF’s Facts for Life topics as a basis. (UNICEF, 2002)

The compiled health and social problems were analysed. In order to become listed in the second section of the questionnaire, they needed to comply with each of the following three conditions:

- Clarity of definition of the problem
- Simplicity of the problem
- Functionality of the problem

To become listed as a health problem, the problem needed to be a disease by definition and not a symptom or a complication of a disease. For example, the problem ‘haematuria’ (or ‘bloody urine’) which was mentioned in the preliminary survey could be the symptom of various underlying causes, including among others acute glomerulonephritis, bladder tumours and schistosomiasis (clarity of definition of the problem). Furthermore, the mentioned rare infections cholera and typhoid were too specific to be fully understood by the prevailing uneducated community. They were likely to be misunderstood and misjudged, especially since their dominant symptoms resemble the abdominal pains and diarrhoea that come along with the more common gastroenteritis that is well-known by the community (simplicity of the problem). Then again, the mentioned health problems ‘chronic diseases’, ‘infections’ and ‘trauma’ as well as the social problems ‘crime’, ‘poor housing’ and ‘poor living conditions’ were not specific enough to draw any conclusions from their being chosen or their ranking (functionality of the problem).

Correspondingly, the listed health education topics were analysed and both lists were arranged in an alphabetical order and grouped into different sub-sections.

The second and third sections of the questionnaire were designed to detect and assess experiences, opinions and views. Open ended text questions were used as an introduction. Then, possible health and social problems as well as health education topics were listed to be evaluated and ranked according to their applicability and importance, conforming to a response rating scale design.

Response rating scales are the most widely-used scales in research surveys. They measure the direction and intensity of attitudes. The scales are always the sum of responses on several items. Such items are simple statements which the participants are asked to evaluate according to subjective or objective criteria. Generally, the level of agreement or disagreement is measured. (QSU, 2008; Trochim, 2008)
This research used a multi-item summated rating scale design. Its characteristics were as follows:

- The scale contained several ordered-category items.
- The items were one-dimensional, well discriminating and valid.
- The response levels were arranged horizontally.
- The response levels were anchored with verbal labels that denoted more-or-less evenly-spaced gradations.
- The scale contained a 3-to-0-point rating matrix, a so-called forced choice response matrix with an even number of responses and no neutral middle.
- The scale measured attitudes in terms of levels of agreement or disagreement to different target statements.

By grouping identically scaled questions into batteries, similar questions were kept together, which reduced the response time and the respondent fatigue. (QSU, 2008)

2.6.2.2 Description of the questionnaire

The questionnaire consisted of 36 questions, divided into different sections, sub-sections and items (figure 2-4; Appendix 5)

<table>
<thead>
<tr>
<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madwaleni community profile</td>
<td>Health and social problems facing the community</td>
<td>Health education and disease prevention topics</td>
</tr>
<tr>
<td>13 sub-sections</td>
<td>5 sub-sections</td>
<td>6 sub-sections</td>
</tr>
<tr>
<td>• Sex (1 item)</td>
<td>• Improvement of living conditions (1 item)</td>
<td>• Disease specific education topics (4 items)</td>
</tr>
<tr>
<td>• Age (1 item)</td>
<td>• Biggest health and social problems (1 item)</td>
<td>• Miscellaneous education topics (9 items)</td>
</tr>
<tr>
<td>• Marital status and sexuality (2 items)</td>
<td>• Health problems (32 items)</td>
<td>• Children related education topics (6 items)</td>
</tr>
<tr>
<td>• Children (2 items)</td>
<td>• Social problems (29 items)</td>
<td>• Women related education topics (6 items)</td>
</tr>
<tr>
<td>• Education (2 items)</td>
<td>• Additional health and social problems (1 item)</td>
<td>• Men related education topics (3 items)</td>
</tr>
<tr>
<td>• Employment status (1 item)</td>
<td></td>
<td>• Additional health education and disease prevention topics (1 item)</td>
</tr>
<tr>
<td>• Household income (3 items)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Methods

2.6.2.3 Xhosa version of the questionnaire

As the main study population is Xhosa-speaking, the questionnaire was translated into Xhosa by an expert fluent in both English and Xhosa. (Appendix 6)

2.6.2.4 Administration of the questionnaire

Since a considerable percentage of the Madwaleni community is illiterate or functionally illiterate, the questionnaire was used as the basis for researcher-administered structured interviews. This study design entailed certain advantages, such as fewer misunderstood questions, fewer inappropriate and incomplete responses as well as higher response rates. (Groves, 1989; Ornstein, 1998; Ruben, 2004)

The structured interviews were conducted by specifically trained counsellors who were fluent in both English and Xhosa. The interviews required a brief introduction which was kept short; simple instructions were given in one to two minutes but enough time was allowed for the participant to ask questions. The instructions were formulated as follows: ‘Thank you very much for taking part in this community survey. We would like to assess the perceptions of people living in the catchment area of Madwaleni Hospital, South Africa regarding the health and social problems facing their community. Since you are a member of precisely that Madwaleni community, we believe that you have valuable opinions regarding the health and social problems and needs that are facing your community. We would appreciate it if you could share this insight with us. Therefore, we would like you to answer the following questions. Please note that this is not a test; there are no right or wrong answers and you can feel free to answer each question based on your own experiences and views.’

The questionnaire was designed with a flexible time window. It was possible to complete a structured interview in approximately 40 minutes.

2.7 Pilot process

The pilot process took place on the 21st of August 2007.

In order to confirm the feasibility of using the questionnaire in the field and its acceptability by the members of the community, it was piloted with a group of 20 men and women who were recruited from the Madwaleni HIV support group. The participants were asked for their feedback on vague or unclear items that needed to be modified, deleted or added. The pilot sample was not included in the main sample of the study.

The structured interviews were timed. It took between 32 and 55 minutes to complete the questionnaires.

After the piloting, six questions were reformulated, in order to increase the understanding of the community members. In addition, the questions about sexual
behaviour were reworded since pilot participants stated that these questions were too sensitive and especially women would not answer them or would be hesitant to give the correct answers.

For checking the content validity, Ms. Gubela Mji, a researcher from the Faculty of Health Sciences of the Stellenbosch University, South Africa was consulted to ensure that the items cover the main domains of this study.

Furthermore, the pilot process demonstrated that the two doctors’ consulting rooms which were chosen as settings for the interviews were the right environment to assure the privacy of the participants.

2.8 Data collection procedure

2.8.1 Data collection procedure applied in the preliminary survey

For the preliminary survey of this research, the researcher conducted all interviews with the health care providers working at Madwaleni Hospital herself. The interviews were held in English. They took place at the different work sites of the various participants, either in the doctors’ or nurses’ consulting rooms or in one of the meeting rooms. The interviews took place from the 21st to the 24th of May 2007.

The collected data was recorded by handwriting. The interviews took approximately 15 minutes.

2.8.2 Data collection procedure applied for the questionnaire-based structured interviews

The questionnaire-based structured interviews with the main study population were conducted by four specifically trained counsellors.

Of the total lay counsellor staff, four were selected and specifically trained, depending on their communication and literacy skills as well as on their duration of employment at the Madwaleni HIV/ARV programme. No reference was made to their professional status since both groups, namely the lay peer educators and the CHWs, are equated in their training and work obligations.

The selected counsellors were allocated as follows:

- Two counsellors were allocated to Madwaleni Hospital. They would be responsible for conducting the structured interviews with the two sample groups 1 and 2 in the OPD of the hospital.

- Two counsellors were allocated to the two clinics in Bomvana and Soga and to the health centre in Xhora. They would be responsible for conducting the structured interviews with the two sample groups 3 and 4 in the HIV support groups of these three peripheral clinics.
The interviews were held in Xhosa. They took place in the normal OPD or HIV support group setting that the community members were already used to, in the OPD in one of the doctors' consulting rooms and in the support group buildings in one of the counselling rooms. The interviews took place from September 2007 to January 2008. The interviews with the two sample groups 1 and 2 were conducted every Monday, Wednesday and Thursday until the necessary sample sizes of 50 for each group were reached. In addition, the interviews with the two sample groups 3 and 4 were conducted every Wednesday and Thursday until the necessary sample sizes of 50 for each group were reached. The specific weekdays were chosen as they were either the most favourable days of the week in terms of the patient flow in the OPD or the only days when the HIV support groups took place at the clinics.

The collected data was recorded by handwriting. The interviews took between 30 minutes and an hour.

2.9 Ethical considerations

Letters asking permission to conduct this study were written to the provincial administration of the Eastern Cape, to local district authority structures and to various community health care structures during the development process of the research proposal in April 2007.

The deeply rural, prevailing uneducated Madwaleni community was especially vulnerable to an inadequate understanding of the purpose of the research. Therefore, the community required rigorous attention to each individual’s full understanding of the merits of the research itself as well as of the experiences and opinions they disclosed. Prior to conducting the structured interviews a written informed consent form was explained to and signed by each participant. This consent form specified:

- The aim of the study
- The process of the research and the role of each participant
- That anonymity would be respected by not referring to individuals by names in writing-up the research; they would be addressed as a group and each participant could withdraw from the research process at any time
- That prior to making the research public, community-based feedback workshops would be conducted
- The protection of intellectual property through acknowledgement of their contribution to the research during academic presentations and publications and that information would not be utilised for personal gain

The consent form is included in Appendix 2.
2.10 **Data reliability and validity**

Both questionnaire and structured interviews with the main study population were standardised and structured to ensure reliability and validity.

2.10.1 **Data reliability**

Reliability is the consistency or repeatability of a measurement. It refers to the degree to which an instrument measures the same value each time that it is used with the same subjects and under the same conditions. The reliability of an instrument can be reduced by systematic and random errors of measurement. It can not be measured exactly; it can only be estimated. (Trochim, 2008)

Several precautions were taken to avoid systematic errors that could potentially influence the reliability of this research:

- The questionnaire-based structured interviews were piloted to get feedback from the participants about the instrument itself as well as about the testing environment that could potentially affect their performance.
- The counsellors who conducted the interviews with the main study population were trained and their training interviews were observed and evaluated to reduce the chance of an inadvertently introduction of errors.
- The data input was double-checked; all data was entered twice in the computer database and verified.
- Statistical procedures were used to adjust for measurement errors (see chapter 2.11.2, pages 39 et seq.).

In addition, precautions were taken to avoid random errors that could potentially influence the reliability of this survey:

- The sample size was large to yield greater precision.
- The participants were recruited from four different areas of the Madwaleni community to prevent the occurrence of non-representative samples by reducing the likelihood of sampling errors.

2.10.2 **Data validity**

Validity is the accuracy of a measurement. It refers to the degree to which an instrument measures what it is supposed to measure. Therefore, it is responsible for the strength of inferences or conclusions that can be drawn from studies. Validity can be divided into the two components internal validity and external validity. Internal validity refers to the approximate truth of causal relationships between the findings. Having a proper selection process of the study groups and a lack of errors of measurement, a study is believed to have internal validity. External validity refers to the approximate truth of
conclusions that involve generalisations beyond a set of observations to some universal statement. The three major threats to external validity are people, places and times. (Friis, 2008; Trochim, 2008)

Several precautions were taken to avoid errors that could potentially influence the internal validity of this research:

- Four different study groups were sampled from the same population to be compared and controlled to each other.
- These four groups were as similar to one another as possible, differing only in their sex and awareness of their HIV status. Thereby, multiple group threats to internal validity, such as selection-history, selection-maturation and selection-testing-threats, were disabled and social interaction threats to internal validity were avoided.

In addition, precautions were taken to avoid errors that could potentially influence the external validity of this study:

- The questionnaire was used as the basis for researcher-administered, structured interviews to obtain fewer inappropriate and incomplete responses as well as to achieve higher response rates.
- The first section of the questionnaire was essentially pre-validated, being based on the validated questionnaires of three national South African surveys (see chapter 2.6.2.1.1, pages 30 et seq.).
- In addition, the questionnaire was developed and designed to obtain a holistic community profile, including social-demographic and community setting characteristics. By describing the community and the context of this research in detail, the theory of proximal similarity can be applied to generalise the findings of this survey to various similar groups of people, places and even times.

2.11 Data analysis

2.11.1 Data analysis strategy in the preliminary survey

The data from the interviews with the key informants was analysed manually to uncover their main experiences, opinions and views regarding the main health and social problems of the Madwaleni community that they observed during their work at the hospital.

The hand-written interviews were re-read immediately after they were conducted to check for any missing information or missing words. The original notes were
used for the analysis, meaning that the interview data was read several times both as a whole and then in segments to establish general ideas about the two raised topics.

Through the analysis vast numbers of possible health and social problems were named and listed (Appendices 3 and 4). The compiled health and social problems were further analysed and served as a basis to develop and design the second section of the questionnaire for the structured interviews with the main study population (see chapter 2.6.2.1.1, pages 30 et seq.).

2.11.2 Data analysis strategy for the questionnaire-based structured interviews

For the statistical analysis, Mr. Eberhard Kuhlisch, a certified mathematician from the Institute of Medical Informatics and Biometrics of the Dresden University of Technology was consulted. The data from the questionnaire-based structured interviews was analysed using the Statistical Package for Social Sciences programme (SPSS; Version 11.5).

1) Exploratory data analysis

Exploratory data analysis was applied in order to examine the data and to check the data for plausibility and validity. Therefore, box plots and descriptive measured values were generated and analysed in two steps, as follows:

Checking the data for errors:
- All questionnaires were manually checked for inconsistencies, double coding or obvious errors. This was done before the data was entered into the computer database.
- All questionnaires were checked against the data in the SPSS data editor.
- The N column was checked to find any missing data.
- Means and standard deviations were checked to find obvious errors.
- The data was checked for outliers.

Checking the data for statistical assumptions:
- The normality of the data and skewness were checked by comparing mean, median and mode.
- In addition, descriptive statistics for each variable were computed and examined for missing data, marked skewness and the presence of outliers.

Following the introductory exploratory data analysis different analysis strategies were applied for the actual data analysis (figure 2-5):
Methods

2) **Descriptive statistics**

Descriptive statistic methods were used to present various findings of the three different sections of the questionnaire. They were used to generate a holistic profile of the total sample that completed the questionnaire. In addition, they were performed on the health and social problems and needs of the main study population. Therefore, different variables were studied, including demographic and social variables (e.g. sex, age, socioeconomic status and family structure), variables related to the community infrastructure (e.g. quality of housing, social stability and residential mobility) and health-related outcome variables (e.g. alcoholism and drug abuse rates, magnitude of chronic and infectious diseases). The data was described by numbers, percentages and means.

3) **Inferential statistics: Comparative and differential statistics**

Two different inferential statistic methods were used. First, comparative statistics were used to compare the Madwaleni community to the general South African population, whereas Chi-Square-Tests were applied. Then, differential statistics were used to assess to what extent and how the four main sample groups differed from each other with regard to their perceptions on the health and social problems and needs facing their community. To examine these similarities and differences One-way Analysis Of Variance (ANOVA) was applied.

![Analysis strategies for the questionnaire](image)

**Figure 2-5: Analysis strategies for the questionnaire**
2.11.3 Data analysis strategy for the comparison of the Madwaleni community with the general South African population

Focusing on the second objective of this research, the ascertained data for the Madwaleni community was compared to the corresponding data for the South African population as a whole. The majority of that data was quoted from the three national South African surveys that were used in the development process of the questionnaire of this survey, namely the South African Community Survey 2007, the South African General Household Survey 2006 and the SADHS 2003 (see chapter 2.6.2.1.1, pages 30 et seq.). (NHIS/SA, 2003; StatsSA, 2006; StatsSA, 2007b)

In addition, data from the American Central Intelligence Agency (CIA), the South African Government Communication and Information Service (GCIS), StatsSA and the World Bank was used for comparison purposes, whenever no corresponding data could be found in the three above mentioned surveys. (Appel, 2008; CIA, 2008; StatsSA, 2004; WorldBank, 2007)
3 Results

The presented results are from both secondary and primary sources, precisely from the assessment and review of existing data sources about the Madwaleni community and from the questionnaire-based structured interviews with the main study population.

3.1 Madwaleni community profile

3.1.1 Existing data about the Madwaleni community

Since the Madwaleni community hadn’t been studied before, it was necessary to gather information on superior administration and jurisdiction levels, mainly on the Mbashe municipality and the Elliotdale magisterial district level, in order to obtain a profile of the broader population. In addition, data from various theses and reports as well as smaller unpublished projects on similar communities in the immediate or surrounding areas of Madwaleni, particularly from the local villages Cwebe and Ntuben1 as well as Mboya2, Shixini3 and Zithulele4, was used for reference.

Geography and landscape

Madwaleni is situated in a deeply rural area of the Eastern Cape province (32.0947°S, 28.8626°E), between the rivers Xhora and Ntlonyana. The hospital is the centre of the area, lying amidst a sparsely populated cluster of approximately 20 villages, 30 km south-east of the town Elliotdale. (ECDoH, 2008; Slingsby and Slingsby, 2008)

In the area, settlements are generally scattered along higher lying ground and ridges. In addition, a linear settlement pattern occurs along the two main routes into the area, with villages lying along the roads from Elliotdale and Idutywa/ Willowvale to the coast. The landscape is dominated by houses, gardens and extensive grasslands, interspersed with forest patches. (Fox, 1997; Timmermans, 2002)

Apart from a few larger shops in Elliotdale, there are also a number of smaller home-based ‘spaza shops’ and informal ‘liquor stores’ in the study area. Their sizes as well as their range of products vary considerably. Some are micro-enterprises,

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1 The villages Cwebe and Ntuben are located in the Dwesa/ Cwebe nature reserve, situated on the Mbashe river mouth, about 15 km south-east of Madwaleni.
2 Mboya is a small village close to Willowvale, about 40 km south-west of Madwaleni.
3 Shixini is situated in the Willowvale magisterial district, about 30 km south of Madwaleni.
4 Zithulele is a former missionary hospital, about 20 km north-east of Madwaleni Hospital.
serving small everyday commodities, such as matches, soap and toothpaste. Others are larger businesses, selling flour, paraffin or alcoholic beverages. (Timmermans, 2004)

**Language and age distribution**

The people living in the area share the same language; 91.7 % of the population speaks isiXhosa. (Sansom, 1974; StatsSA, 2004)

In the Eastern Cape, the age distribution of the population complies with the typical shape of developing countries, a broad-based pyramid, tapering with increasing ages to its apex (figure 3-1). In the Amatole district, for example, 49.4 % of the people are younger than 20 years. (Dorrington et al., 2002; StatsSA, 2004)

![Population pyramid in 2000 and 2010, Eastern Cape](image_url)

**Education**

The study population is characterised by its low levels of education, including literacy, knowledge and technological skills. In the Eastern Cape as a whole, for instance, the official literacy rate for the adult population is 84.4 %. However, the province has the highest concentration of illiteracy in the country, with only 62.4 % being ‘functionally literate’, having completed Grade 6 or higher. (DoE, 2002; ECDoE, 2008; SAGI, 2009)

Most of the education facilities to be constructed in the Transkei arose from missionary work. However, they were more concentrated in the Willowvale area than in the Elliotdale region. Their relative absence in the Elliotdale district meant that it was not
until the 1960s when the first government schools were built in the study area and people from the local communities gained access to education. Since 2000, a number of new school buildings have been built. Textbooks are supplied by the government but the rate of teacher absenteeism is still high. In fact, most schools in the Elliotdale magisterial district have learner-teacher-ratios of over 40:1. For example, in the Gwebindlala Junior Secondary School next to Madwaleni Hospital, 782 learners were taught by only 18 teachers at the time of writing. (Bank and Meyer, 2006; Deliwe, 1991; Fay and Palmer, 2002; Fay et al., 2002; StatsSA, 2002; Timmermans, 2004; Van Harmelen, 1997)

The official rates of school attendance in the rural areas of the former Transkei area are relatively high; between 92.9 % and 96.2 % of the children up to the age of 15 years attend school. These statistics should be viewed critically though, since they reflect the numbers on the official school registers and not the de facto number of children that attend school regularly. Apart from the case of parents sending their children to school on alternating weeks, it is also common for children to be required to first help their families with livestock-related duties before being allowed to go to school and missing half of the morning’s classes as a result. In addition, the official statistics reveal little about the quality of education that is delivered in rural areas. (Ibid.)

**Poverty, income, employment and welfare**

Three quarters of the poor South Africans live in rural areas. They are concentrated in former homelands, such as the Transkei, which face especially high levels of poverty and economic underdevelopment. As a result, the Eastern Cape is the second poorest province in the country, with 72 % of its population living below the poverty income line. Its deprived wards and areas of greatest needs are mainly concentrated within the former Transkei area. For example, its Mbashe municipality is the fourth most socio-economically deprived municipality in the country. It hosts Elliotdale and Willowvale, the poorest and the second poorest magisterial districts in South Africa. (HSRC, 2004; Noble et al., 2006; Ntshona and Lahiff, 2001; StatsSA, 1995; StatsSA, 2000; StatsSA, 2007a)

Poverty is structurally embedded in the Elliotdale district. In 2000, the mean monthly expenditure among households in Elliotdale was estimated at 746.00 Rand per month¹. More localised studies found that 93 % of the households in the villages had incomes below the poverty line set at 533.01 Rand per adult equivalent per month at the time. 70 % of the households were classified as ‘ultra-poor’, facing extensive income poverty and falling below the income poverty line of 190.00 Rand per month per adult equivalent. Apart from poverty, the area is further characterised by high levels of

¹ The mean household size in the study area is 8.5.
Results

temporary urban migration (Rate of absenteeism of the adult population: 42.4 %) and reliance on state welfare grants. (Andrew, 1992; ARDRI, 2001; Bekker et al., 1992; Hawkins-Associates, 1980; StatsSA, 2000; Timmermans, 2004; Wentzel, 2001)

Furthermore, smaller surveys conducted in the study area imply that the mean income of the community members living in the local villages is not just considerably lower than the national average but even lower than the average income in the Elliotdale district. In 2004, the mean cash income among the surveyed households at Cwebe and Ntubeni were 546.00 Rand and 640.00 Rand per household per month respectively (or 139.00 Rand and 208.00 Rand per adult equivalent per month respectively). Converting those numbers, the mean cash incomes per capita at Cwebe were just under 1 US $ a day and at Ntubeni just over 1 US $ a day at the time. (Timmermans, 2004)

In 2004, a calculation of the poverty gap indicated that an investment of approximately 10 million Rand per year would be needed to eliminate poverty in the study area. This is a conservative estimate though, being based on the total incomes of the sampled households. It also includes the in-kind contribution of crops and livestock and would probably be even greater if only cash incomes were considered. (Ibid.)

Most households in the rural Transkei derive and maintain their livelihoods from a combination of income-earning, state welfare grants, the use of natural resources, small-scale cultivation and livestock husbandry. (ARDRI, 2001; Hawkins-Associates, 1980; Kepe, 1997; May, 1987; McAllister, 1999)

On average, the households in the study area have 3.3 income sources (Range: 1 to 7). In total, eight categories of cash income can be identified. They are local occasional work (e.g. plastering houses, fixing kraals and weeding), local permanent employment (e.g. general labourers, domestic workers and cleaners), self-employment (e.g. building, carpentry and informal trading), state welfare grants, migrant remittances, sale of crafts, sale of crops and sale of livestock, whereas most of these income sources are irregular. (Timmermans, 2004)

The most common sources of cash income are state welfare grants. For example, 60.8 % of the households in Elliotdale and 58.9 % of the households in the local villages Cwebe and Ntubeni are receiving them. According to the South African Social Security Agency (SASSA) which issues more than 2.6 million grants to approximately 1.6 million beneficiaries in the Eastern Cape alone, these high numbers suggest that the beneficiaries in the areas of the former Transkei might be experiencing high levels of poverty and unemployment. (SASSA, 2008; Timmermans, 2004; Wentzel, 2001)

However, the most valuable income sources are self-employment (on average 13,300.00 Rand per year) and local permanent employment (on average
10,986.00 Rand per year) but only small proportions of households have access to these (4.1 % and 11 % respectively). State welfare grants offer the next best return (on average 6,627.00 Rand per year), while the sale of crafts or crops offer the lowest returns (on average 596.00 Rand and 203.00 Rand per year respectively). Only 11 % of the households surveyed derived income from these sources. (Timmermans, 2004)

In the Mbashe municipality, the employment situation is considerably worse than in the province as a whole. A higher percentage of the population aged 15 years and older is unemployed, with 21.1 % of them looking for work in the Elliotdale district compared to 13.4 % in the Eastern Cape. In fact, the entry of more and more young school leavers and trainees into the already saturated Elliotdale labour market could soon result in a much higher unemployment rate of approximately 80 % if the present economic status quo remains. (StatsSA, 2004; Wentzel, 2001)

Since the study area is severely underdeveloped in its infrastructure, marketing opportunities and services, the local villages are isolated from the nearest centres of economic activity and very little market-oriented production takes place in the villages themselves. (Timmermans, 2004; Wentzel, 2001)

In the 1980s, the mining sector was by far the biggest source of employment for men from the Transkei area. However, ongoing retrenchments from the mining sector related to the drop in the gold price impacted heavily on rural households in this region. Today, community, social and personal services (20.8 % of employed community members), followed by wholesale and retail trade (20.1 %) and agriculture and forestry (16.2 %) are the leading economic sectors in the area. (Goldprice, 2009; Hawkins-Associates, 1980; StatsSA, 2004; Timmermans, 2004; Transkei-Government, 1991)

At Cwebe and Ntubeni, 26 % of the households are solely depending on welfare income, while 16.4 % of the households are primarily depending on their income from employment sources. The remaining households are depending on a composition of

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1 While 31.9 % of the population of the Eastern Cape are employed and 54.7 % are regarded as ‘not economically active’, i.e. being scholars, full-time students, housewives, disabled or retired persons, these numbers differ significantly in the Elliotdale area, with only 5.5 % of the community members being employed and 73.3 % being ‘not economically active’.

2 In January 1980, gold established a record at 850 US $ an ounce, while high inflation, strong oil prices, the Soviet intervention in Afghanistan as well as the impact of the Iranian revolution prompted investors to heavily buy the metal. After reaching those heights, it plummeted down and remained steady in the 300 to 400 US $ range for some years, reaching its all-time low at 251.70 US $ per ounce in August 1999, before starting to climb again to new levels. In March 2008, gold set the magical record at 1,000 US $ per ounce and remains above 950 US $ per ounce at the time of writing in 2010.
different income sources, including employment and state welfare but also agriculture and livestock production. (Timmermans, 2004)

For those households without a member in full-time local employment or without a member receiving a welfare grant, income can be extremely limited and irregular. Income needs have a seasonal dimension. For instance, cash income is at a premium at certain times of the year, i.e. at the beginning of the school term or at the end of the year when migrant workers return and gatherings or rituals are held. With 84.5 % of the households in the study area deriving parts of their income from cropping and 76.7 % from livestock, risks associated with climatic irregularities also have the potential to affect a large number of households. (Ibid.)

