Assessing the Effect of Social Support on Health Status using the 2006 South African General Household Survey

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Abstract

Background

This study looked at the effect of social support on health status using a sample of unemployed people from the 2006 General Household Survey. The aim of the study was to uncover which particular type of support structure had an influence on one's health status. In other words, looking at the sample of unemployed people, the study sought to determine the particular type of social support structure which make one more susceptible to disease/illness. Social support structures were categorised into two groups, namely; (1) social support from informal institutions such as family, friends, church/community organisations, etc, and (2) social support from formal institutions such as government, in the form of social relief, disability grants, unemployment insurance, etc. Health status on the other hand was determined on the basis of susceptibility to various forms of diseases/illness, namely: communicable diseases, non-communicable diseases and flu or respiratory tract infections. The study examined how each category of these types of morbidity was explained by the particular source of support received by unemployed individuals.

Results

The findings of the study indicated that social support did not have a significant effect on the likelihood of being sick as one might have expected. This suggests that formal state support does not in fact have a protective effect at all by reducing the likelihood of disease.

Findings also revealed that health status on the other hand may have a significant effect on the likelihood of belonging to a specific type of support structure, although more investigation is needed due to limitation of using cross sectional data.

Declaration

I Tholoana Deborah Mofolo hereby declare that this research report is my own original work. It is being submitted to the faculty of humanities and social sciences, University of the Witwatersrand, Johannesburg. It is submitted in partial fulfilment of the requirement for the degree of Master of Arts in the field of Demography and population studies. I declare that to the best of my knowledge it has not been submitted before in part or in full for any degree or examination at this or any other university.

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Chapter 1 - Introduction

1.1 Problem Statement

Lack of involvement in an appropriate/specific social support structure may result in an individual becoming susceptible to disease.

1.2 Purpose of study

South African health policy definitely addresses issues around social support, welfare and health. There has been recognition that an inter-sectoral approach to health is required. This means that to address the health problems in the country, various other issues have to be taken into consideration, such as poverty alleviation as well as social and economic disparities. These include strengthening care and social support services in the country. Social support does not only refer to tangible financial aid in the form of welfare grants, but also informal support structures such as community-based care centers, church organisations, youth development centers and general support from friends and family members. It is common knowledge the majority of the South African population suffered gross injustices at the hands of the Apartheid government. How then has social support which was given so much attention by government since coming into power in 1994 influenced/affected health of unemployed citizens twelve years later?

1.3 Research Questions

Main research Question:

To what extent does the nature of social support received by individuals have an impact on their health?

Sub questions:

1) Does belonging to an informal social support structure (family, friends, church/community organisations etc) reduce individuals' susceptibility to disease?

2) Does belonging to a formal social support structure (unemployment insurance, welfare grants, disability grants, pension, etc) reduce individuals' susceptibility to disease?

3) Between informal social support structure (family, friends, church/community organisations etc) and formal social support structure (unemployment insurance, social relief, grants in aid, etc), which mostly reduces individuals' susceptibility to disease? Or which of the above mostly enhances individuals' susceptibility disease?

1.4 Study Objectives

1.4.1 General

This study examines the health-enhancing impact of the particular sources of support, with a view to distinguishing between the effects of formal institutional support and informal institutional support on health statuses. In order to determine the health enhancing impact, the study actually investigates those support structures which actually induce one's susceptibility to disease. Investigating this will then actually reveal the support structure which seems to enhance/improve one's health, i.e. which actually reduces susceptibility to disease.

1.4.2 Specific

1. To determine whether involvement in a specific type of social support structure reduces or enhances one's susceptibility to disease.

2. To distinguish between the effects of informal social support and formal social support on one's susceptibility to disease.

1.5 Hypotheses

The null hypotheses to be tested are:

1. Lack of access to social support has no effect on the susceptibility of individuals to various forms of disease, illnesses or injuries

H_0: There is no relationship between social support and health status

2. There is no difference between formal support and informal social support in their effects on individual susceptibility to disease, illness or injury

H_0: There is no difference between informal and formal support in their effect on health status

1.6 Definition of Terms

Social support is the product of all social bonds that provide an individual with goods and services, such as information and guidance on whom to consult for medical advice, and psychosocial backing, such as emotional comfort and encouragement. Social support is associated with how networking helps people cope with stressful events (Glanz, Rimmer & Lewis et al, 2002).

Informal social support comes from kin and non related "fictive kin" who provide expressive and instrumental aid to family members [and others] through the pooling of resources, nurturance, financial assistance, child care, physical care, emotional support, transportation, decision- making and provision of necessities such as food, clothing and shelter (Billingsley, 1992; Hill, 2003; Martin & Martin, 1978; McAdoo, 19882; Stack, 1974 & Taylor, 1985 as cited in Simpson, 2008). For the purposes of this study, this type of support has been conceptualised to include support provided by informal nongovernmental structures such as one's immediate family members, relatives (extended family), charity organisations and church organisations, etc.