Taking into consideration that the average household needs a minimum of 367.00 Rand per month to meet its costs for food, clothing, transport, school fees, medical services and agricultural inputs (i.e. medication, feed, seed, fertiliser), those seasonal income dimensions and irregularities have the potential to threaten many peoples existence in the area. (Timmermans, 2002; Timmermans, 2004)

**Infrastructure and transport**

The infrastructure in the rural areas of the Mbashe municipality is highly underdeveloped, with poorly developed main roads, lacking minor roads to connect the villages and the absence of regular maintenance services. In fact, 75 % of the gravel roads in the study area fall in the categories ‘poor’ and ‘very poor’. In addition, physical inaccessibility in inclement weather and low-level bridges prone to periodic flooding complicate the situation. (DoEAET, 2002; Timmermans, 2004; Wentzel, 2001)

Only a few of the households in the study area own a bicycle (5.1 % of households) or a car (3.8 %), which makes their members fully dependent on public transport. In the Elliotdale district, community members depend on the privately-owned taxi services which run on a daily basis. They tend to shuttle between the local villages and the nearby towns in the early morning and return in the late afternoon. The monthly household expenditure on transport varies between less than 100.00 Rand (65.7 % of households), between 100.00 and 200.00 Rand (19.2 %) and more than 200.00 Rand (15.1 %) (Bank and Meyer, 2006; Timmermans, 2004)

**Housing**

In the Mbashe municipality, the majority of the households have traditional buildings as their main dwellings (78.7 % of households), followed by formal flats or houses (20.4 %), informal dwellings or shacks (0.6 %) and other dwellings (0.3 %). The
majority of the people own their main dwellings (78.8 % of households), while 15.8 %
occupy their dwellings rent-free. Only 5.4 % rent their dwellings. (StatsSA, 2007b)

The average number of housing units per residential site at the two local
villages Cwebe and Ntubeni is 2.7 (Range: 1 to 6). Most of the units in the Elliotdale
magisterial district consist of a single room (86.9 % of households), either a traditional
round ‘rondavel’, a hexagonal shaped ‘rondavel’ or a rectangular, single-roomed brick
structure. The majority of these single-roomed houses are traditional ‘rondavels’ (70.6 %),
constructed of mud bricks (69.7 %) and with thatched roofs (71.0 %). Only 10.3 % of the
housing units in the area are modern multiple-roomed houses, constructed of cement
bricks. A further 29 % of the houses have modern zinc-plated roofs. Only 29.1 % of the
units have guttering and 21.5 % own water storage equipment, i.e. plastic containers or
rainwater tanks. (Timmermans, 2004)

The level of income and the number of people per dwelling strongly
correlate. According to the South African Living Standards and Development Survey the
average number of people per room in the ‘ultra-poor’ income category is 2.3 compared to
an average across all income categories of 1.4. The average number of people per
housing unit at the Dwesa/ Cwebe nature reserve is even higher, reflecting the severe
poverty status of these Madwaleni-neighbouring communities. (SALDRU, 1994;
Timmermans, 2004)

The mean number of people per housing unit in the study area is 2.6, with
housing densities ranging from 0.7 to 9.0 people per unit. On average, 2.3 household
members are absent for employment purposes. Of those, 0.9 are employed in either a full
time or a part time position, while 0.6 are unemployed. The chance that workers who
migrate to the cities find work is therefore approximately 60 %, while the employment
prospects for those who remain at home are markedly smaller, with only 0.1 of the 1.3
people of economically active age per household being employed. Summarised, 90 % of
the employed people from the local areas are actually employed outside of the study area.
(Timmermans, 2004)

**Water and sanitation**

While 36 % to 49 % of the population of the Eastern Cape have access to
water within a 200 m radius, less than 10 % have such access in the Mbashe municipality.
In fact, a small survey around the neighbouring hospital Zithulele found that 68 % of the
community members have to walk between 500 m and 1 km and 12 % have to walk even
further. (Bank and Meyer, 2006; Paxton, 2007)

Irrespective of the distance to access water, less than one quarter of the
population of the Mbashe municipality has access to piped water, with 2.5 % having
access inside their dwelling, 5.1 % having it inside their yard and 17.1 % getting the water from an access point outside their yard. Another 7 % of the households use water from
rainwater tanks. However, approximately two thirds of the population collect the water from nearby rivers or streams (63.9 % of households) and stagnant dams or pools (0.3 %). In addition, 4.1 % of the households use other water sources, i.e. boreholes, springs or water vendors. A community project carried out around the actual study area of Madwaleni Hospital in October 2008 showed that an even higher percentage of the Madwaleni community members rely solely on river water (81 % of households). (Beyers et al., 2008; StatsSA, 2007b)

The local mini surveys also found that 79 % of the community members who rely on river water do nothing to purify that water. Only one fifth of the households boil their water (21 % of households around Madwaleni Hospital and 22 % around Zithulele Hospital). 81 % of the community members believe that the river water is actually making them sick, whereas 87 % believe that it is in fact responsible for diarrhoea in their communities. In addition, 67 % state to have never received any education on how to purify water and 98 % express the wish to learn about the purification of their drinking water. (Beyers et al., 2008; Paxton, 2007)

In the Eastern Cape, 64 % of the households have access to sanitation facilities. In the Mbashe municipality, however, only the minority of the population has access to flush toilets (4.4 % of households), pit latrines (15.1 %) or other recognised toilet facilities, i.e. bucket latrines or chemical toilets (6.2 %), while 74.2 % of the households have no such access. After the Port St. John's municipality (75 % of households), the Mbashe municipality is therefore the municipality with the second highest percentage of households without any access to adequate sanitation facilities in the province. Furthermore, the survey carried out around Zithulele Hospital showed that an even higher percentage of community members in the actual study area have no access to any sanitation facilities (86 % of households). Conditions are similar in the local villages Cwebe and Ntubeni where only a few of the household have toilets and defecation generally takes place in the open country or in nearby bushes and small forest patches. (Bank and Meyer, 2006; Paxton, 2007; StatsSA, 2007b; Timmermans, 2004)

**Electricity and sources of energy**

While 57 % of the households in the Eastern Cape have access to electricity, the Mbashe municipality is one of six municipalities in the province where less than 20 % of the households have such access. (Bank and Meyer, 2006)
Electricity and paraffin (81.8 % of households) are the two main sources of energy for lighting in the Mbashe municipality, while 17.1 % of the households rely on candles and 1 % uses other sources. (StatsSA, 2007b)

In addition, the majority of households in the Mbashe municipality use wood as their main source of energy for cooking (65.6 % of households), followed by electricity (12 %), paraffin (11 %) and various other sources, i.e. coal, gas and solar energy (11.5 %). Similarly, the majority of households use wood as their main source of energy for heating their homes (71.3 % of households), followed by paraffin (16 %), electricity (10.2 %) and other sources (2.5 %). (StatsSA, 2007b)

The majority of the households in the Elliotdale district are not electrified either. They rely on fuel wood and to a lesser extent on paraffin for their energy requirements. Most of the fuel wood is sourced from smaller pocket forests and the local Dwesa/ Cwebe nature reserve. (ADM, 2003; Timmermans, 2002)

**Land, farming and livestock**

Most households in the study area have access to land for growing crops, with 92.4 % of the households at Cwebe and Ntubeni owning gardens and 51.9 % owning fields. The mean sizes of the owned land range between 2,300 m² at the two villages Cwebe and Ntubeni, 5,000 m² at Mboya and 6,500 m² at Shixini. In addition, a survey of 300 households in the Mbashe area, including both inland and coastal wards in the Elliotdale and Willowvale districts, put the average land size at 4,200 m². (ARDRI, 2001; Bank, 2001; McAllister, 2000; Timmermans, 2004)

While all households actively use their gardens, only 61 % use their fields. The various reasons for favouring home gardens include the lack of fencing materials, infertility of the soil and drought. Also, garden cultivation holds a number of advantages over field cultivation in the context of labour shortages. Being smaller, gardens are easier to fence, easier to manure and easier to guard against damage and theft. (Andrew, 1992; McAllister, 1999; Timmermans, 2004)

With respect to the crop diversity, households at Cwebe and Ntubeni grow an average of three different crops (Range: 1 to 7). Maize (97.7 % of households), beans (75.9 %) and pumpkins (60.5 %) are the most commonly planted crops. They are grown in early spring (September to October) and harvested in late summer (April to May). In winter, no crops are grown and gardens and fields are left fallow during this period. (Timmermans, 2004)

Nearly all local households engage in cultivation actively, although with a considerable range in garden size (between 150 and 10,000 m²), number of crops grown and crop yield. Despite the continuing interest in cultivation, 63.2 % of the households
produce less than one quarter of their minimum subsistence maize requirement of 175 kg per person per year and only a few of the households are able to cultivate enough to carry them through to the next season. (ARDRI, 1989; Timmermans, 2004)

The most common forms of livestock owned by the households in the study area are ‘micro-stock’, predominantly poultry. 93.6 % of the households in Cwebe and Ntubeni and up to 97 % of the rural households in the Eastern Cape keep an average of 5 to 13 chickens. The ownership of ‘macro-stock’ is less equally distributed. For example, 62 % of the surveyed households keep cattle and 39.2 % keep goats (Mean herd sizes: 6 and 7.5 respectively). However, the ownership of sheep among the rural households in the Eastern Cape is less common (between 20.3 % and 29.0 %) but the average number of animals per keeper is substantially higher (Mean herd sizes: 14.8 to 18.0). (ARDRI, 2001; Bembridge, 1984; De Lange, 1991; Steyn, 1988; Timmermans, 2004; Wenhold et al., 2007)

**Health care, health indicators and predominant diseases**

Of the 997 health facilities in the Eastern Cape, 300 are situated in the Amatole district (i.a. 221 PHCs, 8 CHCs, 14 District Hospitals – of which one is Madwaleni Hospital – and 2 Provincial Tertiary Hospitals), with approximately 9,000 health care workers of various professions working for the government in the district. (Day et al., 2010; StatsSA, 2004)

Women tend to fall pregnant earlier in the study area than in the province as a whole (Median age at first birth: 19.9 years in the former Transkei compared to 20.3 years in the Eastern Cape). Nearly all women use antenatal care services at their local clinics but a high proportion of them still deliver at home (37 % of women). Stillbirth rates and perinatal mortality rates are significantly higher in the Amatole district than in the country (Stillbirth rate: 31.7 per 1,000 births, district rank 42 of 52; perinatal mortality rate in the health care facilities: 41.3 per 1,000 births, district rank 41 of 52). (ECDoH, 2004; ECDoH, 2006)

Infant mortality rates are a major indicator of the health status of a community. While data for Madwaleni is unavailable, a medical anthropological study in nearby Shixini found the infant mortality rate to be as high as 218 per 1,000 live births,  

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1 In 2004, 94.9 % of the households also kept pigs. Those can be hardly found in the study area in the present days though, since more than 250,000 pigs were culled in the course of the Swine fever outbreak in the Eastern Cape between November 2005 and April 2006.

2 The corresponding rates for South Africa are: Stillbirth rate: 24.8 per 1,000 births; perinatal mortality rate in the health care facilities: 34.5 per 1,000 births.
more than four times higher than the national rate of 54 per 1,000 live births. (Simon, 1989; WHO, 2006b)

In South Africa, the life expectancy at birth is 50 years for males and 52 years for females. Although data for the Mbashe municipality and the Elliotdale district is unavailable, their life expectancies are believed to be considerably lower. (WHO, 2007a)

In the former Transkei, every fourth child is orphaned, having lost either its mother or father or both parents. The rates of maternal (4.1 % of children) and paternal orphanhood (15.8 %) are the highest in the country. In addition, 4.3 % of the children have lost both parents. (CI, 2009; ECDIoH, 2004)

The immunisation rates in the Amatole district are higher than in the other districts of the Eastern Cape, with approximately 70 % of children between 12 and 23 months of age with full immunisation coverage. However, 6.3 % of the children have never received any immunisations. (Bank and Meyer, 2006)

The main diseases afflicting the people who are living in and around the Dwesa/ Cwebe nature reserve are water and nutrition-related diseases, such as diarrhoea and kwashiorkor as well as tuberculosis (TB). (Hughes et al., 1997; Van Harmelen, 1997)

While prevalence and incidence rates of TB are high throughout the country¹, they are significantly higher in the former Transkei. In addition, treatment success and completion rates are significantly lower in the study area (TB smear conversion rate: 34.4 % in the Amatole district compared to 50.5 % in South Africa, district rank 48 of 52; National target: 65 %). In fact, TB is still the second leading underlying causes of death in the study area, accounting for 7 % of all deaths. (Bradshaw et al., 2000; ECDIoH, 2004; ECDIoH, 2006; StatsSA, 2004; WHO, 2009)

The impact of HIV/AIDS on the local community is difficult to predict but it is likely that it will deprive an increasing number of families of income earners, particularly where migrant workers are laid off due to the illness. In addition, the loss of those of economically active age might lead to higher dependency rates, i.e. an increase in the ratio of young children and elderly in relation to adults and to a shortage of household labour for agricultural activities (see chapters 1.4.2, pages 16 et seq. and 1.4.3, pages 17 et seq.). (Timmermans, 2004)

¹ South Africa is ranked fourth on the list of the 22 high-burden TB countries in the world. According to the WHO’s Global TB Report 2009, South Africa had approximately 315,000 new TB cases in 2007, with a prevalence rate of an estimated 692 cases per 100,000 people and an incidence rate of an estimated 948 cases per 100,000 people.
3.1.2 Results from the questionnaire, section 1 – Madwaleni community profile

Since the first section of the questionnaire was divided into 13 sub-sections, the results are presented in 13 corresponding chapters. For better illustration and understanding see photographs in Appendix 7.

3.1.2.1 Sex

Complying with the sampling strategy, 100 men and 100 women were interviewed (see chapter 2.5, pages 24 et seqq.).

3.1.2.2 Age

The mean age of the Madwaleni community sample was 37.1 years (Median: 34.0; Range: 18 to 77 years; N=199). Half of the community members were aged 18 to 34 years (51 %; N=102). In addition, a second peak in the age groups was observed from 45 to 49 years (14.5 %; N=28; figure 3-2).

The sampled female members of the Madwaleni community were slightly younger than the male members (table 3-1).

<table>
<thead>
<tr>
<th>Age</th>
<th>Group 1* (N=50)</th>
<th>Group 2* (N=50)</th>
<th>Group 3* (N=49)</th>
<th>Group 4* (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>40.9</td>
<td>36.0</td>
<td>39.0</td>
<td>32.6</td>
</tr>
<tr>
<td>Median</td>
<td>40.0</td>
<td>31.5</td>
<td>38.0</td>
<td>30.5</td>
</tr>
<tr>
<td>Range</td>
<td>18 – 77</td>
<td>18 – 65</td>
<td>18 – 67</td>
<td>20 – 63</td>
</tr>
</tbody>
</table>

Table 3-1: Mean and median age of the different sample groups

The distributions of the different age groups of “HIV untested” men and women and “HIV+” women resembled the distribution of the total Madwaleni sample, with 46 %, 56 % and 64 % respectively being aged 18 to 34 years. However, “HIV+” men differed clearly from these distribution patterns, with only 14 % being aged 18 to 29 years and 70 % being aged 30 to 54 years.

### 3.1.2.3 Marital status and sexual behaviour

#### Marital status

The majority of the interviewed community members was either married (45.3 %; N=91) or had never been married (43.8 %; N=88). Only nine men and women were divorced and 13 widowed, accounting for a total of 11 % of the Madwaleni sample. In addition, one “HIV untested” woman was widowed and re-married (figure 3-3, left).

Compared with the total Madwaleni community, the “HIV untested” men were more likely to be married and “HIV+” women were more likely to have never been married (figure 3-3, right).

![Figure 3-3: Marital states of the Madwaleni community members (N=200)](image)

#### Sexual behaviour

The majority of the men and women were sexually active at the time of the community survey (86 %; N=172). More than half of these sexually active community members stated that they were using condoms as their method of choice of contraception (55.6 %; N=94), whereas these findings differed clearly between the “HIV untested” and the “HIV+” groups. While only 43.2 % of the “HIV untested” men and 29.5 % of the “HIV untested” women stated to use condoms, these numbers were significantly higher among both the “HIV+” men and women, with 78.4 % and 75 % respectively (figure 3-4).
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Results

Figure 3-4: Condom use amongst the sexually active Madwaleni community (N=169)

Most of the sexually active men and women had only one sexual partner at the time (90.4 %; N=150). However, 13 men and three women had two or more sexual partners, accounting for a total of 9.6 % of the sub-sample. One third of these 16 individuals used condoms at the time (37.5 %, of which one was “HIV untested” and five were “HIV+”), while half of them did not use condoms (50 %, of which seven were “HIV untested” and one was “HIV+”) and two declined to answer the question.

Three quarters of the interviewees lived together with their sexual partners (40.4 %; N=69) or close to each other (33.9 %; N=58), while the other quarter lived far away (25.7 %; N=44). Compared with the total Madwaleni community, “HIV+” women were more likely to live far away from their partners (figure 3-5).

Figure 3-5: Location of the partners of the Madwaleni community members (N=171)
More than one third of the sexually active community members claimed to know that their partners were having other sexual partners at the time (37.7%; N=63). These findings differed clearly between the men and the women. While only 27.3% of the “HIV untested” men and 13.2% of the “HIV+” men stated that their partners had other sexual partners, these numbers were significantly higher among both the “HIV untested” and the “HIV+” women, at 40.0% and 66.7% respectively.

In contrast to these high numbers, only eleven men and five women stated that they would consent to their partners having other sexual partners, accounting for 9.5% of the sub-sample of sexually active community members.

3.1.2.4 Children

The interviewed Madwaleni community members had up to 16 biological children. While one fifth of them had no children (22.5%; N=45), more than two thirds had up to six children (69.5%; N=139) and 16 had seven or more children, accounting for a total of 8% of the Madwaleni sample (Appendix 8).

The mean number of biological children was 2.7, differing clearly between the four sub-samples, with “HIV untested” men having the most biological children (Mean: 3.7), followed by “HIV+” men (Mean: 2.6), “HIV untested” women (Mean: 2.5) and “HIV+” women (Mean: 1.9). However, the frequencies and percentages of the number of biological children did not differ between the four groups.

The interviewees cared for up to twelve children at the time of the survey. While one fifth of them did not care for any children (19.7%; N=39), more than two thirds cared for up to six children (71.3%; N=141) and 18 cared for seven or more children, accounting for a total of 9% of the sample.

The mean number of children cared for was 2.8, differing clearly between the four sub-samples, with “HIV untested” women caring for the most children (Mean: 4.2), followed by “HIV untested” men (Mean: 2.8), “HIV+” women (Mean: 2.7) and “HIV+” men (Mean: 1.7). 20% of the “HIV untested” men and 46% of the “HIV+” men, however, did not care for any children, while these numbers were significantly lower among both the “HIV untested” and the “HIV+” women, with 4.2% and 8% respectively.

3.1.2.5 Education

Every sixth interviewed community member had never received any formal education (15.5%; N=31). One quarter of the men and women had either received some primary education or completed primary education (28%; N=56), while half of them had received some secondary education (48.5%; N=97). Only 16 individuals had completed Grade 12/Standard 10, accounting for 8% of the Madwaleni sample. Not one of the community members had received any higher degree at the time of the survey. Compared
with the total Madwaleni community, “HIV+” women were less likely to have never attended school and more likely to have received a matriculation (figure 3-6).

![Education (N=200) diagram]

**Figure 3-6: Highest level of education amongst the Madwaleni community (N=200)**

More than three quarters of the interviewed Madwaleni community members had the ability to read easily (50.5 %; N =100) or with difficulties (27.8 %; N=55). However, 26 men and 17 women were not able to read at all, accounting for 21.7 % of the total sample (figure 3-7).

![Literacy (N=198) diagram]

**Figure 3-7: Literacy rates amongst the Madwaleni community members (N=198)**
3.1.2.6 Employment status

The Madwaleni community was facing high rates of unemployment at the time of the survey; only 39 of its members were employed, accounting for 19.5% of the total sample. Compared with the total Madwaleni community, “HIV untested” men were more likely to be employed, while “HIV untested” women and “HIV+” men were more likely to be unemployed (figure 3-8).

![Employment status chart](image)

Figure 3-8: Employment status of the Madwaleni community members (N=200)

More than one quarter of the employed community members were working in the scope of health services (28.2%; N=11), making it the leading economic sector in the Madwaleni area. Other big sectors of employment were utilities (20.5%; N=8) as well as mining, private households and transport (each accounting for 12.8%; N=5). Correspondingly, the commonest occupations were community health worker, mine-worker and maid (Appendix 9).

One third of the employed Madwaleni community members was working for only three or four days a week (33.3%; N=13), while the other two thirds were working for five or more days a week (66.7%; N=26).

3.1.2.7 Household income

**Household size**

In the Madwaleni community an average of 7.6 people lived together per household (Range: 2 to 20; N=196). More than two thirds of the men and women lived in households of five to ten people (67.3%; N=132). In addition, every sixth interviewee shared his or her household with a minimum of ten people (16.3%; N=34; figure 3-9). Compared with the total Madwaleni sample, “HIV+” women were more likely to share their households with ten or more people (22%; N=11).
**Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community**

**Results**

**59**

**Household sizes (N=196)**

<table>
<thead>
<tr>
<th>People per household</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>5</td>
</tr>
<tr>
<td>3-4</td>
<td>10</td>
</tr>
<tr>
<td>5-6</td>
<td>20</td>
</tr>
<tr>
<td>7-8</td>
<td>15</td>
</tr>
<tr>
<td>9-10</td>
<td>10</td>
</tr>
<tr>
<td>11-12</td>
<td>5</td>
</tr>
<tr>
<td>13-14</td>
<td>5</td>
</tr>
<tr>
<td>15+</td>
<td>5</td>
</tr>
</tbody>
</table>

Figure 3-9: Household sizes of the Madwaleni community sample (N=196)

**Total income and poverty**

Adding up incomes from employment sources and welfare grants, the total average monthly household income in the Madwaleni area was 1,306.90 Rand (190.52 US $1; Range: 0 to 5,440 ZAR [793.06 US $2; N=197]. Compared with the total Madwaleni community, the households of the “HIV untested” men were more likely to have incomes of more than 1,000.00 Rand per month, while only the minority of the households of the “HIV untested” women received equal incomes (figure 3-10).

**Household income (N=197)**

<table>
<thead>
<tr>
<th>Monthly household income (ZAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-499</td>
</tr>
<tr>
<td>500-999</td>
</tr>
<tr>
<td>1000-1499</td>
</tr>
<tr>
<td>1500-1999</td>
</tr>
<tr>
<td>2000-2499</td>
</tr>
<tr>
<td>2500-2999</td>
</tr>
<tr>
<td>3000-3499</td>
</tr>
<tr>
<td>3500-3999</td>
</tr>
<tr>
<td>4000-4499</td>
</tr>
<tr>
<td>4500-4999</td>
</tr>
<tr>
<td>5000+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>8</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>18</td>
</tr>
<tr>
<td>20</td>
</tr>
<tr>
<td>22</td>
</tr>
<tr>
<td>24</td>
</tr>
<tr>
<td>26</td>
</tr>
</tbody>
</table>

Figure 3-10: Monthly household income of the Madwaleni community (N=197)

---

Breaking the monthly household income down, the monthly income per capita of the average Madwaleni community member was 190.48 Rand (27.77 US $; Range: 0 to 1,040 ZAR [151.62 US $]; N=193). While the different income groups were almost equally distributed in both male groups, the majority of both female groups had an income of less than 300.00 Rand per month (figure 3-11).

![Figure 3-11: Monthly incomes per capita of the Madwaleni community sample (N=193)](image)

Taking the national poverty lines of the year 2008 as reference values, the majority of the Madwaleni community members lived below the ‘poverty line’ of 322.00 Rand per person per month (84.5 %; N=163). Half of those lived even below the ‘lower poverty line’ of 174.00 Rand per person per month (52.8 %; N=102). (Appel, 2008)

Breaking the monthly income per capita down further, the daily income per capita of the average Madwaleni community member was 6.35 Rand (0.93 US $; Range: 0 to 34.67 ZAR [5.05 US $]; N=193). One third of the sampled men and women suffered from ‘moderate poverty’, defined as an income of 1 to 2 US $ per day (29 %; N=56). Another two thirds of the community members suffered from ‘extreme poverty’, defined as an income of less than 1 US $ per day (63.2 %; N=122). Only 15 individuals lay above those poverty lines, accounting for 7.8 % of the total sample. Compared with the total Madwaleni community, “HIV untested” women were more likely to suffer from poverty at the time of the survey (figure 3-12).

---

Results

Daily income per capita (N=193)

- < 1 US $
- 1 - 2 US $
- > 2 US $

Figure 3-12: Daily incomes per capita of the Madwaleni community members (N=193)

Income from employment sources and welfare

The average monthly household income from employment sources in the Madwaleni area was 372.28 Rand (54.27 US $); Range: 0 to 5,000.00 ZAR [728.92 US $]; N=197), whereas more than two thirds of the sampled households had no income from employment sources at all (70.6%; N=139). However, almost half of the sampled “HIV untested” men earned income from employment sources (48.0%; N=24).

The majority of the Madwaleni households received at least one type of grant (91.4%; N=181). The commonest grants were Child Support Grants (CSGs; N=247), followed by Disability Grants (DGs; N=75) and Old-Age Pensions (OAPs; N=75). In addition, four Foster Care Grants (FCGs) were received by the sampled community members at the time of the survey (table 3-2).

<table>
<thead>
<tr>
<th>Welfare grants</th>
<th>CSGs</th>
<th>DGs</th>
<th>OAPs</th>
<th>FCGs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worth (at the time of the survey)</td>
<td>200.00 Rand [29.16 US $]³</td>
<td>870.00 Rand [126.83 US $]⁴</td>
<td>870.00 Rand [126.83 US $]⁵</td>
<td>620.00 Rand [90.39 US $]⁶</td>
</tr>
<tr>
<td>Mean/ Household</td>
<td>1.3</td>
<td>0.4</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Range</td>
<td>0 – 5</td>
<td>0 – 2</td>
<td>0 – 3</td>
<td>0 – 1</td>
</tr>
<tr>
<td>Househ. without</td>
<td>33.8%</td>
<td>65.2%</td>
<td>66.2%</td>
<td>98%</td>
</tr>
<tr>
<td>Househ. with 1 - 2</td>
<td>51.5%</td>
<td>34.8%</td>
<td>33.3%</td>
<td>2%</td>
</tr>
<tr>
<td>Househ. with 3+</td>
<td>14.7%</td>
<td>0</td>
<td>0.5%</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3-2: Distribution of welfare grants in the Madwaleni area (N=198)

¹-⁶ Applying the exchange rate from a chosen point of time of the survey: 1 US $ = 6.8595 ZAR (31/12/2007; Data source: http://de.exchange-rates.org; 2008)
Compared with the total Madwaleni community, the households of “HIV untested” men were more likely to receive CSGs (80 %; N=40). In addition, the households of “HIV untested” women were less likely to receive DGs (97.9 %; N=47).

Summarising the findings, approximately two thirds of the Madwaleni community members were fully dependent on grants at the time of the survey (66.5 %; N=131). One quarter of the interviewees received incomes from employment sources and grants (25.4 %; N=50). Eight households were fully dependent on incomes from employment sources, accounting for 4.1 % of the total sample. In addition, eight households received no income at all, likewise accounting for 4.1 % of the sample.

Compared with the total Madwaleni community, “HIV untested” men were more likely to either be fully dependent on grants or receive incomes from employment sources and grants (figure 3-13).

![Figure 3-13: Sources of household income of the Madwaleni sample (N=197)](image)

### 3.1.2.8 Housing

**Dwellings and rooms**

The average household in the Madwaleni area owned 3.4 dwellings at the time of the survey (Range: 1 to 7; N=199). More than half of the households comprised one, two or three dwellings (52.8 %; N=105), while another third comprised four or five dwellings (38.7 %; N=77). Only the minority of the interviewed community members lived in households with six or seven dwellings (8.5 %; N=17). Compared with the total Madwaleni sample, the households of “HIV untested” men and “HIV+” women were more likely to comprise four or more dwellings (figure 3-14).
Results

The commonest types of dwellings in the Madwaleni area were traditional dwellings (‘rondavels’; N=500) and houses or parts of houses (‘brick structures’; N=170). In addition, eight informal dwellings in backyards or informal squatter settlements (‘shacks’) were owned or occupied by the interviewees (table 3-3).

Compared with the total community, the households of “HIV untested” women were more likely to own or occupy five or more traditional dwellings (14.2 %; N=7). In addition, the majority of them owned or occupied a brick structure (98 %; N=48).

On average, each Madwaleni household comprised 4.1 rooms (Range: 1 to 14; N=199), including kitchens but excluding bathrooms, sheds and garages, unless individuals were living in them. Only 13 households comprised one single room that needed to be shared by all household members, accounting for 6.5 % of the total Madwaleni community. Three fifths of the interviewed men and women lived in households with two, three or four rooms (58.8 %; N=117). Another quarter of households comprised five or six rooms (24.2 %; N=48), while 21 households comprised even seven
or more rooms, accounting for 10.5 % for the sample (figure 3-15). Compared with the
total Madwaleni community, “HIV untested” men were more likely to live in households
with five or more rooms (56 %; N=28).

<table>
<thead>
<tr>
<th>Rooms (N=199)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of rooms</td>
</tr>
<tr>
<td>10+</td>
</tr>
<tr>
<td>7-9</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Figure 3-15: Number of rooms per Madwaleni household (N=199)

The majority of the sampled community members shared their room with
other members of their households (83.1 %; N=162). Almost half of them shared it with a
minimum of two other persons (42.1 %; N=82). However, in six households up to nine
people shared one single room. Only 33 individuals had one or more rooms for
themselves, accounting for a minority of 16.8 % of the total community sample.

Tenure states

The majority of dwellings in the Madwaleni area were owned and fully paid
off (38.7 %; N=77) or owned but not yet paid off (46.7 %; N=93). Whereas the majority of
dwellings owned by men were fully paid off (77 %; N=77), the majority of dwellings owned
by women were not (76.8 %; N=76). Only 29 of the community members occupied
dwellings rent-free, accounting for 14.6 % of the total sample. Not one of the community
members rented a dwelling.

3.1.2.9 Water

Only a minority of the Madwaleni community members had access to piped
drinking water at the time of the survey (9.5 %; N=19). 13 interviewees used rain water as
their main source of drinking water, accounting for 6.5 % of the total sample. None of the
community members used bottled water or water from boreholes or springs. In contrast to
these findings, three quarters of the sampled men and women used river water as their
main source of drinking water (75.5 %; N=151) and 17 obtained their water from stagnant
dams or pools, accounting for 8.5 % of the sample. Compared with the total Madwaleni
community, “HIV untested” women were less likely to have access to piped water and “HIV+” men were more likely to obtain their water from stagnant dams (figure 3-16).

The majority of the interviewees had to fetch their drinking water from communal pipes, rivers or dams (90 %; N=180). Approximately half of them fetched it on their own (28.7 %; N=49) or together with their family members (21.6 %; N=37). The other half was not involved in fetching water, in these cases, female members of the family were responsible for fetching water (42.7 %; N=73), followed by children (5.8 %; N=10) and male family members (1.2 %; N=2; figure 3-17).
Results

On average, each of the Madwaleni households fetched drinking water 2.2 times per day from communal taps, rivers or dams (Range: 1 to 6; N=166). The minority of the households fetched water only once a day (14.5%; N=24). More than half of the households fetched drinking water twice a day (57.8%; N=96). Another fifth fetched it three times per day (20.5%; N=34). In addition, twelve households fetched drinking water four or more times daily, accounting for 7.2% of the sample. Compared with the total Madwaleni community, the households of “HIV untested” men were more likely to fetch drinking water twice a day, while those of “HIV+” women were more likely to fetch it three times per day (figure 3-18).

Figure 3-18: Fetching of drinking water in the Madwaleni area – Trips per day (N=166)

More than half of the households in the Madwaleni area needed less than 15 minutes per trip to fetch drinking water (53.2%; N=91), while two fifths needed between 15 minutes and one hour (42.7%; N=73). Only seven of the interviewed households needed more than one hour per trip to fetch the drinking water, accounting for 4.1% of the total sample. While only one third of the households of the men needed less than 15 minutes per trip to fetch water, two thirds of the households of the women needed that amount of time (figure 3-19).
Results

Figure 3-19: Fetching of drinking water in the Madwaleni area – Times per trip (N=171)

On average, each of the Madwaleni households fetched 25 litres of drinking water per trip (Range: 10 to 150 litres; N=167). While only a few of the sampled households fetched less than 20 litres per trip (1.8%; N=3), more than three quarters of the households fetched 20 or 25 litres per trip (76.6%; N=128). In addition, 36 households fetched more than 25 litres per trip, accounting for 21.6% of the total sample. The majority of the households of the men fetched either 25 or up to 50 litres of water per trip. However, the majority of the households of the women fetched only 20 litres per trip (figure 3-20).

Figure 3-20: Fetching of drinking water in the Madwaleni area – Litres per trip (N=167)
3.1.2.10 Sanitation

Only two of the interviewed individuals had access to flushed toilets. Almost one third of the community members used pit latrines (30.3 %; N=60), while the other two thirds had no access to any sanitary systems and were using nearby bushes instead (68.7 %; N=136). Compared with the total Madwaleni community, “HIV untested” women were less likely to have access to any sanitary installations (figure 3-21).

Figure 3-21: Toilet facilities used by the Madwaleni community members (N=198)

3.1.2.11 Energy

The majority of the Madwaleni community had no access to electricity at the time of the survey (91.5 %; N=183; figure 3-22).

Figure 3-22: Electricity supply in the Madwaleni area (N=200)
Only a few of the households in the Madwaleni area used electricity as their main source of energy for cooking (6.5 %; N=13), while the majority used paraffin (88.5 %; N=177). Ten households used wood, accounting for 5 % of the sample, whereas none of the households of the “HIV+” women used any wood (figure 3-23).

Correspondingly, only a few of the households used electricity as their main source of energy for lighting (8.5 %; N=17). Approximately one third of the households used paraffin (28 %; N=56) or wood (3 %; N=6). However, the majority of households used candles for lighting at the time of the survey (60.5 %; N=121). Compared with the total Madwaleni community, “HIV untested” women were less likely to use candles and more likely to use paraffin (figure 3-24).
Less than one fifth of the households in the Madwaleni area used electricity (2 %; N=4), paraffin (12 %; N=24) or coal (0.5 %; N=1) as their main source of energy for heating their homes. The majority of households used wood instead (85.5 %; N=171). Compared with the total Madwaleni community, “HIV untested” women were less likely to use wood and more likely to use paraffin for heating their homes (figure 3-25).

The majority of the households in the Madwaleni area had to collect wood as their main source of energy for either cooking, lighting or heating (85.5 %; N=171). Two fifths of them collected wood either on their own (25.9 %; N=44) or together with their family members (15.3 %; N=26). The other three fifths were not involved in collecting wood, in these cases, female members of the family were responsible for collecting wood (54.1 %; N=92), followed by children (3.5 %; N=6) and male family members (0.6 %; N=1). Only one household ordered wood from suppliers (figure 3-26).
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Results

Figure 3-26: Collection of wood in the Madwaleni area – Allocations (N=170)

On average, each of the Madwaleni households collected wood 2.2 times per week (Range: 1 to 5; N=165). 24 households collected wood only once a week, accounting for 14.5 % of the sub-sample. However, more than half of the households collected wood twice a week (58.2 %; N=96) and another fifth collected it three times per week (20.6 %; N=34). In addition, eleven households collected wood four or five times per week, accounting for 6.7 % of the sample. Compared with the total community, the families of “HIV untested” men were more likely to collect wood twice a week, while those of “HIV+” women were more likely to collect it three times per week (figure 3-27).

Figure 3-27: Collection of wood in the Madwaleni area – Trips per week (N=165)
The majority of households in the Madwaleni area needed less than one hour (41.2 %; N=68) or between one hour and three hours per trip to collect wood (47.3 %; N=78). Only 19 of the interviewees needed more than three hours per trip to collect wood, accounting for 11.5 % of the sample. Compared with the households of the men in the sample, those of the women were more likely to need more than one hour to collect wood (figure 3-28).

![Figure 3-28: Collection of wood in the Madwaleni area – Times per trip (N=165)](image)

**Household goods**

On average, each of the Madwaleni households owned 2.9 of the listed 13 household goods (Range: 1 to 7; N=200). 21 of the households owned only one of the household goods, accounting for 10.6 % of the total community. More than three quarters of the households owned between two and four goods (76.8 %; N=152), while 25 households owned five or more goods (12.6 %).

In terms of communication media, the majority of the households of the interviewed community members owned a radio (79 %; N=158) and/ or a cell phone (75.5 %; N=151) at the time of the survey, while none of the households owned a computer or had an internet access at home (figure 3-29).
Results

### Household goods (N=200)

<table>
<thead>
<tr>
<th>Goods</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>90</td>
</tr>
<tr>
<td>Motorbike</td>
<td>80</td>
</tr>
<tr>
<td>Bicycle</td>
<td>70</td>
</tr>
<tr>
<td>Washing machine</td>
<td>60</td>
</tr>
<tr>
<td>Stove</td>
<td>50</td>
</tr>
<tr>
<td>Fridge</td>
<td>40</td>
</tr>
<tr>
<td>Geyser</td>
<td>30</td>
</tr>
<tr>
<td>Internet</td>
<td>20</td>
</tr>
<tr>
<td>Computer</td>
<td>10</td>
</tr>
<tr>
<td>Cell phone</td>
<td>0</td>
</tr>
<tr>
<td>Post box</td>
<td>0</td>
</tr>
<tr>
<td>Television</td>
<td>0</td>
</tr>
<tr>
<td>Radio</td>
<td>0</td>
</tr>
<tr>
<td>Washing m.</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 3-29: Goods owned by the sampled Madwaleni households (N=200)

### Land

#### 3.1.2.12 Land

The majority of the Madwaleni community members owned a small garden at the time of the survey (89.8 %; N=177). Only a few of the men and women owned an additional field (10.2 %; N=20, whereas 15 of those were “HIV+” men). No one rented a field or used a communal plot (figure 3-30).

The majority of the community members used their land for growing crops (81.1 %; N=159). Few of the households used their land as cultivation and grazing land (10.7 %; N=21, whereas 16 of those were “HIV+” women) and only one woman used all her land for grazing. A minority of the men and women did not use their land at all (7.7 %; N=15; figure 3-31).

Figure 3-30: Land owned by the sampled Madwaleni community members (N=197)
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

**Results**

**Land use (N=196)**

- What is the owned land used for -
  
  *Corps only*
  
  *Corps & graz.*
  
  *Grazing only*
  
  *Not used at all*

**Results**

**Groups**


**Figure 3-31: Use of owned land in the Madwaleni area (N=196)**

On average, each of the Madwaleni households owned 26.5 animals (Range: 0 to 612; N=198). However, 25 of the households owned no animals at all, accounting for 12.6 % of the total sample.

While more than two thirds of the households in the Madwaleni area bred poultry (70.2 %; N=139) and almost three fifths had cattle (57.1 %; N=113), only two fifths had sheep and/ or goats (with 39.4 % and 42.9 % respectively). In addition, only one quarter of the households owned horses (9.6 %; N=19) and/ or donkeys (18.2 %; N=36; figure 3-32 and table 3-4). Compared with the total Madwaleni community, “HIV untested” women were less likely to own animals (72 %; N=184), while “HIV+” men and women were more likely to own animals (with 94 % and 95.9 % respectively).

**Figure 3-32: Livestock owned by the Madwaleni community (N=198)**
Results

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Goats</th>
<th>Poultry</th>
<th>Horses</th>
<th>Donkeys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean herd size</td>
<td>3.9</td>
<td>10.5</td>
<td>4.4</td>
<td>7.0</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Range</td>
<td>0 – 38</td>
<td>0 – 550</td>
<td>0 – 33</td>
<td>0 – 49</td>
<td>0 – 5</td>
<td>0 – 12</td>
</tr>
</tbody>
</table>

Table 3-4: Livestock owned by the Madwaleni community (N=198)

3.1.2.13 Access to health care and transport

Closest health care facility

While the “HIV untested” men and women were more likely to live close to Madwaleni Hospital and its attached gateway clinic Vukukanye (with 36 % and 68 % respectively), the “HIV+” men and women were more likely to live in the catchment areas of the Bomvana, Soga and Xhora clinics (with 88 % and 76 % respectively; figure 3-33).

On average, each of the sampled community members needed 48 minutes to access their closest clinic (Range: 3 to 180 minutes; N=194), whereas equal proportions needed less than 30 minutes (29.4 %; N=57), between 30 and 59 minutes (29.9 %; N=58) or between one hour and two hours (29.4 %; N=57). 22 interviewees needed more than two hours to access their closest clinic, accounting for 11.3 % of the sample. Compared with the total Madwaleni community, “HIV untested” women were more likely to need less time, while “HIV+” men were more likely to need more time to get to their closest clinic (figure 3-34).
Results

Three fifths of the sampled Madwaleni community members walked to their closest clinic (59.7 %; N=117), while the other two fifths were dependent on public transport (40.3 %; N=79). The majority of the “HIV untested” men and women walked to their closest clinic. Less than half of the “HIV+” men and women, however, were able to do so (figure 3-35).
On average, each community member who was dependent on public transport had to spend 15.57 Rand per return-trip to access the closest clinic (2.27 US $\textsuperscript{1}; Range: 10 to 30 ZAR (1.46 to 4.37 US $\textsuperscript{2}; N=77). Almost three fifths of them had to spend between 10 and 14 Rand (57.2 %; N=44), while the other two fifths had to spend between 15 and 30 Rand (42.8 %; N=33).

**Madwaleni Hospital**

For more than one quarter of the interviewed men and women Madwaleni Hospital was their closest health care facilities (28 %; N=56). However, the hospital was further away than the closest local clinic for the majority of the sample (72 %; N=144).

On average, each of the sampled Madwaleni community members needed 78 minutes to access the hospital (Range: 5 to 240 minutes; N=172), whereas equal proportions needed less than one hour (34.9 %; N=60), between one hour and two hours (30.8 %; N=53) or between two hours and three and a half hours (32 %; N=55). In addition, four interviewees needed four hours to access the hospital, accounting for 2.3 % of the sample. Compared with the total Madwaleni community, “HIV untested” women were more likely to need less time, while “HIV+” women were more likely to need more time to access the hospital (figure 3-36).

![Madwaleni Hospital – Times to access (N=172)](image)

Almost one third of the interviewed community members was able to walk to Madwaleni Hospital (30.4 %; N=55), while the other two thirds were dependent on

\[1-2\text{ Applying the exchange rate from a chosen point of time of the survey: 1 US $ = 6.8595 ZAR (31/12/2007; Data source: http://de.exchange-rates.org; 2008).} \]
public transport to access the hospital (69.6 %; N=126). The majority of “HIV untested” women were able to walk to Madwaleni Hospital. However, the majorities of the other three sub-samples were dependent on taxis to access the hospital (figure 3-37).

![Diagram showing ways to access hospital]

Figure 3-37: Madwaleni Hospital – Ways of access (N=181)

On average, each of the Madwaleni community member who was dependent on public transport had to spend 26.98 Rand per return-trip to the hospital (3.93 US $1; Range: 10 to 68 ZAR [1.46 to 9.91 US $]2; N=126). Almost two thirds of them had to spend between 10 and 29 Rand (65.9 %; N=83), while the other third had to spend between 30 and 68 Rand (34.1 %; N=43).

3.1.3 Comparison of the Madwaleni community with the general South African population

The collected data pertaining to the Madwaleni community was compared to corresponding data pertaining to the South Africa population as a whole (see chapter 2.11.3, page 41).

Summarising the findings, the Madwaleni community and the general South African population differed significantly from one another in the majority of the compared characteristics (p < 0.05 for 43 of the 57 variables; 75.4 %), whereas the Madwaleni community members were substantially more disadvantaged (table 3-5).
### Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Madwaleni community</th>
<th>General South African pop.</th>
<th>Comparison $(\chi^2; p)$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marital status:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>44.0 %</td>
<td>55.3 % (***</td>
<td>$\chi^2 = 9.778$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently married</td>
<td>45.0 %</td>
<td>36.7 % (***</td>
<td>$\chi^2 = 5.491$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>4.5 %</td>
<td>1.9 % (***</td>
<td>$\chi^2 = 6.378$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>6.5 %</td>
<td>6.1 % (***</td>
<td>$\chi^2 = 0.089$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sexual behaviour</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condom use/ Rate</td>
<td>55.6 %</td>
<td>33.3 % (†††</td>
<td>$\chi^2 = 39.114$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual partners:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>90.4 %</td>
<td>96.5 % (†††</td>
<td>$\chi^2 = 25.140$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2+</td>
<td>9.6 %</td>
<td>3.5 % (†††</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest level of education:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No schooling</td>
<td>15.5 %</td>
<td>10.3 % (f</td>
<td>$\chi^2 = 6.722$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some primary</td>
<td>20.5 %</td>
<td>16.0 % (f</td>
<td>$\chi^2 = 3.013$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed primary</td>
<td>7.5 %</td>
<td>5.9 % (f</td>
<td>$\chi^2 = 0.798$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some secondary</td>
<td>48.5 %</td>
<td>40.1 % (f</td>
<td>$\chi^2 = 6.021$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gr. 12/ Std. 10</td>
<td>8.0 %</td>
<td>18.6 % (f</td>
<td>$\chi^2 = 39.683$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher</td>
<td>0</td>
<td>9.1 % (f</td>
<td></td>
</tr>
<tr>
<td>Literacy rate</td>
<td>21.7 %</td>
<td>13.6 % (*)</td>
<td>$\chi^2 = 9.794$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Employment status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>80.5 %</td>
<td>25.5 % (†††</td>
<td>$\chi^2 = 308.758$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving any salaries/ Rate</td>
<td>29.4 %</td>
<td>58.1 % (†††</td>
<td>$\chi^2 = 65.956$</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Household income | Receiving any grants/ Rate | 91.4 % | 23.9 % (††) | $χ^2 = 493.336$
|                  |                           |        |            | $p < 0.001$
| Poverty headcount ratio of 2 US$ per Day | 92.2 % | 34.0 % ($) | $χ^2 = 291.607$
|                  |                           |        |            | $p < 0.001$
| Living below the poverty line of 322 ZAR per person per month/ Rate | 84.5 % | 48.0 % (**) | $χ^2 = 102.766$
|                  |                           |        |            | $p < 0.001$
| Living below the lower poverty line of 174 ZAR per person per month/ Rate | 52.8 % | 2.0 % (**) | $χ^2 = 2546.119$
|                  |                           |        |            | $p < 0.001$
| Having no income at all/ Rate | 4.2 % | 2.2 % (††) | $χ^2 = 4.531$
|                  |                           |        |            | $p = 0.033$

| Housing | Type of main dwelling: | | | |
|         | Traditional | 73.7 % | 11.7 % (†) | $χ^2 = 1297.425$
|         | Formal | 25.1 % | 70.5 % (†) | $χ^2 = 37.675$
|         | Informal | 1.2 % | 14.5 % (†) | $χ^2 = 22.491$
|         | Other | 0 | 3.3 % (†) | N/A

| Housing | Tenure status: | | | |
|         | Owned | 85.4 % | 61.6 % (†) | $χ^2 = 46.357$
|         | Occupied | 14.6 % | 19.6 % (†) | $χ^2 = 3.663$
|         | Rented | 0 | 18.8 % (†) | N/A

| Housing | Main source of drinking water: | | | |
|         | Piped water | 9.5 % | 88.6 % (†) | $χ^2 = 1291.164$
|         | Rainwater | 6.5 % | 0.6 % (†) | $χ^2 = 61.111$
|         |           | |            | $p < 0.001$

---

**Results**
## Results

<table>
<thead>
<tr>
<th>Water</th>
<th>Time to fetch drinking water:</th>
<th>Sanitation</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>River, flowing</td>
<td></td>
<td>Toilet facilities:</td>
<td>Access to electricity/ Rate</td>
</tr>
<tr>
<td>Dam, stagnant</td>
<td></td>
<td>Flush toilet</td>
<td>8.5 %</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>Pit latrine with vent.</td>
<td>80.2 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pit lat. without vent.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>None/ Bushes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Water**
  - River, flowing: 75.5 %, 5.1 % (†)
  - Dam, stagnant: 8.5 %, 0.5 % (†)
  - Other: 0, 5.2 % (†)

- **Time to fetch drinking water:**
  - < 15 Min.: 53.2 %, 43.8 % (††)
  - 15 Min – 1 Hour: 42.7 %, 47.4 % (††)
  - > 1 Hour: 4.1 %, 8.8 % (††)

- **Sanitation**
  - Toilet facilities:
    - Flush toilet: 1.0 %, 57.9 % (†)
    - Pit latrine with vent: 5.6 %, 6.5 % (†)
    - Pit lat. without vent: 24.7 %, 20.6 % (†)
    - None/ Bushes: 68.7 %, 8.2 % (†)
    - Other: 0, 6.8 % (†)

- **Energy**
  - Access to electricity/ Rate: 8.5 %, 80.2 % (††)

- **Energy source for cooking:**
  - Electricity: 6.5 %, 66.5 % (†)
  - Paraffin: 88.5 %, 14.9 % (†)
  - Wood: 5.0 %, 15.1 % (†)
  - Other: 0, 3.5 % (†)

\[
\chi^2 = 2092.737 \quad p < 0.001
\]

\[
\chi^2 = 113.636 \quad p < 0.001
\]

\[
\chi^2 = 263.988 \quad p < 0.001
\]

\[
\chi^2 = 331.095 \quad p < 0.001
\]

\[
\chi^2 = 847.412 \quad p < 0.001
\]

\[
\chi^2 = 146.214 \quad p < 0.001
\]

\[
\chi^2 = 15.686 \quad p < 0.001
\]

\[
\chi^2 = 146.214 \quad p < 0.001
\]

\[
\chi^2 = 15.686 \quad p < 0.001
\]
## Results

### Energy

<table>
<thead>
<tr>
<th>Energy source for lighting:</th>
<th>Percentage</th>
<th>t-Test</th>
<th>χ²</th>
<th>p</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>8.5 %</td>
<td>80.0 % (†)</td>
<td>639.031</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td>Paraffin</td>
<td>28.0 %</td>
<td>5.3 % (†)</td>
<td>222.737</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td>Wood</td>
<td>3.0 %</td>
<td>Not stated</td>
<td>359.178</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td>Candles</td>
<td>60.5 %</td>
<td>13.8 % (†)</td>
<td>363.281</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0.9 % (†)</td>
<td>0.145</td>
<td>0.704</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Energy source for heating:

<table>
<thead>
<tr>
<th>Energy source for heating:</th>
<th>Percentage</th>
<th>t-Test</th>
<th>χ²</th>
<th>p</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>2.0 %</td>
<td>58.8 % (†)</td>
<td>268.623</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td>Paraffin</td>
<td>12.0 %</td>
<td>13.1 % (†)</td>
<td>0.177</td>
<td>0.674</td>
<td>N/A</td>
</tr>
<tr>
<td>Wood</td>
<td>85.5 %</td>
<td>20.0 % (†)</td>
<td>536.281</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td>Coal</td>
<td>0.5 %</td>
<td>3.9 % (†)</td>
<td>6.380</td>
<td>0.012</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>4.2 % (†)</td>
<td>0.452</td>
<td>0.502</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Household goods

<table>
<thead>
<tr>
<th>Household goods</th>
<th>Possession of a radio/ Rate</th>
<th>Percentage</th>
<th>t-Test</th>
<th>χ²</th>
<th>p</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Possession of a television/ Rate</td>
<td>21.0 %</td>
<td>65.6 % (†)</td>
<td>180.481</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Possession of a cell phone/ Rate</td>
<td>75.5 %</td>
<td>72.9 % (†)</td>
<td>0.634</td>
<td>0.426</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Possession of a fridge/ Rate</td>
<td>17.5 %</td>
<td>63.9 % (†)</td>
<td>187.695</td>
<td>&lt; 0.001</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Land

<table>
<thead>
<tr>
<th>Land</th>
<th>Access to a field for agricultural purposes/ Rate</th>
<th>Percentage</th>
<th>t-Test</th>
<th>χ²</th>
<th>p</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use of land for: Crops</td>
<td>91.8 %</td>
<td>94.1 % (††)</td>
<td>1.626</td>
<td>0.202</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land</th>
<th>Access to a field for agricultural purposes/ Rate</th>
<th>Percentage</th>
<th>t-Test</th>
<th>χ²</th>
<th>p</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use of land for: Crops</td>
<td>91.8 %</td>
<td>94.1 % (††)</td>
<td>1.626</td>
<td>0.202</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Land</th>
<th>Access to a field for agricultural purposes/ Rate</th>
<th>Percentage</th>
<th>t-Test</th>
<th>χ²</th>
<th>p</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use of land for: Crops</td>
<td>91.8 %</td>
<td>94.1 % (††)</td>
<td>1.626</td>
<td>0.202</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Results

<table>
<thead>
<tr>
<th>Land</th>
<th>Livestock</th>
<th>Other</th>
<th>χ²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11.2 %</td>
<td>7.7 %</td>
<td>11.290</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>20.5 % (††)</td>
<td>4.2 % (††)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Access to health care</th>
<th>Transport to nearest clinic:</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Walking</td>
<td>59.7 %</td>
<td>62.6 % (††)</td>
<td>χ² = 0.919</td>
</tr>
<tr>
<td></td>
<td>Public transport</td>
<td>40.3 %</td>
<td>31.7 % (††)</td>
<td>χ² = 6.214</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>0</td>
<td>5.7 % (††)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transport to nearest hospital:</th>
<th>Walking</th>
<th>Public transport</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30.4 %</td>
<td>69.6 %</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10.5 % (††)</td>
<td>68.1 % (††)</td>
<td>21.4 % (††)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 3-5: Comparison of the Madwaleni community with the South African population

Similarities

The Madwaleni community and the South African population did not differ significantly from one another in one quarter of the compared characteristics (14 of the 57 variables; 24.6 %). Amongst others, similarities could be found between the proportions that had received some primary education or completed primary education, owned a radio and/or a cell phone, had access to a field for agricultural purposes and used their land for growing crops.