Formal social support refers mainly to support provided by governmental/state institutions. This type of support is usually referred to as social insurance, social security, or social welfare and includes the provision of social grants, such as: old age disability grant, pension, child grant, unemployment insurance and the like. This type

of support is mainly available to individuals who are not working, either because of old age, disability and poverty, etc. For the purposes of this study, this type of support has been conceptualised to include support directly provided by the actual state or government. For instance, according to Makino (2003), South Africa has seven types of social grants in its social assistance system: old age grant (R700 per month as of 1 April 2003), disability grant (R700), war veterans grant (R718), foster care grant (for a child's carers who are legally foster parents, R500), care dependency grant (for disabled children under 18 years, R700), child support grant (for children under the age of 9 years, R160), and grant in aid (an additional grant for recipients of old age, disability or war veterans grant who are unable to care for themselves, R150). These social grants are examples of formal social support provided by the state.

Health status on the other hand as defined by the world health organization is a state of complete physical, mental, emotional and cognitive well being. It is not merely the absence of disease or illness. Health status will be measured on the basis of *morbidity*. *Morbidity* is basically an indicator of ill health. It refers to sickness or illness which usually results as a consequence of disease, but not confined to it. It can also refer to ill health due to injury or even mental /emotional depression.

Susceptibility to illness, injury or disease, basically refers to the likelihood of becoming ill, injured or disease stricken.

Communicable diseases are diseases caused by pathogenic agents which can be transmitted from an infected host to a non-infected, susceptible one (Pramming, 1995 as cited in Health Edu, 2004).

Non-communicable diseases are diseases which cannot be transmitted from a diseased host to a susceptible one (Pramming, 1995 as cited in Health Edu, 2004).

The unemployed are those people within the economically active population who: (a) did not work during the seven days prior to the interview, (b) want to work and are available to start work within two weeks of the interview, and (c) have taken active steps to look for work or start some form of self-employment in the four weeks prior to the interview (STATSA SA, 2005).

Unemployment Insurance Fund is a fund for previously employed individuals, registered to the fund and along with their previous employers contributed monthly to the fund in order that they may claim from the fund in the event of retrenchment, death, ending of employment contracts, but not resignation. The Fund covers five kinds of benefits, namely unemployment, illness, maternity and death (The South African Labour Guide, 2009).

Social Relief is provided in the event of sudden loss of income in families due to sickness, imprisonment of the breadwinner, disasters or any contingency that leaves family members and communities vulnerable (Department of Social Development, 2008).

Grant in aid usually refers to a grant given to a person, school, scholar, local government or institution to fund an educational or worthy beneficial project.

Disability grant is a grant that is intended for people between the age of 18 years and 59 years who due to severe mental and or physical disability need full time care (Department of Social Development, 2008).

1.8 Justification of Study

This research study was done in order to determine the particular type of support structures which enhance or reduces one's susceptibility to various forms of illnesses, or diseases as this will shed some light on which type of support structures need to be strengthened and made most easily available and accessible to the public at large.

Chapter 2 - Literature Review

Individuals who remain unemployed for a period lose their opportunity to generate income and are consequently exposed to the stress of meeting their financial needs and, in addition, the needs of their dependents. There are various ways in which such stress can affect health. In the absence of support, individuals may engage in risky behaviour which may affect their health. In some cases they may experience extreme anxieties thus leading to some disorders, or engage in arduous tasks that may adversely affect their health.

During unemployment, individuals may receive support from formal institutions such as government welfare institutions, or informal social institutions such as family, friends, community organisations, or religious organisations. Others may draw from past savings or sell their assets if they have any. Being part of s specific social structure may have positive or negative results for one's health. For instance, individuals who receive formal social support in the form of disability grants or pension grants may be more susceptible to illnesses or diseases than individuals who receive support from more informal institutions, such as family, friends, community members and the like. This may be because emotional, informational or financial support provided by informal institutions are likely to be more beneficial than the financial support provided only by formal institutions because informal institutions also provide other forms of support (emotional, caring, tangible, informative, etc) which are not only financial in nature. Before going further to unpack the relationship between different forms of social support on morbidity or health outcome, it is important to first provide a conceptual and thorough definition of social support.

Social support has been defined as, 'the product of all social bonds that provide an individual with goods and services, such as information and guidance on whom to consult for medical advice, as well as psychosocial backing, such as emotional comfort and encouragement' (Glanz, Rimmer & Lewis et al, 2002). Social support is associated with how networking helps people cope with stressful events (Glanz, Rimmer & Lewis et al: 2002). We all need a certain level of social support in our lives. Not necessarily financial support only, but emotional support, encouragement and what Glanz et al term, 'information support' which basically refers to the

availability of information which helps us in our day to- day lives, especially in stressful or health related situations.

House (1981) as cited in Glanz et al distinguishes between four types of social support, namely: emotional support, instrumental support, informational support and appraisal support.

According to Glanz et al. e*motional support* is associated with the sharing of life experiences. It involves the provision of empathy, love, trust and caring. Lack of emotional support can result in an individual not caring about him/herself because no-one else cares for him or her. This can result in the individual engaging in risky behaviour which can have adverse health outcomes. For instance, a young adolescent male may engage in risky sexual behaviour which may put both him and his sexual partners at risk of contracting sexually transmitted diseases. The absence of this type of support in an individuals life may lead to spontaneous behaviour which is not carefully thought out, thus resulting in adverse health outcomes for that individual.