Differences

In the majority of the compared characteristics the Madwaleni community and the general South African population differed significantly from one another. The Madwaleni community members were more likely to be married or divorced. They were more likely to use condoms but concurrently also more likely to have two or more sexual partners. People living in the Madwaleni area were more likely to have never received any formal education and less likely to have received matriculation, with a corresponding higher illiteracy rate. The unemployment rate amongst the Madwaleni community
members was significantly higher than amongst the South African population, along with fewer households receiving any salaries or wages. Also, the Madwaleni community members were more likely to receive welfare grants. In addition, three different indicators showed that significantly more people were suffering from poverty in the Madwaleni area than in South Africa.

The Madwaleni community members were more likely to live in traditional dwellings and had less access to piped water, along with significantly higher proportions of them using river water as their main source of drinking water. In addition, the Madwaleni community members were less likely to have access to any sanitation or toilet facilities. They were also less likely to have access to electricity and more likely to use paraffin for cooking, candles for lighting and wood for heating their homes.

### 3.2 Results from the questionnaire, section 2 – Health and social problems facing the Madwaleni community

Since the second section of the questionnaire was divided into five subsections, the results are presented in five corresponding chapters.

#### 3.2.1 Improvement of living conditions

Almost three fifths of the sampled Madwaleni community members stated that electricity (23.7 %; N=142), tap water (18.2 %; N=109) or flush toilets (15.8 %; N=95) would improve their living condition most significantly, prioritised in the aforesaid order\(^1\). In addition, more than one quarter of the community members believed that better roads (7.8 %; N=47), home extensions (6.4 %; N=38), cars or televisions (4.0 % each; N=24) or respectively fridges, livestock or fields for cultivation (with each 2.6 %; N=16) would substantially improve the living conditions of themselves and their family and household members (Appendix 10).

#### 3.2.2 Weightiest health and social problems

Almost three fifths of the interviewed Madwaleni community members were unable to state three health and social problems that were particularly affecting their community (57.2 %; N=343).

Of all mentioned problems only 14 were health problems, namely chronic diseases (e.g. epilepsy, hypertension and joint problems), HIV/AIDS and TB. In addition, a broad diversity of social problems was mentioned by the community members, precisely

\(^1\) Electricity: 37.5 % made it their first, 20.5 % their second and 13.0 % their third priority; tap water: 19.5 % made it their first, 22 % their second and 13 % their third priority; flush toilets: 10 % made it their first, 17.5 % their second and 20.5 % their third priority
243 social problems that were grouped into 25 different categories. Approximately one quarter of the sampled men and women stated that a lack of clean drinking water (4.7 %; N=28), infrastructure & roads (3.9 %; N=23), poor sanitation (3.5 %; N=21), robberies & thefts (3.5 %; N=21), alcohol abuse (3.0 %; N=18), education & a lack of schools (3.0 %; N=18) and/ or a lack of clinics (2.8 %; N=17) were the weightiest social problems in the Madwaleni area (Appendix 11).

### 3.2.3 Health problems

The sampled Madwaleni community members were asked to rate potential health problems, in order to assess whether their effect and impact on the community were massive, major or minor or if those problems were not present at all in the local community (3-to-0-point rating matrix; see chapter 2.6.2.1.2, pages 31 et seqq.).

**Madwaleni community**

The three weightiest health problems in the Madwaleni area were TB, HIV/AIDS and hypertension (table 3-6).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Health problem</th>
<th>Mean</th>
<th>Rated as “problem”</th>
<th>Rated as “no problem”</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>TB</td>
<td>2.33</td>
<td>95.9 %</td>
<td>4.1 %</td>
</tr>
<tr>
<td>02</td>
<td>HIV/AIDS</td>
<td>2.30</td>
<td>98.5 %</td>
<td>1.5 %</td>
</tr>
<tr>
<td>03</td>
<td>Hypertension</td>
<td>2.14</td>
<td>95.4 %</td>
<td>4.6 %</td>
</tr>
<tr>
<td>04</td>
<td>Musculoskeletal problems</td>
<td>1.95</td>
<td>92.3 %</td>
<td>7.7 %</td>
</tr>
<tr>
<td>05</td>
<td>Herpes zoster</td>
<td>1.91</td>
<td>87.6 %</td>
<td>2.4 %</td>
</tr>
<tr>
<td>06</td>
<td>Diabetes mellitus</td>
<td>1.91</td>
<td>89.7 %</td>
<td>10.3 %</td>
</tr>
<tr>
<td>07</td>
<td>Headache</td>
<td>1.84</td>
<td>90.8 %</td>
<td>9.2 %</td>
</tr>
<tr>
<td>08</td>
<td>Epilepsy</td>
<td>1.82</td>
<td>88.7 %</td>
<td>11.3 %</td>
</tr>
<tr>
<td>09</td>
<td>Depression &amp; stress</td>
<td>1.82</td>
<td>84.6 %</td>
<td>15.4 %</td>
</tr>
<tr>
<td>10</td>
<td>Dental problems</td>
<td>1.73</td>
<td>92.4 %</td>
<td>7.6 %</td>
</tr>
</tbody>
</table>

Table 3-6: Weightiest health problems of the Madwaleni community sample (N=200)

Ear & hearing ability problems, asthma and pregnancy-related problems also had relevant impact on the Madwaleni community. Their rating mean values lay above 1.60 and they were evaluated by more than 80 % of the community as being problems with massive, major or minor impacts.

Following the group of the most relevant health problems, another 13 health problems had intermediate relevance, with rating mean values below 1.40, namely malnutrition, worms, psychiatric problems, eye & vision problems, arthritis, stroke, STIs,
fractures, skin rashes, meningitis, Urinary Tract Infections (UTIs), lung infections and gastroenteritis.

In addition, the six health problems cancer, heart failure, burns, bilharzia/schistosomiasis, measles and rabies were less relevant, with rating mean values below 1.00. The least relevant health problem of rabies had a rating mean value of 0.38 and was evaluated by less than one third of the community as being a problem.

**Different sub-samples**

The three weightiest health problems differed between the men and the women of the Madwaleni sample (table 3-7).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Group 1*</th>
<th>Group 2*</th>
<th>Group 3*</th>
<th>Group 4*</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Hypertension</td>
<td>Herpes zoster</td>
<td>TB</td>
<td>TB</td>
</tr>
<tr>
<td>02</td>
<td>Musculoskeletal pr.</td>
<td>HIV/AIDS</td>
<td>Hypertension</td>
<td>Hypertension</td>
</tr>
<tr>
<td>03</td>
<td>TB</td>
<td>STIs</td>
<td>Musculoskeletal pr.</td>
<td>HIV/AIDS</td>
</tr>
</tbody>
</table>

Table 3-7: Weightiest health problems of the four sub-samples (N=200)

Applying a One-way ANOVA and comparing the mean values within and between the different groups, only two of the health problems had similar ratings in all four groups, namely TB (p = 0.572) and rabies (p = 0.114).

However, the four groups differed significantly in their ratings of the other 30 health problems. Six health problems were rated higher by the men than by the women, namely asthma, dental problems, depression & stress, diabetes mellitus, gastroenteritis and headache. Another six health problems were rated higher by “HIV untested” than by “HIV+” community members, namely bilharzia/schistosomiasis, epilepsy, herpes zoster, HIV/AIDS itself, lung infections and stroke.

For a further three health problems no rating patterns between the different sexes or HIV states could be found, although the ratings of each two groups differed clearly from the ratings of the total sample and the two other groups. Those patterns applied to eye & vision problems (with “HIV untested” men rating it higher and “HIV+” women rating it lower), meningitis (with “HIV untested” women rating it higher and “HIV+” men rating it lower) and skin rashes (with “HIV untested” women rating it lower and “HIV+” men rating it higher).

In addition, for the 15 remaining health problems the ratings of each one group differed significantly from the ratings of the total sample and the three other groups. “HIV untested, male” community members rated arthritis, burns, ear & hearing ability problems, fractures, heart failure and measles higher than all the other community
members, while “HIV untested, female” community members rated cancer and STIs higher and hypertension, musculoskeletal problems, psychiatric problems and worms lower than the rest of the sample. Moreover, “HIV+” men rated pregnancy-related problems and UTIs lower than all other men and women, while “HIV+” women rated malnutrition lower than the rest of the Madwaleni sample.

3.2.4 Social problems

Correspondingly, the interviewed men and women from the Madwaleni area were asked to rate potential social problems, in order to assess whether their effect and impact on the community were massive, major or minor or if these problems were not present at all in the local community (3-to-0-point rating matrix; see chapter 2.6.2.1.2, pages 31 et seq).

Madwaleni community

The three weightiest social problems in the Madwaleni area were alcohol abuse, dependency on social grants and smoking (table 3-8).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Social problem</th>
<th>Mean</th>
<th>Rated as “problem”</th>
<th>Rated as “no problem”</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Alcohol abuse</td>
<td>2.75</td>
<td>96.9 %</td>
<td>3.1 %</td>
</tr>
<tr>
<td>02</td>
<td>Dependency on soc. grants</td>
<td>2.73</td>
<td>98.5 %</td>
<td>1.5 %</td>
</tr>
<tr>
<td>03</td>
<td>Smoking</td>
<td>2.72</td>
<td>99.5 %</td>
<td>0.5 %</td>
</tr>
<tr>
<td>04</td>
<td>Employment &amp; lack of work</td>
<td>2.69</td>
<td>99.0 %</td>
<td>1.0 %</td>
</tr>
<tr>
<td>05</td>
<td>Education &amp; illiteracy</td>
<td>2.61</td>
<td>97.4 %</td>
<td>2.6 %</td>
</tr>
<tr>
<td>06</td>
<td>Teenage pregnancies</td>
<td>2.42</td>
<td>99.0 %</td>
<td>1.0 %</td>
</tr>
<tr>
<td>07</td>
<td>High birth rates</td>
<td>2.39</td>
<td>97.9 %</td>
<td>2.1 %</td>
</tr>
<tr>
<td>08</td>
<td>Drug abuse</td>
<td>2.18</td>
<td>91.8 %</td>
<td>8.2 %</td>
</tr>
<tr>
<td>09</td>
<td>Food supply</td>
<td>2.06</td>
<td>96.5 %</td>
<td>3.5 %</td>
</tr>
<tr>
<td>10</td>
<td>Poverty</td>
<td>2.05</td>
<td>95.9 %</td>
<td>4.1 %</td>
</tr>
</tbody>
</table>

Table 3-8: Weightiest social problems of the Madwaleni community sample (N=200)

The further problems related to governmental services, orphans & child-headed families, infrastructure & roads and robberies & thefts also had relevant impact on the Madwaleni community. Their rating mean values lay above 1.80 and they were evaluated by more than 95 % of the community as being problems with massive, major or minor impacts.

Following the group of the most relevant social problems, another twelve social problems had intermediate relevance, with rating mean values of 1.50 or less,
namely cleanness of the environment, stigmatisation of HIV/AIDS, change of family structure, personal hygiene, corruption, lack of public transport, polygamy, rape, domestic violence, murder, suicides and violence.

In addition, three social problems, namely abortions, decrease of traditional values and women’s rights, were less relevant, with rating mean values below 1.00. The least relevant social problem, namely women’s rights, had a rating mean value of 0.75 and was evaluated by less than the half of the total sample as being a problem.

**Different sub-samples**

The three weightiest social problems differed between the four sub-samples of the Madwaleni community (table 3-9).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Group 1*</th>
<th>Group 2*</th>
<th>Group 3*</th>
<th>Group 4*</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Dependency on social grants</td>
<td>Alcohol abuse</td>
<td>Alcohol abuse</td>
<td>Dependency on social grants</td>
</tr>
<tr>
<td>02</td>
<td>Alcohol abuse</td>
<td>Smoking</td>
<td>Employment &amp; lack of work opportunities</td>
<td>Employment &amp; lack of work opportunities</td>
</tr>
<tr>
<td>03</td>
<td>Teenage pregnancies</td>
<td>Employment &amp; lack of work opportunities</td>
<td>Dependency on social grants</td>
<td>Education &amp; illiteracy</td>
</tr>
</tbody>
</table>

Table 3-9: Weightiest social problems of the four sub-samples (N=200)

Applying a One-way ANOVA and comparing the mean values within and between the different sub-groups, only three of the social problems had similar ratings in all four groups, namely smoking (p = 0.141), drug abuse (p = 0.127) and poverty (p = 0.892).

However, the four groups differed significantly in their ratings of the other 26 social problems. Three social problems were rated higher by the men than by the women, namely governmental services, high birth rates and polygamy. In contrast to the ratings of the health problems, not one of the social problems was rated differently by “HIV untested” and “HIV+” community members.

For a further ten social problems no rating patterns between the different sexes or HIV states could be found, although the ratings of each two groups differed clearly from the ratings of the total sample and the two other groups. Those patterns applied to change of family structure and personal hygiene (with “HIV untested” women rating them lower and “HIV+” women rating them higher in both cases), decrease of traditional values and education & illiteracy (with “HIV+” men rating it lower and “HIV+” women rating it higher in both cases) as well as domestic violence, murder, orphans &
child-headed families, stigmatisation of HIV/AIDS, suicides and violence (with “HIV untested” women and “HIV+” men rating them lower in all six cases).

In addition, for the 13 remaining social problems the ratings of each one group differed significantly from the ratings of the total sample and the three other groups. “HIV untested, female” community members rated abortions higher and cleanliness of environment, corruption, dependency on social grants, employment & lack of work opportunities, infrastructure & roads, lack of public transport, robberies & thefts and teenage pregnancies lower than all other community members. Moreover, “HIV+” men rated alcohol abuse higher and rape and women’s rights lower than all other men and women, while “HIV+” women rated food supply higher than the rest of the Madwaleni sample.

3.2.5 Additional health and social problems

Three “HIV+, male” community members stated that ‘lack of clean drinking water’, ‘disabilities/ handicaps’ and ‘sexual harassment’ were additional problems affecting their community.

3.3 Results from the questionnaire, section 3 – Relevant health education and disease prevention topics for the Madwaleni community

Although the third section of the questionnaire was divided into six sub-sections, the results are presented in two chapters, whereas the results of the first five sub-sections are summarised in the chapter 3.5.1.

3.3.1 Relevant health education and disease prevention topics

In a final step, the sampled Madwaleni community members were asked to rate potential health education and disease prevention topics, in order to assess whether the level of interest in the community was high, medium or low or if those topics were not of interest in the local community (3-to-0-point rating matrix; see chapter 2.6.2.1.2, pages 31 et seqq.).

**Madwaleni community**

The three most relevant health education and disease prevention topics for the Madwaleni community were HIV/AIDS, TB and healthy nutrition (table 3-10).
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Results

<table>
<thead>
<tr>
<th>Rank</th>
<th>Topics</th>
<th>Mean</th>
<th>Rated as “interesting”</th>
<th>Rated as “not inter.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>HIV/AIDS</td>
<td>2.65</td>
<td>94.4 %</td>
<td>5.6 %</td>
</tr>
<tr>
<td>02</td>
<td>TB</td>
<td>2.51</td>
<td>96.9 %</td>
<td>3.1 %</td>
</tr>
<tr>
<td>03</td>
<td>Healthy nutrition</td>
<td>2.36</td>
<td>95.4 %</td>
<td>4.6 %</td>
</tr>
<tr>
<td>04</td>
<td>Safe circumcision</td>
<td>2.36</td>
<td>89.9 %</td>
<td>10.1 %</td>
</tr>
<tr>
<td>05</td>
<td>Prost. &amp; testic. ca check-up</td>
<td>2.34</td>
<td>92.5 %</td>
<td>7.5 %</td>
</tr>
<tr>
<td>06</td>
<td>STIs</td>
<td>2.24</td>
<td>91.1 %</td>
<td>8.9 %</td>
</tr>
<tr>
<td>07</td>
<td>Alcohol &amp; drug-rel. prob.</td>
<td>2.13</td>
<td>87.5 %</td>
<td>12.5 %</td>
</tr>
<tr>
<td>08</td>
<td>Water &amp; sanitation</td>
<td>2.07</td>
<td>86.2 %</td>
<td>13.8 %</td>
</tr>
<tr>
<td>09</td>
<td>Body &amp; muscle pain</td>
<td>2.07</td>
<td>91.5 %</td>
<td>8.5 %</td>
</tr>
<tr>
<td>10</td>
<td>Injury prevention</td>
<td>2.06</td>
<td>87.3 %</td>
<td>12.7 %</td>
</tr>
</tbody>
</table>

Table 3-10: Relevant health education topics for the Madwaleni community (N=200)

The other topics of relevance for the Madwaleni community were basic first aid and child development & early learning. Their rating mean values lay above 2.00 and they were evaluated by more than 85 % of the community as being interesting topics.

Following the group of the most relevant health education topics, another 15 topics raised intermediate interest, with rating mean values below 2.00, namely nutrition & growth, obesity & related diseases, depression & stress, immunisations, dental & mouth hygiene, erectile dysfunction, dangers of traditional medicine, breast & cervical cancer check-up & pap smears, breastfeeding, female condoms, physical & sexual abuse, psychiatric diseases, family planning & timing births, safe motherhood & pregnancy issues and cough & colds.

Worms was the only topic that raised low interest, being evaluated by only two thirds of the sample as being a topic of any interest, with a rating mean value of 1.45.

Different sub-samples

The three most relevant health education and disease prevention topics differed between the four sub-groups of the Madwaleni community (table 3-11).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Group 1*</th>
<th>Group 2*</th>
<th>Group 3*</th>
<th>Group 4*</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Erectile dysfunction</td>
<td>HIV/AIDS</td>
<td>HIV/AIDS</td>
<td>TB</td>
</tr>
<tr>
<td>02</td>
<td>Prostate &amp; testicular cancer check-up</td>
<td>Safe circumcision</td>
<td>Water &amp; sanitation</td>
<td>Breast &amp; cerv. ca. check-up &amp; pap-sm.</td>
</tr>
<tr>
<td>03</td>
<td>TB</td>
<td>STIs</td>
<td>Prostate &amp; testicular cancer check-up</td>
<td>Healthy nutrition</td>
</tr>
</tbody>
</table>

Table 3-11: Most relevant health education topics for the four sub-samples (N=200)

The four sub-groups differed significantly in all their ratings of the 28 health education and disease prevention topics. Nine topics were rated lower by the men than by the women, namely STIs, three of the six children-related topics (child development & early learning, immunisations and nutrition & growth) and five of the six women-related topics (breast & cervical cancer check-up & pap-smears, breastfeeding, family planning & timing births, female condoms and safe motherhood & pregnancy issues). Another two topics were rated lower by “HIV untested” than by “HIV+” community members, namely depression & stress and psychiatric diseases.

Four health education and disease prevention topics had no rating patterns between the different sexes or HIV states, although the ratings of each two groups differed clearly from the ratings of the total sample and the two other groups. Those patterns applied to dangers of traditional medicine, dental & mouth hygiene and cough & colds (with “HIV untested” women rating them lower and “HIV+” women rating them higher in all three cases) as well as for injury prevention (with “HIV untested” men rating it lower and “HIV+” women rating it higher).

In addition, for the 13 remaining health education topics the ratings of each one group differed significantly from the ratings of the total sample and the three other groups. “HIV untested, male” community members rated HIV/AIDS and healthy nutrition lower than all other community members, while “HIV untested, female” community members rated alcohol & drug-related problems and safe circumcision higher and basic first aid, water & sanitation and erectile dysfunction lower than the rest of the Madwaleni sample. Moreover, “HIV+” men rated prostate & testicular cancer check-up higher than all other sub-groups, while “HIV+” women rated obesity & related problems, TB, body & muscle pain, worms as well as physical & sexual abuse higher than the rest of the community sample.

### Additional health education and disease prevention topics

None of the interviewed Madwaleni community members stated any additional health education and disease prevention topics that would interest them.
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

4 Discussion

South Africa is regarded as the most unequal society in the world. Against this background, the aim of this thesis was to study the Madwaleni community, situated in a deeply rural area of the former apartheid homeland Transkei. Applying the COPC approach, a strategy of ‘community assessment and diagnosis’ was used to obtain a holistic community profile and to determine the perceptions of its community members regarding their health and social problems and needs, intending to make recommendations to health care providers working at Madwaleni Hospital regarding future health education and disease prevention programmes. (Pressly, 2009)

The necessity to study communities and identify needs

It is common knowledge that populations are not homogeneous with respect to their health care requirements. In South Africa, the important factors associated with disease patterns are social and socio-economic variables, including sex, age, race, education, occupation and income, as well as urban-rural variables. (Botha et al., 1988; Van Rensburg and Mans, 1982)

Furthermore, the results of various studies suggest a high degree of heterogeneity both between and within rural communities. Policy decisions based on ‘broad brush’ assumptions of homogeneity in rural areas are therefore inappropriate, particularly, since health and social issues facing rural populations are significant and complex. (Andrew, 1992; Baber, 1998; Bank, 2001; Campbell et al., 2002; Ellis, 1998; Hawkins-Associates, 1980; Moulton et al., 2007; Timmermans, 2004)

Ideally, public health policy should be based on epidemiological principles, such as the analysis of health needs, demand and supply. The accurate identification of those varying needs is imperative to maximise health gains and target health inequalities. Consequently, community engagement and participation are the basic principles for the foundation of any effective health promotion and education programme. (Botha et al., 1988; Grant, 2005; Mosavel et al., 2005)

A rationale for health education and disease prevention programmes

South African clinics and health centres are overburdened and overcrowded with patients. Most of them see between 300 and 400 clients per day. A

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1 The current South African Gini-coefficient is 0.679, indicating that the country has the widest gap between the rich and the poor in the world. Developed in Italy in 1912, the Gini-coefficient index aims to measure the inequality of wealth. The coefficient varies between 0 and 1; the closer to the latter, the more unequal a society is, whereas a coefficient above 0.5 is regarded as ‘unacceptably high’.
national study of 222 health care facilities representative of the public and private sectors confirms that in light of the HIV/AIDS epidemic clinic visits have increased by up to 88% and hospital admissions by up to 81% between 1991 and 2001. The results have been stress and exhaustion amongst the health care workers, of whom up to 16% are HIV+ themselves. (Bateman, 2003; Benatar, 2004; Dedicoat et al., 2003; Floyd et al., 1999; Shisana et al., 2003)

Mini-surveys carried out by students of the University of Cape Town showed that 24 to 33% of the patients seen at clinics and health centres present with minor health ailments, such as nosebleeds, colds, stomach-aches, back pains, rashes as well as insect bites and minor burns and cuts. Similar studies published by Stellenbosch University produced similar lists of the commonest complaints and acute illnesses, including headaches, local erythemas and rashes, coughs and throat complaints, flu or colds, upper respiratory tract infections, vomiting, diarrhoea and gastroenteritis, abdominal pains, back complaints as well as repeat visits for chronic diseases, such as hypertension, diabetes and epilepsy. (Brice et al., 2000; Cooper et al., 1991; Keraan et al., 2000; Myburgh, 1997; Nsisi, 1999a; Nsisi, 1999b)

Unsurprisingly, health care professionals find themselves struggling to give proper attention to patients presenting with more serious ailments. They lack sufficient time to alleviate the anxieties and fears of their clients and since they are unable to listen to their concerns, little trust can be built between them. (Mji, 2008)

In regard of this situation, older community members are advocating that the management of minor health illnesses should be dealt with in the home situation. However, this can only be realised if health care professionals start educating and empowering community members in health care, health maintenance and disease prevention. (Ibid.)

Madwaleni community profile and characteristics

Engaging the Madwaleni community and using the COPC approach of ‘community assessment and diagnosis’, the following ten community characteristics have become evident:

1) Thoughtful sexual behaviour

Contrary to the general expectations and particularly interesting in light of the HIV/AIDS epidemic, more than 90% of the sexually active community members stated that they were monogamous. Furthermore, while only 36.4% of the community members unaware of their HIV status used condoms, 76.5% of the HIV+ men and women claimed to do so. As a matter of fact, it is well-known that the social desirability bias is a key factor affecting the accuracy of self-reports, interfering with the measurement of risk behaviour for
acquiring HIV/AIDS and STIs. However, taking the over- and underreporting rates from similar surveys in the neighbouring countries Botswana and Zimbabwe as points of reference, the rate of condom usage amongst the HIV+ community members is still high, indicating that the Madwaleni HIV wellness programme and especially its counselling and health education components are adequate and valuable in serving their purpose. (Chillag et al., 2006; Gregson et al., 2002)

2) High rates of illiteracy and insufficient education

Only 56.5% of the interviewed community members were ‘functionally literate’ at the time of the survey, having completed Grade 6 or higher. Of those, only 8% had completed Grade 12/Standard 10 and received a matriculation and not one of the community members had received any higher degree. In addition, 19.5% of the sampled men and women were not able to read at all. These results are alarming. In any discussion of the current state of education, however, it needs to be acknowledged that the task presented to the new South African government in 1994 was a Herculean one, with the country having separate education departments for each race group and all homelands having education systems of their own. Nevertheless, the basic education and schooling system needs to be reformed dramatically to permit equal opportunities for all South African people.

3) High rates of unemployment, poverty and dependency on welfare grants

Only 20% of the Madwaleni community members were employed at the time of the survey. Taking the daily income per capita as a reference, one third of the community members suffered from ‘moderate poverty’, defined as an income of 1 to 2 US$ per day, while the other two thirds suffered from ‘extreme poverty’, defined as an income of less than 1 US$ per day. These rates are particularly concerning, since more than 90% of the corresponding households received at least one type of welfare grant already. Since various surveys have shown that the study area is severely underdeveloped in its infrastructure, marketing opportunities and services, leaving the local villages isolated from the nearest centres of economic activity, this seems to be the only starting point for future development to be promising to improve this situation. (Timmermans, 2004; Wentzel, 2001)

4) Large household sizes and predominance of traditional dwellings

In the Madwaleni community, an average of eight people lived together per household at the time of the survey. It is known that large household sizes have both positive and negative features. On the positive side, in the context of a depressed labour market, a greater number of adults per household increases the chance of one or more adults finding employment and becoming the ‘breadwinner’ for the household. On the negative side, however, large household sizes mean a greater number of dependents, with limited

94
income having to be shared by a greater number of unemployed adults and children. (Ellis, 1998; HST, 1995; Lohnert, 1998; Timmermans, 2004)

The commonest types of dwellings in the Madwaleni area were traditional dwellings, with 95% of the community members living in them. Traditional dwellings are constructed from freely occurring natural resources and, contrary to informal dwellings common in the urban squatter settlements, often well-built and stable, offering adequate protection from the elements. However, the interviewees indicated that the costs of materials, transport and labour to build a ‘rondavel’ could amount to as much as 2,000 Rand. Unsurprisingly, for poorer households these costs represent a very real barrier to extending their homes and avoiding overcrowding. (Ibid.)

5) In need of safe drinking water, sanitary systems and access to electricity
More than 80% of the Madwaleni community members obtained their drinking water from rivers or stagnant dams, while only 6.5% used rain water and 9.5% had access to piped water. 90% of the interviewed men and women had to fetch their drinking water, on average twice a day, spending up to one hour to do so. In addition, almost 70% of the community members had no access to any sanitary systems, using nearby bushes instead. 30% used pit latrines and only two of the 200 interviewees had access to flushed toilets. Furthermore, more than 90% of the community members had no access to electricity. The majority used paraffin for cooking, candles for lighting and wood for heating their homes, whereas 85% had to fetch wood on a regular basis, on average twice a week, spending between one and three hours to do so. In accordance with these results and the findings from an interesting South African survey on perceived necessities\(^1\), clean drinking water, sanitary installations and access to electricity were mentioned by the majority of the interviewees as being the ‘essential items’ to improve their living conditions most. (Gordon and Pantazis, 1997; Wright et al., 2007)

These findings have great implications. According to the WHO, more than 13,000 South Africans die every year due to diarrhoeal diseases; some national estimates increase this number up to 54,000. Of critical importance is that 94% of this disease burden derives from unsafe drinking water, poor sanitation and hygiene and is therefore largely preventable. In addition, household surveys have detected that households without sanitary installations have child mortality rates four times higher than well-equipped households. Interestingly, a study conducted in an informal settlement in Durban revealed that the greatest needs related to sanitation issues were health knowledge and community

\(^1\) Based on a British survey, a series of focus groups conducted across South Africa in 2005 revealed that there is a high degree of consensus, across all divisions in society, on the so-called ‘essential items’, a necessity of possessions, allowing a decent standard of living. For example, of the 56 possible items, access to electricity was chosen by 90% and a flush toilet in the house by 84%.
role models. (Beresford, 2008; Clasen et al., 2007; May, 1998; McIntyre and Gilson, 2002; Pruess et al., 2002; Smith et al., 2004; WHO, 2006a; WHO, 2008b)

6) Small-scale cultivation to provide an extra source of food
In the Madwaleni area, 90 % of the families owned a small garden patch attached to their houses, used for small-scale cultivation. In addition, almost 90 % owned livestock, mainly poultry, cattle and goats. Crops and animals were used to provide an extra source of food; however, not one of the households could solely live on subsistence farming. Recent South African studies support these findings; they have detected a general increase in dependency on market purchases by both urban and rural households, in some cases reaching 90 % of the food supplies. Since food expenditures can account for up to 80 % of the total household income in vulnerable communities, subsistence farming needs to be restored to empower the community members to being able to support themselves. (Aliber and Hart, 2009; Baiphethi and Jacobs, 2009)

7) Difficulties in accessing health care facilities
On average, each of the community members needed three-quarters of an hour to access their closest clinic and almost one and a half hours to reach Madwaleni Hospital. While only 40 % depended on public taxi transport to get to their closest clinic, already 60 % depended on transport to access the hospital. Various field studies in rural settlements have shown that physical access to health care affects a large array of health outcomes. For example, a survey on 23,000 homesteads in the Hlabisa health sub-district in KwaZulu-Natal detected that there is a significant logistic decline in clinic usage with increasing travel time\(^1\). Given this context, the delivery of rural transport infrastructure is an absolute necessity and can be a significant catalyst for improved health and social access as well as sustainable economic development and poverty alleviation. (DoT, 2007; Porter, 2001; Tanser et al., 2006)

8) No substantial improvement of the living circumstances since apartheid
Comparing the Madwaleni community characteristics with corresponding data from apartheid-times, no substantial improvement of the living circumstances and conditions could be noticed (see chapter 3.1.1, pages 42 et seqq., particularly the data from the eleven surveys published between 1980 and 1994). While it has been expected that the conditions might not have improved to the fullest degree possible, the actual extent of the results was unforeseen. These findings demonstrate that governmental and non-governmental actions, programmes and services have not yet reached all remote communities. Consequently, the Reconstruction and Development Programme, South Africa’s socio-economic policy framework, implemented by the ANC in 1994 to improve

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\(^1\) For example, the adjusted odds of a homestead within the 30 minutes zone using the clinic were ten times those of a homestead within the 90 to 120 minutes zone.
the standard of living and quality of life for all South Africans, needs to be adjusted to reach its targets, such as improving access to water and sanitation facilities, rural electrification, building houses and the provision of basic education. (ANC, 1994c)

9) **Similar community characteristics in the neighbouring communities**

Comparing these characteristics with corresponding features of communities in the immediate or surrounding areas, namely Cwebe, Ntubeni, Mboya, Shixini and Zithulele, various similarities could be detected, indicating that the living circumstances and conditions might be generalisable to a certain degree, at least to deeply rural communities in the former Transkei area (see chapter 3.1.1, pages 42 et seqq.).

10) **More disadvantaged than the general South African population**

Unsurprisingly, keeping the aforementioned results in mind, the Madwaleni community did in-fact differ from the general South African population. In 43 of the 57 studied variables and compared characteristics the Madwaleni community members were substantially more disadvantaged than the general South African population (see chapter 3.1.3 and table 3.5, pages 79 et seqq.). Again, while it had been expected that the community might be disadvantaged to a certain degree, the full extent of these findings was unforeseen. A detailed analysis of possible explanations and potential approaches would be challenging, however, it would also lead too far from the aim and objectives of this study. Nevertheless, potential implications on health and social matters need to be considered, for the following results to be set in adequate context.

**Inequalities and ‘poverty diseases’**

As mentioned in the beginning, South Africa is the most unequal society in the world. For example, it has been categorised as an ‘upper-middle-income economy’, currently ranked 32nd in the world in terms of its GDP. However, it has also been classified as a ‘high mortality country’, burdened by ‘poverty diseases’ that usually affect only low-income nations. (IMF, 2010; Pressly, 2009; Stevens, 2004; WorldBank, 2010)

‘Poverty’ is the severe deprivation of basic human needs, including safe drinking water, food, shelter, sanitation facilities, education and information as well as health. In other words, people who are unable to eat or to access health care and health education are considered to be ‘poor’, regardless of their income. Accordingly, the so-called ‘poverty diseases’ are generally water or nutrition-related and to a large degree preventable or treatable with existing interventions or medicines.¹ (Ellis, 2000; May, 1998; Stevens, 2004; Timmermans, 2004; UN, 1995a; WorldBank, 2000)

¹ For example, in ‘high mortality low-income countries’, 54.1 % of all deaths are caused by ‘poverty diseases’, most notably infectious and parasitic diseases, such as HIV/AIDS, TB, malaria, measles, pneumonia and diarrhoeal diseases, as well as maternal and perinatal conditions.
Most common diseases in South Africa

According to the most recent data available, in South Africa, the most common diseases are communicable diseases (see chapters 1.4.2, pages 16 et seqq., and 3.1.1, pages 51 et seqq.). For example, of the 601,133 deaths registered in the country in 2007, the majority were caused by communicable diseases, primarily TB (14.7 %), pneumonia and influenza (13.5 %) and intestinal infectious diseases (7 %). Other common infectious diseases were malaria, measles and STIs. However, non-communicable diseases are emerging as well. In 2007, cerebrovascular diseases (5.8 %), hypertensive diseases (5.6 %) and diabetes mellitus (3.7 %) were the most common non-communicable conditions. Interestingly, their prevalence, morbidity and mortality rates seem to be much higher in rural settings. For instance, a study conducted in a rural area of northern KwaZulu-Natal detected that non-communicable diseases account for approximately 75 % of all deaths in the age group of 60 years or more. (Burger and Tibane, 2007; Hosegood et al., 2007; Hosegood et al., 2004; Kahn et al., 2007a; Kahn et al., 2007b; StatsSA, 2009)

Worthy to consider, in South Africa, information is often most scant in settings where it is needed most. National and even provincial data, such as the above cited statistics, are comparatively easy to access but usually presented as averages that mask the particular vulnerability of the poorest. The corresponding data on magisterial district or even lower levels is often not accessible at all. Consequently, for health care education and disease prevention programmes to be based on the specific needs of the communities of interest, to date, time-consuming surveys need to be conducted first. (Garenne, 2006; Montgomery et al., 2003)

The burden of experienced problems

Accessible or not, health education and disease prevention programmes cannot solely rely on prevalence, incidence, morbidity and mortality rates or the indicators derived from them, such as Disability-Adjusted Life Years (DALYs). Without controversy, these parameters have their purpose. However, they do not necessarily reflect the ‘burden’ that communities bear by their experienced problems.

Since a ‘burden’ is the individual perception of something oppressive, stressful or worrisome, its weight depends particularly on how well a person or community is educated and equipped to deal with the underlying problem. For example, in a community with a low prevalence of STIs but no information centre or place of consultation for those affected, the perceived burden might be comparatively high, while in

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1 Malaria is endemic to the low-altitude areas of the provinces Limpopo, Mpumalanga and north-eastern KwaZulu-Natal. About 10 % of the South African population lives in malaria-risk areas.
a community with a high prevalence of hypertension but well-functioning health care services and support groups, the perceived burden might be surprisingly low. In light of this approach, the Madwaleni community members were asked to rank potential health and social problems, in order to assess whether their effects and impact on the community were massive, major or minor or if those problems were not present at all in their community.

**Weightiest health problems in the Madwaleni area**

In the Madwaleni area, the three health problems with the highest impact on the community were TB, HIV/AIDS and hypertension\(^1\), supporting the above cited prevalence and mortality data of the most common diseases in South Africa. However, various specifics could be detected.

*Tuberculosis*

According to both HIV+ men and women, TB was the health problem with the highest impact on their lives, compared to HIV untested men and women, ranking it third and fourth respectively. However, TB was a challenge of huge proportions for the entire community and no significant rating difference could be detected between the four sample groups \((p = 0.572)\). Exemplified, Madwaleni’s 80 TB beds are usually full to their capacity. The Directly Observed Therapy-Shortcourse system (DOTS) is implemented ineffectively, cure cannot be confirmed by a final, negative sputum smear for more than 10 % of the patients and large numbers of patients needing re-treatment are admitted to the hospital for daily Streptomycin injections. Multi-drug-resistant TB (MDR-TB, defined as TB with resistance to Rifampicin and Isoniazid, the two most powerful first-line drugs)\(^2\) is an increasing problem as well and the HIV/AIDS epidemic is complicating the situation even further, with more than half of Madwaleni’s patients on ARVs having a history of TB (54 %, with 29 % being re-treatment cases). In South Africa, however, only 1 % of the PLWHA are being screened for TB and only 4 % are receiving preventive therapy. Consequently, TB is a massive health problem with significant implications and consequences, requiring adequate TB programmes, with counselling, education, screening and treatment support components. (Cooke and Wilkinson, 2006; Odendal, 2009; WHO, 2008a; WHO, 2009)

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\(^1\) TB, HIV/AIDS and hypertension were rated by more than 95 % of the community members as being relevant problems, with mean values of 2.33, 2.30 and 2.14 respectively.

\(^2\) South Africa is the country with the fourth highest MDR-TB prevalence in the world. In 2007, approximately 16,000 cases were recorded. Of particular concern, recently released data showed that 5.6 % (996 of 17,615) of the MDR-isolates collected from 2004 to 2007 were in-fact Extensively-drug-resistant TB (XDR-TB, defined as TB with resistance to at least Rifampicin, Isoniazid, a Fluoroquinolone and a second-line injectable agent).
**HIV/AIDS**

For the Madwaleni community, HIV/AIDS was the second most relevant health problem. Interestingly, women rated it higher than men, with HIV untested women ranking it second and HIV+ women ranking it third, compared to men ranking it fifth and sixth respectively. Against the background of the well-documented power inequity of women and men in traditional South African cultures, it may be assumed, that a considerable percentage of the sampled women were not fully in control in their sexual relationships and subsequently unable to protect themselves from HIV/AIDS and STIs at the time of the survey. For example, the majority of rural women interviewed by Amnesty International in 2008 stated that they were often unable to protect themselves against HIV infection because they felt at risk of violence from male partners when they suggested condom use. This might serve as a possible explanation of the deviating rating patterns between women and men; however, additional reasons are likely to exist. (Rayner, 2008)

That South Africans are concerned about HIV/AIDS has been shown by various studies before. For example, in 2008, of 1,000 adults sampled from largely urban areas across the country for a series of face-to-face interviews, 88 % stated that HIV/AIDS is a ‘very big problem’ in South Africa. In addition, 91 % evaluated it to be a bigger problem than in the preceding years. Keeping in mind that the HIV/AIDS epidemic remains a health problem of unprecedented dimensions in South Africa in general and in Madwaleni in particular, HIV/ARV programmes, such as the Madwaleni model, need to be supported and expanded. (KFF, 2007b; KFF, 2007a)

**Hypertension and diabetes mellitus**

At the time of the survey, hypertension was the third most relevant health problem for the community members. Correspondingly, diabetes mellitus was ranked sixth. To deal with the emerging threat of non-communicable diseases, in April 2007, monthly workshops on hypertension and diabetes mellitus were set up for the Madwaleni community. They are run by nurses and doctors and include appropriate health education topics as well as regular check-ups and the supply of hypertensive and diabetic treatment. Patients who might benefit from these workshops are identified in the clinics or the hospital and get invited. Participation is entirely voluntary but sessions are usually well attended, with up to 80 community members joining the workshops.

**Pain and discomfort**

Pain and discomfort were additional health problems with relevant impact on the Madwaleni community. For example, musculoskeletal problems were ranked fourth and headache seventh\(^1\). Interestingly, men rated both problems higher than women. Since

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\(^1\) Musculoskeletal problems and headache were rated by more than 90 % of the community members as being relevant problems, with mean values of 1.95 and 1.84 respectively.
women carry most of the workload in the Madwaleni area, including the care of family members and children, the sick and the elderly, the house and the garden and are, in addition, in more than 90 % responsible for collecting water and wood, these findings are in-fact surprising. However, while pain and discomfort experienced by PLWHA have been recognised and researched before\(^1\), there are no corresponding studies on rural communities. It is expected that the challenging living circumstances in general and the high rates of unemployment in particular are contributing factors to the pain and discomfort experienced by the Madwaleni community members, yet, further research is necessary to confirm these arguments. To support the community members who experience chronic pain, Madwaleni’s rehabilitation department is offering weekly exercise groups since 2007, aiming to provide range of movement, stretching, strengthening and core stability training, adapted to accommodate all levels of ability. (Hughes et al., 2004; Jelsma et al., 2002; Keswani et al., 2002)

**Herpes Zoster**

Surprisingly, Herpes Zoster was the fifth most relevant health problem in the Madwaleni area. 87.6 % of the community members rated it as being a problem, whereas HIV untested men and women rated it higher than HIV+ community members, with rating mean values of 1.89 and 2.86, compared to 1.49 and 1.39 respectively. Considering that the HIV+ testing rate in the Madwaleni community is as high as 13.0 %, this result is most likely a matter of the general perception. Herpes Zoster is easily recognisable, a so-called ‘visual diagnosis’, very common in PLWHA\(^2\). In addition, since HIV untested women are usually the ones caring for sick family and community members, their perception is likely to be disproportionately higher, accounting for the fact that Herpes Zoster was the health problem with the highest impact on their lives at the time of the survey. (Buchbinder et al., 1992; Das et al., 1997; Dworkin et al., 2007; WHO, 2007b; Wilkinson, 2010)

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\(^1\) In 2003, a study conducted in Khayelitsha, the fastest growing township in South Africa, on the outskirts of Cape Town, showed that the ‘Health Related Quality of Life’ is severely comprised in PLWHA. For example, 69.1 % self-reported pain and discomfort, compared to 33.3 % of the control group. Since these findings were confirmed by other studies, further research is necessary to document the specific causes of pain and discomfort. For instance, reactive arthritis was found to be common amongst PLWHA in a community survey in Zimbabwe. Also, peripheral neuropathy, particularly distal symmetrical polyneuropathy, has been reported to be very common in PLWHA.

\(^2\) According to the clinical staging classification of HIV/AIDS, developed by the WHO for resource-constrained settings in 1990 and revised in 2007, Herpes Zoster is a ‘clinical stage two diagnosis’. While its incidence rate ranges from 1.2 to 3.4 per 1,000 person-years amongst healthy individuals, it reaches up to 29.4 per 1,000 person-years amongst HIV+ people.
**Discussion**

*Additional relevant health problems*

Interestingly, six health problems were rated higher by HIV untested men and women than by HIV+ community members, namely bilharzia/schistosomiasis, epilepsy, Herpes Zoster, HIV/AIDS, lung infections and stroke. Since the HIV+ community members were educated about and screened for all of those diseases within the Madwaleni HIV/AIDS programme, this might explain the deviating rating patterns between the different sub-samples. Moreover, these results demonstrate that health education and disease prevention programmes are able to reduce the perceived burden of health problems and might therefore serve as a substantial argument in their favour.

*Weightiest social problems as experienced by the Madwaleni community*

Interestingly, for the Madwaleni community, social matters had a higher impact on their lives than health problems. Combining both ratings, eight of the ten most relevant problems were social issues, while only two, namely TB and HIV/AIDS, were disease associated (table 4-1).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Problem</th>
<th>Mean</th>
<th>Rated as “problem”</th>
<th>Rated as “no problem”</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Alcohol abuse</td>
<td>2.75</td>
<td>96.9 %</td>
<td>3.1 %</td>
</tr>
<tr>
<td>02</td>
<td>Dependency on soc. grants</td>
<td>2.73</td>
<td>98.5 %</td>
<td>1.5 %</td>
</tr>
<tr>
<td>03</td>
<td>Smoking</td>
<td>2.72</td>
<td>99.5 %</td>
<td>0.5 %</td>
</tr>
<tr>
<td>04</td>
<td>Employment &amp; lack of work</td>
<td>2.69</td>
<td>99.0 %</td>
<td>1.0 %</td>
</tr>
<tr>
<td>05</td>
<td>Education &amp; illiteracy</td>
<td>2.61</td>
<td>97.4 %</td>
<td>2.6 %</td>
</tr>
<tr>
<td>06</td>
<td>Teenage pregnancies</td>
<td>2.42</td>
<td>99.0 %</td>
<td>1.0 %</td>
</tr>
<tr>
<td>07</td>
<td>High birth rates</td>
<td>2.39</td>
<td>97.9 %</td>
<td>2.1 %</td>
</tr>
<tr>
<td>08</td>
<td>TB</td>
<td>2.33</td>
<td>95.9 %</td>
<td>4.1 %</td>
</tr>
<tr>
<td>09</td>
<td>HIV/AIDS</td>
<td>2.30</td>
<td>98.5 %</td>
<td>1.5 %</td>
</tr>
<tr>
<td>10</td>
<td>Drug abuse</td>
<td>2.18</td>
<td>91.8 %</td>
<td>8.2 %</td>
</tr>
</tbody>
</table>

Table 4-1: Weightiest problems of the Madwaleni community sample (N=200)

Considering that health services and even a limited number of health programmes are available and comparably easy to access in the Madwaleni area, while social services are limited and poorly organised, these findings are hardly surprising. Currently, no social workers or auxiliary social workers are appointed for the 100,000 people living in the catchment area of Madwaleni Hospital. Without controversy, this local situation resembles the national state of affairs, with only 6,500 social workers working in government and welfare services and another 66,000 required to meet the demand. However, the regional SASSA office in Elliotdale is overburdened and incapable of acting
effectively. Interestingly, a community survey in the resource poor setting of Moshi district in Kilimanjaro region, Tanzania detected that 'non-medical issues', such as food supply and poverty, were the health priorities of the community at the time, supporting the results of the Madwaleni community survey. Consequently, health services and health education programmes should not only focus on diseases, but also cover cultural and social issues as well as health and social services. (Blaine, 2009; Makundi et al., 2005)

In the Madwaleni area, the three social problems with the highest impact on the community were alcohol abuse, dependency on social grants and smoking. Interestingly, no deviating rating patterns of social problems could be observed between the HIV untested and HIV+ community members.

**Alcohol abuse**

For the Madwaleni community, alcohol abuse was the most relevant social problem at the time of the survey. Interestingly, HIV+ men rated it slightly higher than the other sub-samples, with a rating mean value of 2.98 compared to values between 2.60 and 2.73, whereas the counselling on abstinence from alcohol and potential drug-interactions between alcohol and ARVs, particularly directed at the male members of the Madwaleni HIV/AIDS programme, might serve as a possible explanation. However, alcohol abuse is a challenge of huge proportions for the entire community. The levels of alcohol consumption have increased in recent years, in part as a result of a change in drinking patterns from traditional use of home-brews with low alcohol content to more frequent, recreational use of commercial alcoholic beverages. Inevitably, the widespread misuse of alcohol has extensive consequences for South Africa. For example, in terms of alcohol-attributable disability, alcohol-use disorders rank first (44.6 %), interpersonal violence second (23.2 %) and Fetal Alcohol Syndrome third (FAS; 18.1 %). In addition, alcohol-use has been associated with unsafe sexual practices and increased risk of contracting HIV. Also, alcohol harm accounts for an estimated 7.1 % of all deaths in the country. Consequently, alcohol abuse has critical implications for public health policy. Multi-level interventions are required to create awareness in the general population of the problems associated with alcohol abuse. In addition, high-risk drinkers need to be targeted for

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1 Alcohol abuse, dependency on social grants and smoking were rated by more than 98 % of the community members as being relevant problems, with mean values of 2.75, 2.73 and 2.72 respectively.

2 For instance, in 2000, a high proportion of patients in trauma units tested positive for alcohol, ranging from 40.3 % in Durban to 91.8 % in Port Elizabeth. Similarly, a high proportion of mortality cases tested positive for alcohol, ranging from 40.3 % in Durban to 67.2 % in Port Elizabeth.

3 While the overall rate of FAS surveyed by 19 studies across the world is estimated to be 1.9 per 1,000 live births, South African cohort studies found rates of up to 74.2 or even 89.2 per 1,000 children, indicating that the country has the highest yet reported incidence of FAS in the world.
Discussion

Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Prevention programmes. (Abel and Sokol, 1987; Maya et al., 2007; Parry et al., 2002; Parry et al., 2005; Schneider et al., 2007; Viljoen et al., 2005; Zuma et al., 2003)

Education, employment, poverty and dependency on social grants

For the Madwaleni community, dependency on social grants was the social problem with the second highest impact on their lives. Along with this, employment & lack of work opportunities were rated fourth, education & illiteracy fifth, food supply ninth and poverty tenth, whereas in the latter case no significant rating difference could be detected between the four sample groups (p = 0.892)\(^1\). Notably, these findings are fully consistent with the identified Madwaleni community characteristics. Keeping in mind that more than 90% of the households received at least one type of welfare grant at the time of the survey and considering that most of these were limited in time, it is unsurprising that precisely this dependency is perceived as stressful by the majority of the community members. Without controversy, to overcome this dependency, the local infrastructure needs to be expanded and marketing opportunities and services need to be established. However, these developments are likely to take decades and until then, the Madwaleni community needs to be empowered to being able to support themselves. Certainly, private initiatives can play a role in this process. Exemplified, Madwaleni’s rehabilitation department, in joint collaboration with one of the doctors and private donors, provides community members with vegetable packs to start their own gardens. On a larger scale, however, governmental advocacy and facilitation of subsistence farming is crucial to the success of this ambitious plan.

Substance abuse

In light of alcohol abuse being the most relevant social problem in the Madwaleni area, smoking was ranked third and drug abuse eighth, whereas in both cases no significant rating differences could be detected between the sub-samples (p = 0.141 and 0.127 respectively). Worthy of mention, in South Africa, the smoking prevalence of the adult population has decreased from 32% in 1992 to 24% in 2004. However, 9% of all adult deaths are caused by smoking, with significantly increased risks for deaths from lung cancer, chronic obstructive pulmonary disease (COPD) as well as TB. Amongst adolescents, cannabis is the most frequently reported illicit drug of abuse, followed by a combination of cannabis and methaqualone\(^2\). In large metropolitan centres, cocaine, heroin and methamphetamine (TIC) are emerging as well, emphasising the need for

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\(^1\) Employment & lack of work opportunities, education & illiteracy, food supply and poverty were rated by more than 90% of the community members as being relevant problems, with mean values of 2.69, 2.61, 2.06 and 2.05 respectively.

\(^2\) Methaqualone is a sedative-hypnotic drug, similar in effect to barbiturates.
interaction programmes, targeting specifically young people. (Groenewald et al., 2007; Parry et al., 2004; Sitas et al., 2004; Van Walbeek, 2002)

**Teenage pregnancies**

Interestingly, teenage pregnancies were the sixth most relevant social problem in the Madwaleni area\(^1\). This finding can be supported by the available country statistics. According to the Medical Research Council, for example, more than 30% of the South African women get pregnant before the age of 20. There are significant differences between the ethnic groups. For instance, 55 per 1,000 black women and even 82 per 1,000 coloured women became teenage mothers in South Africa in 2001, as compared to eight amongst Asian women and three amongst white women. In addition, in a nationally representative survey of 15 to 24 year olds, half of the sexually experienced women reported to have been pregnant, of whom 65% stated that their pregnancy had been unwanted. Since various studies have shown that early childbearing has long lasting effects on the socio-economic well-being of teenage mothers and that the high risk sexual activity puts adolescents and young adults at risk of HIV, information campaigns on safe contraception need to be expanded. (Gustafsson and Worku, 2007; Jewkes et al., 2001; MacPhail et al., 2007; Mwaba, 2000)

**High birth rates**

High birth rates were an additional social problem with relevant impact on the Madwaleni community; 97.9% rated it as a problem, whereas men rated it higher than women, with rating mean values of 2.56 and 2.60, compared to 2.15 and 2.27. Interestingly, South African fertility rates were high and stable between 1950 and 1970, estimated at an average of 6 to 7 children per woman, and decreased to an average of 4 to 5 between 1980 and 1995. According to a recent UN estimation, the total South African fertility rate stands at 2.64 births per women for the period of 2005 to 2010, corresponding with rank 85 in the world and being significantly lower than the rates of most other African nations\(^2\). In light of these statistics, the perceived burden might be comparatively high due to the difficult living circumstances and the economic and financial insecurity experienced by the Madwaleni community. (SADHS, 1999; Swartz, 2002; UN, 1995b; UN, 2007)

**Women's rights**

Surprisingly, women's rights were the least relevant social issue for the Madwaleni community members, with only 43.6% rating it as a being problem. It might well be that the power inequity of women and men in traditional South African cultures, as described

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\(^1\) Teenage pregnancies were rated by 99% of the community members as being a relevant problem, with a mean value of 2.42.

\(^2\) Only the Northern African countries Algeria, Morocco and Tunisia have lower fertility rates than South Africa, with twice 2.38 and 1.93 births per women respectively.
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Discussion

by various studies, is accepted as a matter of fact in the Madwaleni area. In contrast, it might well be that it does not exist at all in the Madwaleni community. However, according to Amnesty International, women in rural South Africa continue to live in an environment rife with high levels of domestic and sexual violence as well as gender-based discrimination. Their report, based on a series of interviews with rural women living with HIV, describes oppressive relationships with male partners, economic marginalisation and severe inequalities and calls on the government to urgently intensify efforts to prevent violence against women through stepped up policing and prosecution. (Rayner, 2008; Smith et al., 2004; UNAIDS, 2008d)

Health education and disease prevention programmes

As emphasized before, to ease the burden of experienced health and social problems, an individual or community affected needs to become educated and equipped to deal with the underlying issues. In this context, social support and empowerment can be used not only to promote health knowledge but also to facilitate the emergence of community role models. Crucial factors to the success of educational programmes are community participation and action. However, to date, most South African health education and disease prevention programmes use conventional teaching methodologies, neither recognising nor responding to the cultural and social characteristics rooted in the specific communities. In the Madwaleni area, for example, programmes should focus on women, who are the primary providers of health care for family and community members. In addition, the valuable knowledge and insight of traditional healers needs to be utilised and, most notably, the living circumstances and conditions, such as high rates of functional illiteracy, poverty and difficulties to access health care facilities, have to be acknowledged. Consequently, in the Madwaleni community, successful health education and disease prevention programmes would benefit from role playing and skit development, the incorporation of traditional Xhosa singing and dancing in the lectures, Xhosa handouts and basic course materials as well as regular follow-up. (Freeman and Motsei, 1992; Green, 1988; Hildebrandt, 1996; Hurdle, 2001; Smith et al., 2004)

Existing programmes and workshops in the Madwaleni area

In recent years, the following health education and disease prevention programmes have been set up for the Madwaleni community:

- The Madwaleni HIV/ARV programme, with weekly support groups and clinics for adults, children (PART) and pregnant women (PMTCT), run by counsellors, in consultation with programme managers, nurses and doctors
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Discussion

- Monthly adolescent HIV workshops, run by a counsellor, in consultation with occupational therapists
- Monthly workshops on hypertension, diabetes mellitus and epilepsy, run by nurses and doctors in the OPD of Madwaleni Hospital
- Weekly exercise groups for chronic pain management, run by the Madwaleni rehabilitation department at the hospital as well as at the peripheral clinics
- The wheelchair basketball team, meeting twice a month, and ‘The Rolling Hills Wheelchair Race’, initiated by the Madwaleni rehabilitation department
- Regular paediatric block therapy for cerebral palsyed children, with tutorials and guidance for mothers and carers, run by the Madwaleni rehabilitation department

(Cooke and Wilkinson, 2006; De Bruyn and Horsten, 2009)

Recommendations for future programmes for the Madwaleni community

At the time of the survey, the three most relevant health education and disease prevention topics for the Madwaleni community were HIV/AIDS, TB and healthy nutrition\(^1\). In addition, STIs, alcohol & drug-related problems, water & sanitation and body & muscle pain were rated as the subsequent issues of relevance\(^2\), supporting the identified community characteristics as well as the listing of the weightiest health and social problems.

In addition, valuable new insight could be gained. For instance, HIV untested men rated the topic HIV/AIDS lower than all other community members, with a rating mean value of 2.08 compared to values between 2.73 and 3.00. This is particularly interesting in light of the much discussed VCT statistics, which show that men only constitute a minority of about 20% of the people testing for HIV in the Madwaleni area. Since reliable and valid studies, such as the one conducted by Amnesty International in rural areas of KwaZulu-Natal and Mpumalanga between 2006 and 2007, confirm that men are reluctant to test for HIV or refuse to be tested, even when there is strong evidence that they might be HIV-infected, HIV/ARV programmes, such as the Madwaleni model, need to not only be prioritised but also be adjusted and expanded to more successfully reach men. (Cooke and Wilkinson, 2006; Rayner, 2008; Wilkinson, 2010)

\(^1\) HIV/AIDS, TB and healthy nutrition were rated by more than 95% of the community members as being relevant health education problems, with mean values of 2.65, 2.51 and 2.36 respectively.

\(^2\) STIs, alcohol & drug-related problems, water & sanitation and body & muscle pain were rated by more than 85% of the community members as being additional relevant health education problems, with mean values of 2.24, 2.13 and twice 2.07 respectively.
Besides, the results demonstrate that topics not previously considered, such as injury prevention and basic first aid, were in-fact relevant for 87.3 % and 91 % of the community members and require further attention. Furthermore, deviating rating patterns between men and women became evident. It would therefore be sensible to initiate gender-specific educational workshops, for example, for men about prostate & testicular cancer check-up or erectile dysfunction and for women about breast & cervical cancer check-up & pap-smears or nutrition & growth.

Interestingly, two health education and disease prevention topics were rated higher by HIV+ community members than by HIV untested men and women, namely depression & stress and psychiatric diseases. Surprisingly, these findings do not comply with the rating patterns of the corresponding health problems. However, they do comply with the results of the relevant literature. For instance, a significant association has been detected between HIV/AIDS and symptoms such as hopelessness or helplessness. In addition, a meta-analysis of ten studies found that, although prevalence rates varied between 4 % and 23 %, HIV+ patients had an almost twofold higher rate of major depression than did the control subjects. Since recent studies have shown that depression also predicts being less likely to attend HIV clinics as well as to adhere to HAART, future research needs to focus on identifying pathways of resilience and risk for depression within the population of PLWHA. (Ciesla and Roberts, 2001; Cook et al., 2002; Lönnqvist, 2001; Marzuk et al., 1997; Myer et al., 2008; Perry et al., 1990; Rieera et al., 2002; Sambamoorthi et al., 2000; Spire et al., 2002; Van Servellen et al., 2002)

Taking all findings from this Madwaleni community survey into consideration, health care providers working at the hospital and its peripheral clinics should first and foremost concentrate their efforts on maintaining the existing programmes, particularly, the Madwaleni HIV/ARV programme and the workshops on hypertension and diabetes mellitus. In addition, if qualified and motivated personnel can be recruited and the necessary funding can be raised, future health education and disease prevention programmes should focus on TB, alcohol & substance abuse-related problems as well as water & sanitation.

### 4.1 The Strengths of the study

The Madwaleni community survey has the following strengths:

- This was the first study amongst the Xhosa Madwaleni community, situated in the deeply rural area of the former apartheid homeland Transkei in South Africa, to characterise and diagnose their health and social situation.
- It used qualitative methods to obtain a holistic profile of the community.
• The involvement of the community was a unique experience, enriching this research. It empowered the community members to evaluate their own health and social situation and assess their health and social needs.

• All information was collected in the mother tongue language of the community members, in a comfortable atmosphere and with respect and understanding for their cultural background. This increased the likelihood of obtaining reliable and valid data, on which future discussions about living circumstances, problems and needs of deeply rural communities in South Africa can be based.

• Moreover, the fact, that the counsellors conducting the interviews and the study sample shared the same culture and language, facilitated the gain of new insight and in-depth data.

• Since the interviews for both the preliminary survey group and the main sample population took place at Madwaleni Hospital and its attached clinics and numerous health care providers participated in the various phases of this project, its recommendations are expected to receive the necessary acceptance and support needed for their implementation.

• In addition, the considerable sample size and the fact, that the participants were recruited from different regions within the Madwaleni area, allowed the generalisation of the findings of this community survey to a certain degree, at least to deeply rural communities in the former Transkei area.

• Finally, since the Madwaleni community characteristics were compared to corresponding data from apartheid-times and the general South African population, the subsequent results on the health and social problems and needs could be set in an adequate context.

4.2 Limitations of the study

Although various precautions were taken to avoid errors that could potentially influence the reliability and validity of this research (see chapter 2.10, pages 37 et seq.), its findings must be interpreted in relation to the following limitations:

• As with all non-random sampling methods, convenience sampling might have influenced the findings. For example, men and women who participated in this study might have been different from those who did not volunteer to participate with respect to their experiences of health and social problems, their interests in health education and disease prevention topics or other variables (i.e. self-selection bias). In addition, a cluster of the Madwaleni community might have been excluded unintentionally due to
their inability to access the hospital or the clinics at the time of the data collection process. (NAU, 2008; Trochim, 2008; UCDAVIS, 2008)

- According to Statistics South Africa, the national surveys used as the basis to design the Madwaleni community survey questionnaire have several limitations: For example, the data of the South African Community Survey 2007 was only released two years after its collection and therefore became quickly outdated. In addition, an overestimation of the extent of unemployment and an underestimation of the household incomes were noticed. On the other hand, the South African General Household Survey 2006 was less accurate; it covered only a sample of the population and its data was represented at a provincial level that does not allow an analysis to lower geographical levels. (StatsSA, 2006; StatsSA, 2007b)

- Furthermore, neither the test-retest reliability nor the internal consistency of the Madwaleni community survey questionnaire were estimated.

- Limitations of the applied response rating scale design were that respondents might have agreed with statements as presented (i.e. acquiescence bias) and might have avoided using extreme response categories (i.e. central tendency bias).

- In addition, social desirability bias may have influenced statements made during the interviews, although the data was collected anonymously and it was assured that no individual results would be published.

- Capturing income data in one sitting was not ideal either, as it might have been difficult for the community members to recall the required information and numbers accurately. However, the alternative of using recall data based on repeat interviews was not feasible, given personal and time constraints of this project.

- Moreover, limitations of questionnaire-based surveys have been well described many times before and it would be misleading to imply that the data presented in this thesis was beyond reproach. Particular areas of concern relate to income data and livestock numbers, since rural community members tend to under-report those aspects of their relative wealth. For instance, they might associate the research team with future developmental or employment activity and therefore portray themselves as poorer than they really are. (Campbell et al., 2002; Cavendish, 2002; McAllister, 1999; Timmermans, 2004)
Summary

More than 16 years post-apartheid, South Africa is still regarded as the most unequal society in the world. The government is facing various obstacles and challenges in improving the standard of living and quality of life for all its citizens, for example in facilitating the access to clean drinking water and sanitation, building houses and providing basic education. In addition, the country is facing the world’s largest HIV/AIDS epidemic with a national prevalence rate of 18.1 %, equalling approximately 5.7 million people who are currently infected. (Pressly, 2009; UNAIDS, 2008c)

Against this background, the aim of this thesis was to study the Madwaleni community, situated in a deeply rural area of the former apartheid homeland Transkei. Applying the Community Oriented Primary Care approach, a strategy of ‘community assessment and diagnosis’ was used to obtain a holistic community profile and to determine the perceptions of its community members regarding their health and social problems and needs, intending to make recommendations to health care providers working at Madwaleni Hospital regarding future health education and disease prevention programmes. (Brown and Fee, 2002)

This research used a cross-sectional design. In a preliminary survey, qualitative data was collected in short interviews with health care providers working at Madwaleni Hospital (N=46). The information served as a basis to develop and design parts of the Madwaleni community survey questionnaire. The questionnaire consisted of 36 questions, complying with the aim and objectives of this thesis. It was used for the structured interviews with the main study population, all of whom were members of the Madwaleni community (N=200), whereas half of the main study population were men and half were women, then again, half were unaware of their HIV status and half were HIV+ and had joined the Madwaleni HIV/AIDS programme.

Key findings

1) Madwaleni community profile and characteristics

Thoughtful sexual behaviour: Particularly interesting in light of the HIV/AIDS epidemic, more than 90 % of the sexually active community members were monogamous at the time of the survey. While only 36.4 % of the men and women unaware of their HIV status used condoms, 76.5 % of the HIV+ community members claimed to do so, indicating that the Madwaleni HIV wellness programme and especially its counselling and health education components are adequate and valuable in serving their purpose.

High rates of illiteracy and insufficient education: Only 56.5 % of the interviewed community members were ‘functionally literate’ at the time of the survey. Of
those, only 8 % had received a matriculation and not one of the community members had received any higher degree. In addition, 19.5 % of the sampled men and women were not able to read at all.

High rates of unemployment, poverty and dependency on welfare grants: Only 20 % of the Madwaleni community members were employed at the time of the survey. Taking the daily income per capita as a reference, one third of the community members suffered from ‘moderate poverty’, defined as an income of 1 to 2 US $ per day, while the other two thirds suffered from ‘extreme poverty’, defined as an income of less than 1 US $ per day, although more than 90 % of the corresponding households received at least one type of welfare grant already.

Large household sizes and predominance of traditional dwellings: In the Madwaleni community, an average of eight people lived together per household at the time of the survey, whereas 95 % of the community members lived in traditional dwellings, constructed from freely occurring natural resources.

In need of safe drinking water, sanitary systems and access to electricity: More than 80 % of the Madwaleni community members obtained their drinking water from rivers or stagnant dams, while only 6.5 % used rain water and 9.5 % had access to piped water. In addition, almost 70 % of the community members had no access to any sanitary systems, using nearby bushes instead. Furthermore, more than 90 % had no access to electricity. The majority used paraffin for cooking, candles for lighting and wood for heating their homes.

Small-scale cultivation to provide an extra source of food: In the Madwaleni area, 90 % of the families owned a small garden patch attached to their houses, used for small-scale cultivation. In addition, almost 90 % owned livestock, mainly poultry, cattle and goats. Crops and animals were used to provide an extra source of food; however, not one of the households could solely live on subsistence farming.

Difficulties in accessing health care facilities: On average, each of the community members needed three-quarters of an hour to access their closest clinic and almost one and a half hours to reach Madwaleni Hospital, with 40 % and 60 % respectively depending on public taxi transport to get there.

No substantial improvement of the living circumstances since apartheid: Comparing the Madwaleni community characteristics with corresponding data from apartheid-times, no substantial improvement of the living circumstances and conditions could be noticed, proving that governmental and non-governmental actions, programmes and services have not yet reached all remote communities.

Similar community characteristics in the neighbouring communities: Comparing these characteristics with corresponding features of communities in the
immediate or surrounding areas, namely Cwebe, Ntubeni, Mboya, Shixini and Zithulele, various similarities could be detected, indicating that the living circumstances and conditions might be generalisable to a certain degree, at least to deeply rural communities in the former Transkei area.

**More disadvantaged than the general South African population:** The Madwaleni community differed significantly from the general South African population in 75% of the compared characteristics. For example, amongst the community members the illiteracy rate (21.7% vs. 13.6%, \( p = 0.002 \)) and unemployment rate (80.5% vs. 25.5%, \( p < 0.001 \)) were significantly higher. In addition, the 'poverty headcount ratio of 2 US $ per day' showed that significantly more people were suffering from poverty in the Madwaleni area (92.2% vs. 34%, \( p < 0.001 \)). The Madwaleni community members were less likely to have access to clean drinking water, along with significantly higher proportions of them using river water as their main source of drinking water (75.5% vs. 5.1%, \( p < 0.001 \)). Also, they were less likely to have access to any sanitation or toilet facilities (31.3% vs. 91.8%, \( p < 0.001 \)) or to electricity (8.5% vs. 80.2%, \( p < 0.001 \)).

2) **Weightiest health and social problems as experienced by the Madwaleni community**

In the Madwaleni area, the three health problems with the highest impact on the community were *TB, HIV/AIDS and hypertension*. On the basis of the applied 3-to-0-point rating matrix, they were rated by more than 95% of the community members as being relevant problems, with mean values of 2.33, 2.30 and 2.14 respectively. Interestingly, women rated HIV/AIDS higher than men.

Musculoskeletal problems and headache were additional health problems with relevant impact on the Madwaleni community, rated by more than 90%, with mean values above 1.80. While pain and discomfort experienced by PLWHA have been recognised and researched before, there are no corresponding studies on rural communities and further research is necessary to identify the contributing factors.

*Additional relevant health problems:* Interestingly, six health problems were rated higher by HIV untested than by HIV+ community members, namely bilharzia/schistosomiasis, epilepsy, Herpes Zoster, HIV/AIDS, lung infections and stroke. Since the HIV+ men and women were educated about and screened for all of those diseases within the Madwaleni HIV/AIDS programme, this might explain the deviating rating patterns between the different sub-samples. Moreover, these results demonstrate that health education and disease prevention programmes are able to reduce the perceived burden of health problems and might therefore serve as a substantial argument in their favour.

Interestingly, for the Madwaleni community, social matters had a higher impact on their lives than health problems, whereas the three social problems with the
highest impact on the community were alcohol abuse, dependency on social grants and smoking. They were rated by more than 98% of the community members as being relevant problems, with mean values of 2.75, 2.73 and 2.72 respectively.

In accordance with these findings, employment & lack of work opportunities, education & illiteracy, food supply and poverty were additional social problems with relevant impact in the Madwaleni area, rated by more than 90%, with mean values above 2.00.

3) Recommendations for future health education and disease prevention programmes

At the time of the survey, the three most relevant health education and disease prevention topics for the Madwaleni community were HIV/AIDS, TB and healthy nutrition. They were rated by more than 95% of the community members as being relevant health education problems, with mean values of 2.65, 2.51 and 2.36 respectively. In addition, STIs, alcohol & drug-related problems, water & sanitation and body & muscle pain were rated as the subsequent issues of relevance, with mean values above 2.00, supporting the identified community characteristics as well as the listing of the weightiest health and social problems.

In addition, valuable new insight could be gained. For instance, HIV untested men rated the topic HIV/AIDS lower than all other community members, which is particularly interesting since men only constitute a minority of 20% of the people testing for HIV in the Madwaleni area. Besides, topics not previously considered, such as injury prevention and basic first aid, were in-fact relevant for more than 85% of the community members and require further attention. Furthermore, deviating rating patterns between men and women and the corresponding need for gender-specific educational workshops became evident, for example, for men about prostate & testicular cancer check-up or erectile dysfunction and for women about breast & cervical cancer check-up & pap-smears or nutrition & growth. In addition, HIV+ community members rated depression & stress and psychiatric diseases higher than HIV untested men and women, with further studies required to identify the underlying reasons for these deviating rating patterns.

Taking all findings from this Madwaleni community survey into consideration, health care providers working at the hospital and its peripheral clinics should first and foremost concentrate their efforts on maintaining the existing programmes, particularly, the Madwaleni HIV/ARV programme and the workshops on hypertension and diabetes mellitus. In addition, if qualified and motivated personnel can be recruited and the necessary funding can be raised, future health education and disease prevention programmes should focus on TB, alcohol & substance abuse-related problems as well as water & sanitation.
6 References


ARDRI 1989. The Lima Development Report. Alice: Agricultural and Rural Development Research Institute, Fort Hare University, South Africa.

ARDRI 2001. Rural livelihoods survey in the Mbashe Municipality. Alice: Agricultural and Rural Development Research Institute, Fort Hare University, South Africa.


References
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

References


Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

References


GOUWS, E., MISHRA, V. & FOWLER, T. 2008. Comparison of adult HIV prevalence from national population-based surveys and antenatal clinic surveillance in countries with generalised epidemics: Implications for calibrating surveillance data. Sexually Transmitted Infections, 84 (Suppl I), i17-i23.


120
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

References


References


Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

References


NTSEBEZA, L. 1999. Land tenure reform, traditional authorities and rural local government in post-apartheid South Africa: Case studies from the Eastern Cape. Bellville: Programme for Land and Agrarian Studies, University of the Western Cape, South Africa.


ODENDAL, L. 2009. To stop a killer – TB deaths in South Africa have tripled in the past 10 years. It’s time to do something about it. *Mail&Guardian*. 27.03.2009.


PICKLES, W. N. 1939. *Epidemiology in a country practice*, Baltimore, Williams & Wilkins.


Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

References


References


Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

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Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

References


Appendices

Appendix 1 – Location of the Mbashe municipality in the Eastern Cape province

Figure: Map of the Eastern Cape districts and municipalities (2005)
(Data source: Statistics South Africa, 2005)
Appendix 2 – Consent form

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT

Perceptions of people living in the catchment area of Madwaleni Hospital, South Africa regarding the health and social problems facing their community

PRINCIPAL INVESTIGATOR: Carolin Winkel
ADDRESS: Madwaleni Hospital, Elliotdale, Eastern Cape

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the staff conducting the study or the doctor any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki, the South African Guidelines for Good Clinical Practice and the Medical Research Council Ethical Guidelines for Research.

What is this research study all about?
- This study will be conducted at Madwaleni Hospital and its surrounding clinics.
- The study aims to explore your perceptions regarding the health and social problems and needs facing their community.
- Questionnaire-based, structured interviews will be conducted with health care users, living in the catchment area of Madwaleni Hospital, who are unaware of their HIV status and health care users, living in the catchment area of Madwaleni Hospital, who are HIV+ and members of the Madwaleni HIV/ARV programme.

Why have you been invited to participate?
- As a member of the community, it is assumed you have valuable opinions regarding the health and social problems and needs facing the community and the researcher would appreciate it if you could share this knowledge.
What will your responsibilities be?
- To share to the best of your ability your understanding of the health and social problems and needs facing the community.
- To respond to the best of your ability to any questions regarding health and social problems and needs facing the community, as well as assist in showing how this knowledge can be integrated into the design and modification of future health education and disease prevention programmes.

Who will benefit from your taking part in this research?
- Health care providers, working at Madwaleni Hospital, to benefit from a better understanding of the actual health and social problems and needs facing the community.
- Madwaleni community members to benefit from an improved service more suited to their needs.

Are there any risks involved in your taking part in this research?
- No risks are involved when you participate in this research.

What will happen in the unlikely event of some form injury occurring as a direct result of your taking part in this research study?
- There is no risk of injury involved in participating in this study.

Will you be paid to take part in this study and are there any costs involved?
- No, you will not be paid to take part in the study. There will be no costs for you personally if you do take part.

Who will have access to information collected in this study?
- Information collected will be treated as confidential and protected. If it is used in a thesis or publication, the identity of the participant will remain anonymous.

Contact details
- You can contact Carolin Winkel at telephone 073 465 7989 or Dr Richard Cooke at telephone 084 240 3857 or at the health facility if you have any further queries or encounter any problems.
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

DECLARATIONS

I) Declaration by participant

By signing below, I agree to take part in a research study entitled: Perceptions of people living in the catchment area of Madwaleni Hospital, South Africa regarding the health and social problems facing their community.

I declare that:

- I have read or had someone read to me this information and consent form.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests or if I do not follow the study plan, as agreed to.

II) Declaration by investigator

By signing below, I declare that:

- I explained the information in this document to the participant.
- I encouraged him/her to ask questions and took adequate time to answer these questions.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above.
- I did not use a translator.

<table>
<thead>
<tr>
<th>Place</th>
<th>Date</th>
<th>Name of participant</th>
<th>Signature of participant</th>
<th>Name of investigator</th>
<th>Signature of investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03</td>
<td></td>
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</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Appendix 3 – List of possible health problems**

Health problems of the Madwaleni community as experienced by the 46 key informants  
*(Date source: Preliminary survey)*

<table>
<thead>
<tr>
<th>Health problems</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol abuse</td>
<td>1</td>
</tr>
<tr>
<td>Anaemia</td>
<td>1</td>
</tr>
<tr>
<td>Arthritis</td>
<td>3</td>
</tr>
<tr>
<td>Asthma</td>
<td>7</td>
</tr>
<tr>
<td>Bilharzia/ Schistosomiasis</td>
<td>6</td>
</tr>
<tr>
<td>Burns</td>
<td>5</td>
</tr>
<tr>
<td>Cancer</td>
<td>7</td>
</tr>
<tr>
<td>CCF</td>
<td>4</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>1</td>
</tr>
<tr>
<td>Cervix Cancer</td>
<td>1</td>
</tr>
<tr>
<td>Chicken pox</td>
<td>1</td>
</tr>
<tr>
<td>Childhood respiratory illness</td>
<td>1</td>
</tr>
<tr>
<td>Cholera</td>
<td>1</td>
</tr>
<tr>
<td>Chonic diseases</td>
<td>1</td>
</tr>
<tr>
<td>COPD</td>
<td>4</td>
</tr>
<tr>
<td>CP</td>
<td>2</td>
</tr>
<tr>
<td>CVA/ Stroke</td>
<td>8</td>
</tr>
<tr>
<td>Dental problems/ Caries</td>
<td>2</td>
</tr>
<tr>
<td>Depression</td>
<td>2</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>30</td>
</tr>
<tr>
<td>Disabilities</td>
<td>1</td>
</tr>
<tr>
<td>DVT</td>
<td>1</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>30</td>
</tr>
<tr>
<td>Fractures</td>
<td>2</td>
</tr>
<tr>
<td>Fungal infections</td>
<td>1</td>
</tr>
<tr>
<td>Gastroenteritis/ Diarhorea</td>
<td>24</td>
</tr>
<tr>
<td>Gynaecological probl., e.g. abortions, PID</td>
<td>5</td>
</tr>
<tr>
<td>Headache</td>
<td>1</td>
</tr>
<tr>
<td>Hemiparesis</td>
<td>1</td>
</tr>
<tr>
<td>High death rates/ -mortality</td>
<td>1</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>36</td>
</tr>
<tr>
<td>Hypertension</td>
<td>29</td>
</tr>
<tr>
<td>Infection</td>
<td>2</td>
</tr>
<tr>
<td>Kwashiokor</td>
<td>9</td>
</tr>
<tr>
<td>Lack of grants</td>
<td>1</td>
</tr>
<tr>
<td>Lack of health education</td>
<td>2</td>
</tr>
<tr>
<td>Lack of proper sanitation/ -sewage systems</td>
<td>2</td>
</tr>
<tr>
<td>Long distance to clinics</td>
<td>4</td>
</tr>
<tr>
<td>Long waiting times for patients to see doctor</td>
<td>2</td>
</tr>
<tr>
<td>No access to clean water</td>
<td>2</td>
</tr>
<tr>
<td>Oesophagus Cancer</td>
<td>1</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>9</td>
</tr>
<tr>
<td>Polio</td>
<td>3</td>
</tr>
<tr>
<td>Pregnancy related problems</td>
<td>3</td>
</tr>
<tr>
<td>Prostate Cancer</td>
<td>1</td>
</tr>
<tr>
<td>Rabies</td>
<td>1</td>
</tr>
<tr>
<td>Renal failure</td>
<td>1</td>
</tr>
<tr>
<td>Scabies</td>
<td>3</td>
</tr>
<tr>
<td>Shingles/ Herpes Zoster</td>
<td>1</td>
</tr>
<tr>
<td>Shortage of ambulances/ -patient transport</td>
<td>3</td>
</tr>
<tr>
<td>Shortage of clinics</td>
<td>3</td>
</tr>
<tr>
<td>Shortage of doctors and nurses</td>
<td>3</td>
</tr>
<tr>
<td>Shortage of material in clinics and hospital</td>
<td>1</td>
</tr>
<tr>
<td>Shortage of medication</td>
<td>3</td>
</tr>
<tr>
<td>STDs/ STIs</td>
<td>9</td>
</tr>
<tr>
<td>Stress</td>
<td>1</td>
</tr>
<tr>
<td>Suicide (-attempts)</td>
<td>2</td>
</tr>
<tr>
<td>TB</td>
<td>38</td>
</tr>
<tr>
<td>Teenage pregnancy</td>
<td>2</td>
</tr>
<tr>
<td>Trauma</td>
<td>5</td>
</tr>
<tr>
<td>Typhoid</td>
<td>9</td>
</tr>
<tr>
<td>Unsufficient antenatal care</td>
<td>1</td>
</tr>
<tr>
<td>Use of traditional medicine</td>
<td>1</td>
</tr>
<tr>
<td>UTI/ Haematuria</td>
<td>5</td>
</tr>
<tr>
<td>Worms</td>
<td>7</td>
</tr>
</tbody>
</table>
Appendix 4 – List of possible social problems

Social problems of the Madwaleni community as experienced by the 46 key informants
(Date source: Preliminary survey)

<table>
<thead>
<tr>
<th>Social problems</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS orphans</td>
<td>4</td>
</tr>
<tr>
<td>Alcohol abuse/ Alcoholism</td>
<td>26</td>
</tr>
<tr>
<td>Bad roads/ Poor infrastructure</td>
<td>14</td>
</tr>
<tr>
<td>Being without birth certificate/ ID book</td>
<td>3</td>
</tr>
<tr>
<td>Child abuse, e.g. poor feeding practice</td>
<td>4</td>
</tr>
<tr>
<td>Corruption</td>
<td>1</td>
</tr>
<tr>
<td>Crime</td>
<td>1</td>
</tr>
<tr>
<td>Decreasing traditional values</td>
<td>1</td>
</tr>
<tr>
<td>Decreasing subsistence farming</td>
<td>1</td>
</tr>
<tr>
<td>Dependency on social grants/ pension</td>
<td>10</td>
</tr>
<tr>
<td>Dirty environment</td>
<td>4</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>9</td>
</tr>
<tr>
<td>Drug abuse (&quot;Dagga&quot;)</td>
<td>21</td>
</tr>
<tr>
<td>Emotional and physical abuse</td>
<td>4</td>
</tr>
<tr>
<td>Family planning</td>
<td>3</td>
</tr>
<tr>
<td>Environmental influence/ Remote areas</td>
<td>3</td>
</tr>
<tr>
<td>Governm. services too slow in rural areas</td>
<td>7</td>
</tr>
<tr>
<td>High birth rates</td>
<td>2</td>
</tr>
<tr>
<td>High costs of basic foods at local shops</td>
<td>3</td>
</tr>
<tr>
<td>High death rates/ mortality</td>
<td>2</td>
</tr>
<tr>
<td>High rates of crime</td>
<td>4</td>
</tr>
<tr>
<td>High rates of divorce</td>
<td>2</td>
</tr>
<tr>
<td>(Stigmatisation of) HIV/AIDS</td>
<td>4</td>
</tr>
<tr>
<td>Housebreakings</td>
<td>1</td>
</tr>
<tr>
<td>Ignorance</td>
<td>1</td>
</tr>
<tr>
<td>Lack of education/ Illiteracy</td>
<td>20</td>
</tr>
<tr>
<td>Lack of health education</td>
<td>2</td>
</tr>
<tr>
<td>Lack of proper sanitation/ -sewage syst.</td>
<td>17</td>
</tr>
<tr>
<td>Lack of proper church-/ -school buildings</td>
<td>3</td>
</tr>
<tr>
<td>Lack of public transport</td>
<td>9</td>
</tr>
<tr>
<td>Lack of (sexual-) rights for women</td>
<td>5</td>
</tr>
<tr>
<td>Lack of social support</td>
<td>5</td>
</tr>
<tr>
<td>Lack of work opportunities/ Unemploym.</td>
<td>34</td>
</tr>
<tr>
<td>Long distance to the clinics</td>
<td>1</td>
</tr>
<tr>
<td>Loss of family struct. (Men work. in cities)</td>
<td>7</td>
</tr>
<tr>
<td>Multiple sexual partners/ Sex. behaviour</td>
<td>3</td>
</tr>
<tr>
<td>Murder</td>
<td>1</td>
</tr>
<tr>
<td>No access to clean water</td>
<td>26</td>
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<tr>
<td>No access to electricity</td>
<td>13</td>
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<tr>
<td>No access to media</td>
<td>4</td>
</tr>
<tr>
<td>No home-based care services/ -hospices</td>
<td>1</td>
</tr>
<tr>
<td>No projects for teenagers/ -the community</td>
<td>5</td>
</tr>
<tr>
<td>No regular food supply</td>
<td>8</td>
</tr>
<tr>
<td>No sport activities</td>
<td>2</td>
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<tr>
<td>Orphans/ Childheaded families</td>
<td>8</td>
</tr>
<tr>
<td>Overcrowding</td>
<td>13</td>
</tr>
<tr>
<td>Poor dietry understanding</td>
<td>1</td>
</tr>
<tr>
<td>Poor housing/ living conditions</td>
<td>4</td>
</tr>
<tr>
<td>Poor personal hygiene</td>
<td>4</td>
</tr>
<tr>
<td>Poor presence of police</td>
<td>1</td>
</tr>
<tr>
<td>Poverty</td>
<td>29</td>
</tr>
<tr>
<td>Pregnancies</td>
<td>1</td>
</tr>
<tr>
<td>Rape</td>
<td>14</td>
</tr>
<tr>
<td>Robberies/ Thefts</td>
<td>2</td>
</tr>
<tr>
<td>Schools too far from the communities</td>
<td>1</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>1</td>
</tr>
<tr>
<td>Shortage of clinic staff</td>
<td>2</td>
</tr>
<tr>
<td>Smoking</td>
<td>3</td>
</tr>
<tr>
<td>Street kids</td>
<td>3</td>
</tr>
<tr>
<td>Suicide</td>
<td>1</td>
</tr>
<tr>
<td>Teenage pregnancies</td>
<td>11</td>
</tr>
<tr>
<td>&quot;Uncivilised community&quot;</td>
<td>1</td>
</tr>
<tr>
<td>Violence (&quot;Assaults&quot;)</td>
<td>4</td>
</tr>
<tr>
<td>Violence between men</td>
<td>1</td>
</tr>
</tbody>
</table>
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Appendices

Appendix 5 – Questionnaire

Madwaleni community survey

<table>
<thead>
<tr>
<th>Interviewer</th>
<th>Place of interview</th>
<th>Date of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Nomanono</td>
<td>□ OPD</td>
<td></td>
</tr>
<tr>
<td>□ Nonpumelero</td>
<td>□ SG Bomvana</td>
<td></td>
</tr>
<tr>
<td>□ Noziswe</td>
<td>□ SG Soga</td>
<td></td>
</tr>
<tr>
<td>□ Tandi</td>
<td>□ SG Xora</td>
<td></td>
</tr>
</tbody>
</table>

Section 1 – Madwaleni community profile

<table>
<thead>
<tr>
<th>No.</th>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Sex <em>(Don’t ask, mark appropriate box.)</em></td>
<td>Male □ ----- Female □</td>
</tr>
<tr>
<td>02</td>
<td>Age</td>
<td>Age: ______ years/ Year of birth: 19 ___</td>
</tr>
<tr>
<td>03</td>
<td>Marital status</td>
<td>□ Never married</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Currently married</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Divorced</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Widowed</td>
</tr>
<tr>
<td>04</td>
<td>Sexual behaviour</td>
<td>Yes □ ----- No □</td>
</tr>
<tr>
<td></td>
<td><em>(In case you are currently sexually active:)</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>04.1) Do you use condoms?</td>
<td>Yes □ ----- No □</td>
</tr>
<tr>
<td></td>
<td>04.2) How many sexual partners do you currently have?</td>
<td>Yes □ ----- No □</td>
</tr>
<tr>
<td></td>
<td>04.3) Do you and your primary sexual partner live together or is your partner staying elsewhere?</td>
<td>0 □ ----- 1 □ ----- 2+ □</td>
</tr>
<tr>
<td></td>
<td>04.4) Do you think or know that your sexual partner/s has/ have other sexual partners?</td>
<td>□ Living together</td>
</tr>
<tr>
<td></td>
<td>04.5) Is it/ would it be acceptable that your sexual partner/s has/ have other sexual partners?</td>
<td>□ Staying elsewhere, local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Staying elsewhere, far away</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes □ ----- No □</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes □ ----- No □</td>
</tr>
<tr>
<td>05</td>
<td>Children</td>
<td>_____ children</td>
</tr>
<tr>
<td>06</td>
<td>How many children (&lt; 18 years) are currently staying with you?</td>
<td>_____ children</td>
</tr>
<tr>
<td>Appendix</td>
<td>Question</td>
<td>Options</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 07       | Education                                                               | □ Never been to school  
□ Grade _____ / Standard _____  
□ Bachelors degree  
□ BTech  
□ Higher degree (Masters/ PhD)  
□ Other (Specify): _______________ |
| 08       | Can you read and understand a letter or newspaper in your native language – easily, with difficulty or not at all? | □ Easily  
□ With difficulty  
□ Not at all |
| 09       | Employment status                                                       | Yes □ ---- No □  
09.1) What type of work do you mainly do?  
09.2) How many days do you work per week? |
| 10       | Household income                                                       | □ Never been to school  
□ Grade _____ / Standard _____  
□ Bachelors degree  
□ BTech  
□ Higher degree (Masters/ PhD)  
□ Other (Specify): _______________ |
| 08       | Can you read and understand a letter or newspaper in your native language – easily, with difficulty or not at all? | □ Easily  
□ With difficulty  
□ Not at all |
| 09       | Employment status                                                       | Yes □ ---- No □  
09.1) What type of work do you mainly do?  
09.2) How many days do you work per week? |
| 10       | Household income                                                       | □ Never been to school  
□ Grade _____ / Standard _____  
□ Bachelors degree  
□ BTech  
□ Higher degree (Masters/ PhD)  
□ Other (Specify): _______________ |
| 08       | Can you read and understand a letter or newspaper in your native language – easily, with difficulty or not at all? | □ Easily  
□ With difficulty  
□ Not at all |
| 09       | Employment status                                                       | Yes □ ---- No □  
09.1) What type of work do you mainly do?  
09.2) How many days do you work per week? |
| 10       | Household income                                                       | □ Never been to school  
□ Grade _____ / Standard _____  
□ Bachelors degree  
□ BTech  
□ Higher degree (Masters/ PhD)  
□ Other (Specify): _______________ |
| 08       | Can you read and understand a letter or newspaper in your native language – easily, with difficulty or not at all? | □ Easily  
□ With difficulty  
□ Not at all |
| 09       | Employment status                                                       | Yes □ ---- No □  
09.1) What type of work do you mainly do?  
09.2) How many days do you work per week? |
| 10       | Household income                                                       | □ Never been to school  
□ Grade _____ / Standard _____  
□ Bachelors degree  
□ BTech  
□ Higher degree (Masters/ PhD)  
□ Other (Specify): _______________ |
### Water
What source of water do you use most often for drinking?

- ☐ Piped water, internal tap
- ☐ Piped water, yard tap
- ☐ Piped water, tap outside yard
- ☐ Rainwater tank
- ☐ Flowing river/ stream
- ☐ Stagnant water/ dam
- ☐ Bottled water
- ☐ Other (Specify): _______________

*In case you have to fetch drinking water:*
16.1) Who is fetching the water?
16.2) Average number of trips per day?
16.3) How long does each trip take on average?
16.4) How much is carried to the house per trip?

<table>
<thead>
<tr>
<th>Number of Trips</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Less than 15 minutes</td>
<td>☐ 15 minutes to 1 hour</td>
</tr>
<tr>
<td>☐ More than 1 hour</td>
<td></td>
</tr>
</tbody>
</table>

### Sanitation
What kind of toilet facility do you use?

- ☐ Flush toilet, connected to sewerage system
- ☐ Flush toilet, with septic tank
- ☐ Improved pit latrine, with ventilation
- ☐ Other pit latrine, without ventilation
- ☐ Non/ Bush/ Field
- ☐ Other (Specify): _______________

### Energy
Is your dwelling connected to electricity supply? Yes ☐ No ☐

Which is your main source of energy for the following household activities?
1 – Heating water/ Cooking
2 – Lighting
3 – Heating home

1 – 2 – 3
- ☐ – ☐ – ☐ Electricity
- ☐ – ☐ – ☐ Paraffin
- ☐ – ☐ – ☐ Wood
- ☐ – ☐ – ☐ Charcoal/ Coal
- ☐ – ☐ – ☐ Gas from bottle
- ☐ – ☐ – ☐ Other (Specify): _______________
<table>
<thead>
<tr>
<th>Appendix 19</th>
<th><strong>In case you have to collect wood:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>19.1</strong></td>
<td>Who is collecting the wood?</td>
</tr>
<tr>
<td><strong>19.2</strong></td>
<td>Average number of trips per week?</td>
</tr>
<tr>
<td><strong>19.3</strong></td>
<td>How long does each trip take on average?</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appendix 20</th>
<th><strong>Household goods</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Which of the following goods do you and your household have?</td>
</tr>
</tbody>
</table>

- Radio
- TV
- Letter-box
- Cell phone
- Computer
- Internet
- Geyser
- Fridge
- Stove
- Washing machine
- Bicycle
- Motorbike
- Car

<table>
<thead>
<tr>
<th>Appendix 21</th>
<th><strong>Land</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Which of the following land is attached to your dwelling?</td>
</tr>
</tbody>
</table>

- Small garden
- Own plot/field
- Rented plot/field
- Communal plot/field

<table>
<thead>
<tr>
<th>Appendix 22</th>
<th><strong>How do you use your land?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All for crops</td>
</tr>
<tr>
<td></td>
<td>For crops and grazing</td>
</tr>
<tr>
<td></td>
<td>All for grazing</td>
</tr>
<tr>
<td></td>
<td>Other (Specify): ____________</td>
</tr>
<tr>
<td></td>
<td>The land does not get used at all</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appendix 23</th>
<th><strong>How many livestock:</strong> How many of the following animals does your household own at the moment?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>_____ cattle</td>
</tr>
<tr>
<td></td>
<td>_____ sheep</td>
</tr>
<tr>
<td></td>
<td>_____ goats</td>
</tr>
<tr>
<td></td>
<td>_____ poultry</td>
</tr>
<tr>
<td></td>
<td>_____ horses</td>
</tr>
<tr>
<td></td>
<td>_____ donkeys</td>
</tr>
</tbody>
</table>
### Access to health care and transport

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>24</strong></td>
<td><strong>Access to health care and transport</strong></td>
</tr>
<tr>
<td></td>
<td>What is your closest clinic?</td>
</tr>
<tr>
<td></td>
<td>(If answer is “Vukukanye clinic”, skip quest. 28 – 30.)</td>
</tr>
<tr>
<td><strong>25</strong></td>
<td>About how long, in total, does it normally take you to get to this clinic?</td>
</tr>
<tr>
<td></td>
<td>____ minutes</td>
</tr>
<tr>
<td><strong>26</strong></td>
<td>What kind of transport do you use to get to this clinic?</td>
</tr>
<tr>
<td></td>
<td>□ Walk</td>
</tr>
<tr>
<td></td>
<td>□ Bicycle/ Motorbike/ Car</td>
</tr>
<tr>
<td></td>
<td>□ Taxi/ Public transport</td>
</tr>
<tr>
<td><strong>27</strong></td>
<td>How much does it cost you to get to this clinic and back home?</td>
</tr>
<tr>
<td></td>
<td>____ Rand/ trip, return</td>
</tr>
<tr>
<td><strong>28</strong></td>
<td>About how long, in total, does it normally take you to get to Madwaleni Hospital?</td>
</tr>
<tr>
<td></td>
<td>____ minutes</td>
</tr>
<tr>
<td><strong>29</strong></td>
<td>What kind of transport do you use to get to Madwaleni Hospital?</td>
</tr>
<tr>
<td></td>
<td>□ Walk</td>
</tr>
<tr>
<td></td>
<td>□ Bicycle/ Motorbike/ Car</td>
</tr>
<tr>
<td></td>
<td>□ Taxi/ Public transport</td>
</tr>
<tr>
<td><strong>30</strong></td>
<td>How much does it cost you to get to Madwaleni Hospital and back home?</td>
</tr>
<tr>
<td></td>
<td>____ Rand/ trip, return</td>
</tr>
</tbody>
</table>

### Section 2 – Health and social problems facing the community

**Question 31:** What in your opinion could be done to most help you to improve your living conditions? In other words: Apart from money – what do you and your household need most? Please, tell me 3 different things! (When 3 things are mentioned, ask: Which of these 3 do you need most? → Rank 1. Which comes second? → Rank 2. Third mentioned need. → Rank 3.)

________________________________________ → Rank: ______
________________________________________ → Rank: ______
________________________________________ → Rank: ______

**Question 32:** From your own point of view what are the biggest health and social problems in your community? Please, tell me 3 different things! (When 3 problems are mentioned, ask: Which of these 3 is the biggest problem? → Rank 1. Which comes second? → Rank 2. Third mentioned problem. → Rank 3.)

________________________________________ → Rank: ______
________________________________________ → Rank: ______
________________________________________ → Rank: ______
Question 33: How strongly do the following health and social problems affect your community? Are they massive OR major OR minor OR no problem at all?

<table>
<thead>
<tr>
<th>How much of a problem do you consider (the mentioned problem) to be in your community?</th>
<th>Massive problem</th>
<th>Major problem</th>
<th>Minor problem</th>
<th>No problem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthritis</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Asthma</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Bilharzia</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Burns</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Cancer</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Dental problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Depression &amp; stress</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Ear &amp; hearing ability problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Eye &amp; vision problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Fractures</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Headache</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Heart failure</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Herpes Zoster</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Hypertension</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>Lung infection</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Malnutrition</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Measles</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Meningitis</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Musculoskeletal problems, e.g. backache or waistache</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Pregnancy-related problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Psychiatric problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Rabies</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
## Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

### Appendices

<table>
<thead>
<tr>
<th>How much of a problem do you consider (the mentioned problem) to be in your community?</th>
<th>Massive problem</th>
<th>Major problem</th>
<th>Minor problem</th>
<th>No problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin rashes</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>STIs</td>
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<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Stroke</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>TB</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>UTIs</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Worms</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td><strong>Social problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abortions</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Alcohol abuse</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Change of family structure, e.g. men working in the cities</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Cleaness of environment</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Corruption</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Decrease of traditional values</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Dependency on social grants</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Education &amp; illiteracy</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Employment &amp; lack of work opportunities</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Food supply</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Governmental services, e.g. education, health care, legal system and social services</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>High birth rates</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Infrastructure &amp; roads</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Lack of public transport</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Murder</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Orphans &amp; child-headed families</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Personal hygiene</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Polygamy</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Poverty</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

### Appendices

<table>
<thead>
<tr>
<th>How much of a problem do you consider <em>(the mentioned problem)</em> to be in your community?</th>
<th>Massive problem</th>
<th>Major problem</th>
<th>Minor problem</th>
<th>No problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rape</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Robberies &amp; thefts</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Smoking</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Stigmatisation of HIV/AIDS</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Suicides</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Teenage pregnancies</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Violence</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Women’s rights</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**Question 34:** Are there any health or social problems that strongly affect your community missing in this list? Please name them:

_______________________________________________________________________________________

_______________________________________________________________________________________

### Section 3 – Health education and disease prevention topics

**Question 35:** How much are you interested in the following health education and disease prevention topics? In other words: Would you attend the health education sessions at your clinic or hospital if they would be offered? Are you very interested OR medium interested OR only a little interested OR not at all interested?

<table>
<thead>
<tr>
<th>How much are you interested in health education about:</th>
<th>Very interested</th>
<th>Medium interested</th>
<th>Only a little interested</th>
<th>Not at all interested</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disease specific</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Obesity &amp; related diseases, e.g. diabetes mellitus &amp; hypertension</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>STIs</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>TB</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td><strong>Miscellaneousness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol &amp; drug-related problems</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Basic first aid, e.g. for cuts or small wounds</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Body &amp; muscle pain</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Dangers of traditional medicine</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Dental &amp; mouth hygiene</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Depression &amp; stress</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
### How much are you interested in health education about:

<table>
<thead>
<tr>
<th>Category</th>
<th>Very interested</th>
<th>Medium interested</th>
<th>Only a little interested</th>
<th>Not at all interested</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Miscellaneoussness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy nutrition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric diseases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water &amp; sanitation, e.g. hygiene or prevention of gastroenteritis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Children related</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child development &amp; early learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cough &amp; colds</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Immunisation</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Injury prevention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition &amp; growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Women related</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast &amp; cervical cancer check-up &amp; pap smears</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfeeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family planning &amp; timing births</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female condoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical &amp; sexual abuse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe motherhood &amp; pregnancy issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Men related</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erectile dysfunction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate &amp; testicular cancer check-up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe circumcision</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Question 36:** Are there any health education and disease prevention topics that you want to learn about missing in this list? Please name them:

_______________________________________________________________________________________
_______________________________________________________________________________________
Appendix 6 – Xhosa version of the questionnaire

Ubalo lwabantu baseMadwaleni

Icandelo lokuqala 1 – Ulwazi oluphangaleleyo malunga nezentlalo
1. Isini – Indoda/ Owasethyini
2. Mingaphi iminyaka yakho? (Okanye: Wazalwa ngowuphi unyaka?) – Iminyaka ... (Okanye: Unyaka wokuwalwa ...)
3. Utshatile okanye awutshatanga? – Zange ndatshata/ Nditshatile/ Ndiwuqaphawule umtshato/ Ndingumhlolo (Umhlolokazi)
4. Ungaba use nomdla wokwabelana nge sondo? – Ewe/ Hayi
   4.1 Uyazisebenzisa iicondoms? – Ewe/ Hayi
   4.2 Mangaphi amaqabane akho? – 0/ 1/ 2+
   4.3 Ingaba wena neqabane lakho nihlala nobabini? Okanye yena uhlahla kwenye indawo?
   4.4 Ingaba uyayazi/ ukuba iqabane lakho lihambisana namanye amaqabane ngaphandle kwakho? – Ewe/ Hayi
   4.5 Ivumelekile ukuba iqabane lakho libe nawo amanye amaqabane ngaphandle kwakho? – Ewe/ Hayi
5. Bangaphi abantwana obazalayo/ abangabakho ngqo? – ... yabantwana
6. Bangaphi abantwana ohlala nabo abangaphantsi kweshumi elinesibhozo? – ... yabantwana
7. Esikolweni uphumelele eliphi ibanga? – Zange ndiye esikolweni/ Ibanga .../ Isidanga se .../ Isidanga setekinikoni .../ Masters or PhD/ Enye
8. Uyakwazi ukufunda nokuqonda incwadi okanye iphepha ndaba eli bhalwe ngolwimi lakho? – Lula/ Kanzima/ Andikwazi kwaphela
9. Uyaphangela? – Ewe/ Hayi
   9.1 Wenza msebenzi mni? – ... 9.2 Usebenza intsuku ezingaphi ngeveki? – ... uku/ ngeveki
10. Kuhlala abantu abangaphi endlini yakho/ kwindawo ohlala kuyo? – Abantu abayi ...
11. Ukuba uya phangala ufumana malini ngenyanga? – I ... ngenyanga
12. Sesiphi isibonelelo sika rulumente osifumanayo? – ... Isibonelelo somntwana/ ... Isibonelelo sokukhubazeka (ukugula)/ ... Isibonelelo sobudala/ ... Esinye isibonelelo
13. Uhlahla kwindlu enjani? – ... Indlu yengca nguronta/ ... Indlu epheleleyo eyakhiwayo/ ... Kumkhukhu/ Enye
14. Mangaphi amagumbi akhoyo kule ndlu yakho ngaphandle kwendlu yangasese neyokuhla mbela? – ...
15. Indawo ohlala kuyo ingaba i ikwesipi isigaba? – Umhlaba wakho obhatalweno/ Umhlaba wakho ongeka bhatalwa/ Uyarenta inyanga ngenyanga/ Linxiwa lakho awurenti/ Enye
16. Usebenzisa awaphi amanz xa uzakusela? – Amanzi wetephu yangaphakathi/ Amanzi wetephu eseyhadini/ Amanzi asuka kwitepu engaphandle/ I tanki lamanzi emvula/ Amanzi asemlanjeni/ Amanzi amileyo asedamini/ Amanzi asebhotileni/ Amanye
   Xa kufuneka uwakhe amanzi emlanjeni:
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Appendices

16.1 Ngubani owakhayo? – ...
16.2 Uwakha kangaphi ngosuku? – ...
16.3 Kukude kanga kanani kule ndawo uwakha kuyo? – Ngaphantsi kwemizuzu eyi 15/ Imizuzu eyi 15 uyotsho kwiyure 1/ Ngaphezu kweyure eyi 1
16.4 Zingaphi ilitha athi ezenazo njalo esiya kuyokukha? – Ilitha eziyi ... njalo esiya kukha

18. Ingaba indawo ohlala kuyo inombane? – Ewe/ Hayi
Xa kunothi kanti uqokelela iinkuni:
19.1 Ngubani oqokelelayo?
19.2 Uqokelela kangaphi ngeveki? – ...
19.3 Kukude kangakanani kule ndawo aqokelela kuyo? – Ngaphantsi kwemizuzu eyi kwiyure 1/ Imizuzu eyi kwiyure 1 uyotsho kwiyure 3/ Ngaphezu kweyure eyi 1
22. Umhlaba wakhokwokungxulwayo umfundo uhlala kuyo? – ... umfundo uhlala kuyo
23. Ingakanani imfuyo onayo ekhaya? – ... iinko mo/ ... iigusha/ ... iibhokhwe/ ... inkukhu/ ...
24. Yeyiphi ikliniki yakho ekufutshane? – ...
25. Ikuthatha ixesha elingakanani ukufika kuyo? – ...
26. Usebenzisa esiphi isithuthi ukuyaku fika kulo kliniki yakho? – Ndiyangenyawo/ Ndikhwela ibhayisekile (isithuthuthu/ imoto)/ Itaxi okanye isithuthi sika wonkewonke
27. Ubhatala malini ukuya nokubuya kule kliniki? – Imali eyi ...
28. Kubhatala malini ukuya esibhedlele eMadwaleni? – ...
29. Ubhatala malini ukuya esibhedlele eMadwaleni? – ...
30. Ubhatala malini ukuya esibhedlele eMadwaleni nokubuya? – ...

Icandelo lokuqala 2 – Ezempilo nezentlalo ingxaki kunye nezidingo zasekuhlaleni
31. Yeyiphi into enokunceda ukuphucula indlela ophila ngayo ngaphandle kwemali, izindingo zakho nosapho lwakho zithini? Nika zibe 3 uzitsho ngokubaluleka kwazo usukela ku 1 uyokutsho ku 3!

XXV
32. Ngokubona kwakho, zeziphi ingxaki ze mpilo nentlalo elalini yakho? Nika zibe 3 uzitsho ngokubaluleka kwazo usukela ku 1 uyokutsho ku 3!

33. Ingaba ezingxaki zilandelayo malunga nezempilo nezentlalo ziyani caphazela ekuhlaleni na?
   Ingaba inkulu kangakanani le naxaki ekuhlaleni? – Ingxaki inkulu kakhulu/ Ingxaki inkulu/
   Ingxaki incinci/ Ayikho ingxaki
   Isifo sama thambo
   Isifo sesifuba
   Ukuchama igazi
   Ukutsha kolusu
   Isifo somhlaza
   Izigulo zamazinyo
   Unxunguphalo nomvandedwa
   Isifo seswekile
   Isifo sendlebe nokungeva
   Ukuxhuzula
   Ingxaki yamehlo nokungaboni
   Ukophuka kwamathambo
   Ukuhambisa nokugabha
   Ukuqaqanjelwa yintloko
   Isifo sentliziyo
   Herpes Zoster/ Shingles/ Band
   Ugawulayo/ iNgculaza
   iHayihayi/ iPletsha
   Isifo semiphunga
   Ukungondeki
   Masisi
   Ukudumba kwengqondo
   Ingxaki zeziuhlunu umzekelo umqolo okanye ukuqaqanjelwa sisinqe
   Ingxaki ezimalunga nokukhulelwa
   Isigulo sengqondo
   Umqada
   Rhatshalala
   Izifo zangaphantsi
   Ukufelwa licala lomzimba
   Isifo sephepha
   Umchamo otshisayo
   lintshulube
   Ukukhupa isisu
   Ukuseteyenziswa kotywala gwenxa
   Utshintsho kusapho, i.e. umondli ayophange la kude ezidolophini
   Ucoceko kwindawo ohlala kuyo
Urhwaphilizo
Ukuncipha kwamasiko nezithethe
Uxhomekeko kwizibonelelo zika rhulumente
Impatheko mbi ekhaya
Ukusetyenziswa kakubi kweziyobisi – intsangu
Imfundo
Imisebenzi & nokungabikho kwamathuba omsebenzi
Ukunqaba kokutya
Inkonzo zika rhulumente, e.g. imfundo, ezempilo, ezomthetho nezophuhliso
Izinga elikhulu lokuzala
Izakhiwo nendlela
Ukungabikho kwezithuthi zikawonke wonke
Ukubulala
linkedama nentsapho ezijongwe ngabantwana abancinci
Ucoceko lomzimba nendawo ohlala kuyo
Isithembu
Intlupheko
Udlwengulo
Ubusela noqhekezo
Ukutshaya
Ukuphila nesifo sikagawulayo
Izinga lokuzibulala
Ukukhulelwana kwabantwana
Ubundlobongela
Amalungelo oomama

34. Ingaba zikhona ezinye ingxaki ezikhoyo ekuhlaleni ezingakhankanywanga kwezi zingentla zibhale ngezantsi apha? – ... 

Icandelo lokuqala 3 – Ezempilo nezentlalo ingxaki kunye nezidingo zasekuhlaleni
35. Ingaba unomdla kangakanani ekufundisweni malunga nezempilo kwezi zintlo zilandelayo? –
Ndinomdla khakhulu/ Ndinomdla phakathi/ Ndinomdla kancinci/ Andinammdla kwaphela
Isifo ugwulayo
Ukutyeba/ Ukubamkhulu ude ubeneswekile ne hayihayi
Izilonda/ Izifo zangaphantsi
Isifo sephepha
Ingxaki ezimalunga notywala nezi yobisi
Ikiti yokunceda umntu onamanxeba nezilonda
Ukuqaqanjelwa ngumzimba okanye isihlunu
Izilumkiso malunga nokusetyenziswa kwamayeza esixhosa
Ucoceko lwamazinyo nomlomo
Unxunguphalo nomvandedwa
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Appendices

Ukutya okuya egazini
Izifo ezimalunga nengqondo
Amanzi nococeko/ Ukuvimbela ukuhambisa nokugabha
Ukukhula komntwana nemfundiso ngaye esemncinane
Ukukhohlela nomkhuhlane/ ifiva
Ukuthintela
Unqando lweengozi ezinothi zenzeke
Ukutya kwegazi nokukhula
Iintshulube
Uhlolo lomhlaza wamabele nesibeleko
Uncanciso lwabantwana
Ukucwangcisa nexesha lokuba nomntwana/ ukuzala
Icondoms zabasetyhini/ Isikhuselo somama
Impatho gadalala ngokwesini
Ukhuseleko lokukhulisa abantwana neengxaki zokukhulelwana
Ukungavukelwa kotata xa besiya kwezesondo
Uhlolo lomhlaza wangaphantsi kotata
Ulwaluko olukhuselekileyo

36. Ingaba zikhona ezinye iingxaki malunga nokufundiswa ngezempilo nokuthintela izifo enifuna ukufunda ngazo ezingabalwanga kwezi zingentla? – ...
Appendix 7 – Photos of the Madwaleni community

<table>
<thead>
<tr>
<th>Madwaleni area, view from the main road</th>
<th>Madwaleni area, local village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Madwaleni area, local village</td>
<td>Typical gravel road, close to Bulungula</td>
</tr>
<tr>
<td>Typical gravel road, close to Bulungula</td>
<td>Bridge, leading to Madwaleni Hospital</td>
</tr>
<tr>
<td>Traditional ‘rondavels’, constructed of mud bricks -</td>
<td>- with thatched roofs</td>
</tr>
</tbody>
</table>
Appendices

<table>
<thead>
<tr>
<th>The inside of a 'rondavel' - everything in one room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pit latrine, without ventilation</td>
</tr>
<tr>
<td>Pit latrine, with ventilation</td>
</tr>
<tr>
<td>Typical livestock: Chicken, goats - and horses</td>
</tr>
</tbody>
</table>

XXX
<table>
<thead>
<tr>
<th>Cattle, used for farming purposes</th>
<th>Mbashe river</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xhora river: People doing their washing</td>
<td>Stagnant dam</td>
</tr>
<tr>
<td>Local women fetching wood</td>
<td>'Spaza shops' outside Madwaleni Hospital</td>
</tr>
<tr>
<td>Gwebindlala Junior Secondary School -</td>
<td>- and its pit latrines</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Madwaleni Hospital: Entrance</td>
<td>Madwaleni Hospital: Main buildings</td>
</tr>
<tr>
<td>Madwaleni Hospital: OPD</td>
<td>Madwaleni Hospital: TB ward</td>
</tr>
</tbody>
</table>
Perceptions of people living in the catchment area of Madwaleni Hospital regarding the health and social problems facing their community

Appendices

<table>
<thead>
<tr>
<th>Mqhele clinic (PHC)</th>
<th>Xhora health centre (CHC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile clinic</td>
<td>Patient transport</td>
</tr>
<tr>
<td>Madwaleni Hospital: Rehabilitation department</td>
<td>Wheelchair Basketball team</td>
</tr>
<tr>
<td>Monthly Diabetes workshop</td>
<td>Madwaleni HIV/ARV programme: VCT</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Madwaleni HIV/ARV programme: Support Group</td>
<td>Madwaleni HIV/ARV programme: Dispensing of ARVs</td>
</tr>
<tr>
<td>Madwaleni HIV/ARV programme celebration -</td>
<td>- Nkanya Support Group</td>
</tr>
</tbody>
</table>

XXXIV
Appendices

**Appendix 8 – Children in the Madwaleni community**

<table>
<thead>
<tr>
<th>Number of biological children</th>
<th>N</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>45</td>
<td>22.5</td>
</tr>
<tr>
<td>1</td>
<td>36</td>
<td>18.0</td>
</tr>
<tr>
<td>2</td>
<td>34</td>
<td>17.0</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>12.5</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>8.0</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>7.5</td>
</tr>
<tr>
<td>6</td>
<td>13</td>
<td>6.5</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>4.0</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Table: Number of biological children of the Madwaleni community members (N=200)

<table>
<thead>
<tr>
<th>Number of children cared for</th>
<th>N</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>39</td>
<td>19.7</td>
</tr>
<tr>
<td>1</td>
<td>30</td>
<td>15.2</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>17.7</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>15.7</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>11.6</td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>7.1</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>4.0</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>2.0</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Table: Number of children cared for by the Madwaleni community members (N=198)
### Appendix 9 – Economic sectors and occupations in the Madwaleni area

<table>
<thead>
<tr>
<th>Economic sector</th>
<th>Occupation</th>
<th>N</th>
<th>Percentage (%)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Welding-worker</td>
<td>1</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Health Services</td>
<td>Auxiliary health worker</td>
<td>2</td>
<td>5.1</td>
<td>28.2</td>
</tr>
<tr>
<td></td>
<td>Community health worker</td>
<td>5</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Counsellor</td>
<td>1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Home-based carer</td>
<td>2</td>
<td>5.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
<td>1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>Mine-worker</td>
<td>5</td>
<td>12.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Private households</td>
<td>Baby-sitter</td>
<td>1</td>
<td>2.6</td>
<td>12.8</td>
</tr>
<tr>
<td></td>
<td>Maid</td>
<td>4</td>
<td>10.3</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Taxi-driver</td>
<td>5</td>
<td>12.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Utilities</td>
<td>Car-washer</td>
<td>2</td>
<td>5.1</td>
<td>20.5</td>
</tr>
<tr>
<td></td>
<td>Cashier</td>
<td>1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hair-dresser</td>
<td>1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Security guard</td>
<td>1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shop-keeper</td>
<td>3</td>
<td>7.7</td>
<td></td>
</tr>
<tr>
<td>Unspecified</td>
<td>General assistant</td>
<td>1</td>
<td>2.6</td>
<td>10.3</td>
</tr>
<tr>
<td></td>
<td>Self-employed</td>
<td>3</td>
<td>7.7</td>
<td></td>
</tr>
</tbody>
</table>

Table: Occupations of the employed Madwaleni community members (N=39)
### Appendix 10 – Improvement of living conditions

<table>
<thead>
<tr>
<th>Goods needed</th>
<th>N</th>
<th>Percentage (%)</th>
<th>Ranked 1</th>
<th>Ranked 2</th>
<th>Ranked 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better roads</td>
<td>47</td>
<td>7.8</td>
<td>9</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Bicycle</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Car</td>
<td>24</td>
<td>4.0</td>
<td>8</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Cell phone</td>
<td>3</td>
<td>0.5</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Computer</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Crops for cultivation</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Electricity</td>
<td>142</td>
<td>23.7</td>
<td>75</td>
<td>41</td>
<td>26</td>
</tr>
<tr>
<td>Flush toilet</td>
<td>95</td>
<td>15.8</td>
<td>20</td>
<td>35</td>
<td>41</td>
</tr>
<tr>
<td>Food</td>
<td>4</td>
<td>0.6</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fridge</td>
<td>16</td>
<td>2.6</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Furniture</td>
<td>9</td>
<td>1.5</td>
<td>2</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Generator</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Home extension</td>
<td>38</td>
<td>6.4</td>
<td>22</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Internet</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Livestock</td>
<td>16</td>
<td>2.6</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Plot/ field for cultivation</td>
<td>16</td>
<td>2.6</td>
<td>2</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Post box</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Radio</td>
<td>3</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Stove</td>
<td>3</td>
<td>0.5</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Tap water</td>
<td>109</td>
<td>18.2</td>
<td>39</td>
<td>44</td>
<td>26</td>
</tr>
<tr>
<td>Telkom telephone</td>
<td>5</td>
<td>0.8</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Television</td>
<td>24</td>
<td>4.0</td>
<td>6</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Washing machine</td>
<td>1</td>
<td>0.2</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wires for garden/ field</td>
<td>3</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No goods needed</td>
<td>36</td>
<td>6.0</td>
<td>3</td>
<td>7</td>
<td>26</td>
</tr>
</tbody>
</table>

Table: Goods needed by the Madwaleni community sample (N=600)
Appendix 11 – Weightiest health and social problems

<table>
<thead>
<tr>
<th>Problem categories</th>
<th>N</th>
<th>Percentage (%)</th>
<th>Ranked 1</th>
<th>Ranked 2</th>
<th>Ranked 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol abuse</td>
<td>18</td>
<td>3.0</td>
<td>12</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Child abuse</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Chronic diseases</td>
<td>6</td>
<td>1.0</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Drug abuse</td>
<td>12</td>
<td>2.0</td>
<td>1</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Employment &amp; work</td>
<td>14</td>
<td>2.3</td>
<td>9</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Education &amp; schools</td>
<td>18</td>
<td>3.0</td>
<td>13</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Food supply</td>
<td>4</td>
<td>0.6</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>High birth rates</td>
<td>9</td>
<td>1.5</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>High death rates</td>
<td>6</td>
<td>1.0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>6</td>
<td>1.0</td>
<td>1</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Infrastructure &amp; roads</td>
<td>23</td>
<td>3.9</td>
<td>9</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Lack of clean water</td>
<td>28</td>
<td>4.7</td>
<td>7</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Lack of clinics</td>
<td>17</td>
<td>2.8</td>
<td>12</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lack of public transport</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Lazy youth</td>
<td>2</td>
<td>0.3</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Murder</td>
<td>5</td>
<td>0.8</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No access to electricity</td>
<td>12</td>
<td>2.0</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Personal hygiene</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Poor housing</td>
<td>5</td>
<td>0.8</td>
<td>0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Poor sanitation</td>
<td>21</td>
<td>3.5</td>
<td>6</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Poverty</td>
<td>9</td>
<td>1.5</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Rape</td>
<td>3</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Robberies &amp; thefts</td>
<td>21</td>
<td>3.5</td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Suicides</td>
<td>1</td>
<td>0.2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>TB</td>
<td>2</td>
<td>0.3</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Teenage pregnancies</td>
<td>5</td>
<td>0.8</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Violence</td>
<td>6</td>
<td>1.0</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>No problems stated</td>
<td>343</td>
<td>57.2</td>
<td>100</td>
<td>120</td>
<td>123</td>
</tr>
</tbody>
</table>

Table: Weightiest health and social problems of the Madwaleni community (N=600)
Acknowledgements

I particularly would like to thank Tom Boyles and Lynne Wilkinson for their valuable advice and constructive comments on my thesis; I wouldn’t have been able to complete this work without your guidance and support.

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Carolin
I, Carolin Winkel, hereby declare that I have independently prepared this thesis. I have not used any sources other than the ones mentioned. The research and this dissertation have been supervised by Prof. Dr. med. Dipl.-Psych. Joachim Kugler, director of the department of Public Health of the Dresden University of Technology. The presented work has never been handed in for the pursuit of an academic degree or for the purpose of an academic exam before.


Dresden, 14. July 2010

Carolin Winkel
**Theses**

**Madwaleni community profile and characteristics**

1) Particularly interesting in light of the HIV/AIDS epidemic, more than 90 % of the sexually active community members were monogamous at the time of the survey.

2) While only 36.4 % of the men and women unaware of their HIV status used condoms, 76.5 % of the HIV+ community members claimed to do so, indicating that the Madwaleni HIV wellness programme and especially its counselling and health education components are adequate and valuable in serving their purpose.

3) Only 56.5 % of the interviewed community members were ‘functionally literate’ at the time of the survey; of those, only 8 % had received a matriculation and not one of the community members had received any higher degree.

4) In addition, 19.5 % of the sampled men and women were not able to read at all.

5) Only 20 % of the community members were employed at the time of the survey.

6) Taking the daily income per capita as a reference, one third of the community members suffered from ‘moderate poverty’, defined as an income of 1 to 2 US $ per day, while the other two thirds suffered from ‘extreme poverty’, defined as an income of less than 1 US $ per day, although more than 90 % of the corresponding households received at least one type of welfare grant already.

7) In the Madwaleni community, an average of eight people lived together per household at the time of the survey, whereas 95 % of the community members lived in traditional dwellings, constructed from freely occurring natural resources.

8) More than 80 % of the Madwaleni community members obtained their drinking water from rivers or stagnant dams, while only 6.5 % used rain water and 9.5 % had access to piped water.

9) Almost 70 % of the community members had no access to any sanitary systems, using nearby bushes instead.

10) Furthermore, more than 90 % had no access to electricity; the majority used paraffin for cooking, candles for lighting and wood for heating their homes.

11) In the Madwaleni area, 90 % of the families owned a small garden patch attached to their houses, used for small-scale cultivation.

12) In addition, almost 90 % owned livestock, mainly poultry, cattle and goats.

13) Crops and animals were used to provide an extra source of food; however, not one of the households could solely live on subsistence farming.

14) On average, each of the community members needed three-quarters of an hour to access their closest clinic and almost one and a half hours to reach Madwaleni Hospital, with 40 % and 60 % respectively depending on taxi transport to get there.
Comparing the Madwaleni community characteristics with corresponding data from apartheid-times, no substantial improvement of the living circumstances and conditions could be noticed, proving that governmental and non-governmental actions, programmes and services have not yet reached all remote communities.

Comparing these characteristics with corresponding features of communities in the immediate or surrounding areas, namely Cwebe, Ntubeni, Mboya, Shixini and Zithulele, various similarities could be detected, indicating that the living circumstances and conditions might be generalisable to a certain degree, at least to deeply rural communities in the former Transkei area.

The Madwaleni community differed significantly from the general South African population in 75 % of the compared characteristics, whereas the Madwaleni community members were substantially more disadvantaged.

For example, the illiteracy rate (21.7 % vs. 13.6 %, p = 0.002) and unemployment rate (80.5 % vs. 25.5 %, p < 0.001) were significantly higher.

In addition, the ‘poverty headcount ratio of 2 US $ per day’ showed that significantly more people were suffering from poverty in the Madwaleni area (92.2 % vs. 34 %, p < 0.001).

The Madwaleni community members were less likely to have access to clean drinking water, along with significantly higher proportions of them using river water as their main source of drinking water (75.5 % vs. 5.1 %, p < 0.001).

Also, they were less likely to have access to any sanitation or toilet facilities (31.3 % vs. 91.8 %, p < 0.001) or to electricity (8.5 % vs. 80.2 %, p < 0.001).

**Weightiest health and social problems as experienced by the Madwaleni community**

In the Madwaleni area, the health problems with the highest impact on the community were TB, HIV/AIDS and hypertension.

Musculoskeletal problems and headache were additional health problems with relevant impact on the Madwaleni community.

Interestingly, six health problems were rated higher by HIV untested than by HIV+ community members, namely bilharzia/ schistosomiasis, epilepsy, Herpes Zoster, HIV/AIDS, lung infections and stroke; since the HIV+ men and women were educated about and screened for all of those diseases within the Madwaleni HIV/AIDS programme, this might explain the deviating rating patterns.

For the Madwaleni community, social matters had a higher impact on their lives than health problems, whereas the social problems with the highest impact on the community were alcohol abuse, dependency on social grants and smoking.
In accordance with these findings, employment & lack of work opportunities, education & illiteracy, food supply and poverty were additional social problems with relevant impact in the Madwaleni area.

Recommendations for future health education and disease prevention programmes

At the time of the survey, the most relevant health education and disease prevention topics for the Madwaleni community were HIV/AIDS, TB and healthy nutrition.

In addition, STIs, alcohol & drug-related problems, water & sanitation and body & muscle pain were rated as the subsequent issues of relevance.

HIV untested men rated the topic HIV/AIDS lower than all other community members (p < 0.001), which is particularly interesting since men only constitute a minority of 20 % of the people testing for HIV in the Madwaleni area.

Besides, topics not previously considered, such as injury prevention and basic first aid, were in-fact relevant for more than 85 % of the community members and require further attention.

Furthermore, deviating rating patterns between men and women and the corresponding need for gender-specific educational workshops became evident, for example, for men about prostate & testicular cancer check-up or erectile dysfunction and for women about breast & cervical cancer check-up & pap-smears.

In addition, HIV+ community members rated depression & stress and psychiatric diseases higher than HIV untested men and women (p < 0.001), with further studies required to identify the underlying reasons for these deviating rating patterns.

Taking all findings from this Madwaleni community survey into consideration, health care providers working at the hospital and its peripheral clinics should first and foremost concentrate their efforts on maintaining the existing programmes, particularly, the Madwaleni HIV/ARV programme and the workshops on hypertension and diabetes mellitus.

In addition, if qualified and motivated personnel can be recruited and the necessary funding can be raised, future health education and disease prevention programmes should focus on TB, alcohol & substance abuse-related problems as well as water & sanitation.
**Thesen**

**Eigenschaften der Gemeinde Madwalenis**

1) Mehr als 90 % der sexuell aktiven Gemeindemitglieder lebten zum Zeitpunkt der Studie monogam, was insbesondere vor dem Hintergrund der HIV/AIDS-Epidemie interessant ist.

2) Während nur 36.4 % der HIV-ungetesteten Männer und Frauen Kondome benutzten, gaben immerhin 76.5 % der HIV+ Gemeindemitglieder an, dies zu tun, was zeigt, dass das Madwaleni HIV wellness programme und vor allem dessen Aufklärungskomponenten angemessen und sinnvoll sind.

3) Nur 56.5 % der interviewten Gemeindemitglieder waren zum Zeitpunkt der Studie „funktionell lese- und schreibkundig“; nur 8 % von ihnen hatten die Hochschulreife und nicht ein einziger einen höheren Abschluss erreicht.

4) Zudem konnten 19.5 % der Studienteilnehmer überhaupt nicht lesen und schreiben.

5) Nur 20 % der Gemeindemitglieder gingen zum Zeitpunkt der Studie einer Beschäftigung nach.

6) Das tägliche Pro-Kopf-Einkommen als Bezugspunkt nehmend, litt ein Drittel der Gemeindemitglieder an „moderater Armut“, definiert durch ein Einkommen von 1 bis 2 US $ pro Tag, während die anderen zwei Drittel an „extremer Armut“ litten, definiert durch ein Einkommen von weniger als 1 US $ pro Tag, und das, obwohl bereits mehr als 90 % der Haushalte Sozialhilfe erhielten.

7) In Madwaleni lebten zum Zeitpunkt der Studie durchschnittlich acht Personen zusammen in einem Haushalt, wobei 95 % der Gemeindemitglieder in traditionellen, aus frei verfügbaren, natürlichen Ressourcen erbauten Häusern wohnten.

8) Mehr als 80 % der Gemeindemitglieder Madwalenis bezogen ihr Trinkwasser aus Flüssen oder stehenden Gewässern, während nur 6.5 % Regenwasser nutzten und 9.5 % Zugang zu Trinkwasser aus Rohrleitungen hatten.

9) Fast 70 % der Gemeindemitglieder hatten keinen Zugang zu sanitären Anlagen und mussten ihre Notdurft in nahe liegende Büschen verrichten.

10) Zudem hatten mehr als 90 % keinen Zugang zu Elektrizität; die Mehrheit von ihnen nutzte Paraffin zum Kochen, Kerzen zur Beleuchtung und Holz zum Heizen.

11) In Madwaleni besaßen 90 % der Familien eine kleine Gartenfläche, angeschlossen an ihre Häuser, die sie für die Kultivierung von Getreide und Gemüse nutzten.

12) Zudem züchteten 90 % Tiere, vor allem Geflügel, Kühe und Ziegen.

13) Getreide, Gemüse und Tiere dienten als zusätzliche Nahrungsquelle; nicht einer der Haushalte konnte jedoch ausschließlich von der Subsistenzwirtschaft leben.
14) Im Durchschnitt benötigte jedes Gemeindemitglied eine Dreiviertelstunde, um die nächstgelegene Klinik, und fast eineinhalb Stunden, um das Madwaleni Hospital zu erreichen, wobei 40 % bzw. 60 % von öffentlichen Verkehrsmitteln abhängig waren.

15) Die Eigenschaften der Gemeinde Madwalenis mit den entsprechenden Daten aus Apartheidszeiten vergleichend, fällt auf, dass sich die Lebensumstände nicht entscheidend verbessert haben, was verdeutlicht, dass Regierungs- und Nicht-Regierungs-Programme noch nicht alle ländlichen Gemeinden erreicht haben.

16) Diese Eigenschaften darüber hinaus mit denen benachbarter Gemeinden vergleichend, ergeben sich viele Gemeinsamkeiten, weshalb die Ergebnisse dieser Arbeit möglicherweise zu einem gewissen Grad generalisierbar sind, zumindest auf ländliche Gemeinden im Gebiet der ehemaligen Transkei.

17) Die Gemeinde Madwalenis unterschied sich in 75 % der gegenübergestellten Eigenschaften signifikant von der Gesamtbevölkerung Südafrikas, wobei die Gemeindemitglieder Madwalenis entscheidend benachteiligt waren.

18) Beispielsweise waren sowohl die Analphabetenrate (21.7 % vs. 13.6 %, p = 0.002) als auch die Arbeitslosenquote (80.5 % vs. 25.5 %, p < 0.001) signifikant höher.

19) Zudem lebten in Madwaleni signifikant mehr Menschen unter der Armuts-Grenze von 2 US $ pro Tag (92.2 % vs. 34 %, p < 0.001).

20) Weiterhin hatten signifikant weniger Gemeindemitglieder Zugang zu sauberem Trinkwasser, einhergehend mit einer signifikant höheren Anzahl von ihnen, die stattdessen Flusswasser nutzten (75.5 % vs. 5.1 %, p < 0.001).

21) Zusätzlich hatten signifikant weniger Gemeindemitglieder Zugang zu Sanitäranlagen (31.3 % vs. 91.8 %, p < 0.001) bzw. Elektrizität (8.5 % vs. 80.2 %, p < 0.001).

**Bedeutendste Gesundheits- und soziale Probleme der Gemeinde Madwalenis**

22) Die Gesundheitsprobleme mit der größten Bedeutung für die Gemeinde Madwalenis waren Tuberkulose, HIV/AIDS und Bluthochdruck (Hypertonie).

23) Erkrankungen des Bewegungsapparates und Kopfschmerzen waren weitere relevante Gesundheitsprobleme.

24) Interessanterweise wurden die Gesundheitsprobleme Bilharziose/ Schistosomiasis, Epilepsie, Herpes Zoster, HIV/AIDS, Atemwegsinfektionen und Schlaganfall (Apoplex) von den HIV-ungetesteten Gemeindemitgliedern als schwerwiegender empfunden als von den HIV+, was möglicherweise dadurch erklärt werden kann, dass die HIV+ Männer und Frauen im Rahmen des Madwaleni HIV/ARV programmes nicht nur über diese Krankheiten aufgeklärt, sondern auch auf sie hin untersucht wurden.

25) Zudem hatten soziale Probleme auf das Leben der Gemeindemitglieder Madwalenis mehr Einfluss als Gesundheitsprobleme, wobei die sozialen Probleme mit der
größten Bedeutung Alkoholmissbrauch, Abhängigkeit von der Sozialhilfe und Rauchen waren.

26) Mit den vorausgegangenen Ergebnissen übereinstimmend, waren Arbeitslosigkeit, Schulbildung & Analphabetismus, Lebensmittelversorgung sowie Armut weitere relevante soziale Probleme in der Region.

**Empfehlungen für zukünftige Gesundheitsaufklärungs- und Präventionsprogramme**

27) Zum Zeitpunkt der Studie waren HIV/AIDS, Tuberkulose und gesunde Ernährung die meist gewünschten Themen möglicher zukünftiger Gesundheitsaufklärungs- und Präventionsprogramme für die Gemeindemitglieder Madwalenis.

28) Sexuell übertragbare Krankheiten, Alkohol & Drogenmissbrauch, sicheres Trinkwasser sowie Schmerzen & Fitness wurden als die darauf folgenden Themenwünsche gewählt.

29) Im Übrigen wählten HIV-ungetestete Männer das Thema HIV/AIDS signifikant seltener als die anderen Gemeindemitglieder (p < 0.001), was insbesondere vor dem Hintergrund interessant ist, dass Männer in der Region um Madwaleni nur eine Minderheit von 20 % der Personen ausmachen, die sich auf HIV testen lassen.

30) Es fiel ebenfalls auf, dass zuvor nicht in Betracht gezogene Themen, wie beispielsweise die Prävention von Unfällen und Verletzungen bzw. Erste Hilfe für mehr als 85 % der Gemeindemitglieder relevant waren.


32) Zusätzlich fiel auf, dass HIV+ Gemeindemitglieder Depressionen & Stress sowie psychiatrische Erkrankungen signifikant häufiger wählten als HIV-ungetestete (p < 0.001), wobei weitere Studien notwendig sind, um die zu Grunde liegenden Ursachen zu untersuchen.

33) Alle Ergebnisse dieser Erhebung in Betracht ziehend, sollte das Pflegepersonal des *Madwaleni Hospitals* und der angeschlossenen Kliniken sich vor allem darauf konzentrieren, die bereits existierenden Programme zu erhalten, vor allem das *Madwaleni HIV/ARV programme* sowie die Workshops über Bluthochdruck (Hypertonie) und Diabetes mellitus.

34) Können darüber hinaus qualifiziertes und motiviertes Personal rekrutiert und die notwendige finanzielle Förderung sichergestellt werden, sollten sich zukünftige Gesundheitsaufklärungs- und Präventionsprogramme auf Tuberkulose, Alkohol- & Drogenmissbrauch und sicheres Trinkwasser konzentrieren.