Instrumental support on the other hand involves the provision of tangible aid and services that directly assist a person in need. It is provided by close friends, colleagues, church members and neighbours. This tangible support is essential for the survival any human being. One must eat, be clothed and have shelter. Lack of instrumental support may result in individuals being undernourished, thus inducing them to being more susceptible to disease.

Thirdly *informational support* involves the provision of advice, suggestions, and information that a person can use to address problems. Informational support is also very important because it is an important source of reference when people are sick. There are a variety of sources through which one can obtain information such as the internet, health clinics, magazines and so forth. People really just have to be aware of these sources and know how to access them. Failure to obtain this type of support is particularly problematic as it would result in individuals becoming sicker if they are not knowledgeable or are unable to access information about their health conditions.

Finally, *appraisal support* involves the provision of information that is useful for self-evaluation purposes, i.e. constructive feedback, affirmation and social comparison.

Appraisal support is also important as a form of validation. It is particularly important for those individuals who do not have a healthy self- image of themselves as this may ultimately lead to problems of anxiety and depression. This type of support is also important for those who are already sick and need some sort of affirmation that their situation will change for the better. In addition to the above, it is important to mention that social support does not only affect health through individual risky behaviour. Negative relationships between people or stressful life events can also result in morbidity outcomes such as high blood pressure which have a long term detrimental effect on one's health if not properly moderated.

According to Berkman, Glass, Brisette and Seeman (2002) there is no theory that adequately explains the link between social relationships and health. However, social relationships are said to have a great impact on health education and health behavior. Closely related to the health components of social relationships are social integration, social network and social support (Berkman et al., 2000). *Social integration* has been used to refer to the existence of social ties. *Social networks* on the other hand refer to the web of social relationships around individuals. They are linkages between people that may provide *social support* and that may serve functions other than providing support. *Social support* is one of the most important functions of social relationships (Glanz et al., 2002). The strength of social network theory rests on the testable assumption that the social structure of the network itself is largely responsible for determining individual behavior and attitudes by shaping the flow of resources which determine access to opportunities and constraints on behavior (Berkman et al., 2000). Central to the social structure of the network are:

- Range or size (number of network members);
- Density (the extent to which the members are connected to each other);
- Boundedness (the degree to which they are defined on the basis of traditional group structures such as kin, work, neighbourhood); and
- Homogeneity (the extent to which individuals are similar to each other in a network);

Also related to network structure are characteristics of individual ties which include:

- Frequency of contact (number of face-to-face contacts and/or contacts by phone);
- Multiplexity (the number of types of transactions or support flowing through a set of ties);
- Duration (the length of time an individual knows another);
- Reciprocity (the extent to which exchanges or transactions are even or reciprocal).

All of the above features central to the network structure may determine the strength of networks in influencing individual behaviour. For instance, if the size of the network is not too large, members may feel strong connectedness, making them feel an even stronger sense of belonging. This may be the case if there is homogeneity as well. If members more or less share similar circumstances or are dealing with the same experiences, they may find it easier to relate and connect to others. Frequency of contact may also enable network members to know one another better and thus making it easier for one member to approach another in times of trouble. Such strong bonds between people can help them deal with stressful life- threatening health related events. People may decide not to engage in risky behaviour if they have a strong support structure.

The features of the central network structure mentioned above may also be explained and incorporated into what is termed 'structural and functional' social support. A review of the social support literature demonstrates that the concept of social support has several dimensions (Simpson, 2008). These two dimension include (a) structural aspects, which captures who network members are, and who is present or absent, regularity of contact and flow of supportive resources; and (b) functional types of perceived and received support (e.g. emotional instrumental and informational) (Chen, Mermelstein, Karmack & Hoberman, 1995; Thoits, 1995; Turner & Marino, 1994 as cited in Simpson, 2008). According to Lett, Blumenthal, Babyak, Robins, Strauman & Sherwood (2005) structural support refers to the size, type, density and frequency of contact with the network of people surrounding an individual. This type of support only gives a description of the structures of support, i.e. the size of network members the frequency of contact, and the homogeneity of network members. Not much is revealed about the perceived satisfaction actually experienced by network members. Functional support on the other hand refers to the support provided by the

social structures. For instance, functional measures of support are delineated by type and include: instrumental, financial, informational, appraisal and emotional support (Lett et al., 2005).

It can be argued that formal social support can be described more as a structural type of support as it is characterised mainly by structures (e.g. governmental institutions) which one contacts to obtain a specific type of support/grant (financial support). Informal social support on the other hand can be argued to be more functional as it refers to instrumental, financial, informational, appraisal and emotional support which is more likely to be offered by various support structures such as the household, church, community, church, etc. For the purposes of this study it is important to begin by providing brief definitions of informal and formal social support.

Informal social support basically refers to support received or provided by non formal institutions such as family, friends, household members, religious organisations, community organisations, etc. Informal social support comes from kin and non related "fictive kin" who provide expressive and instrumental aid through the pooling of resources, nurturance, financial assistance, child care, physical care, emotional support, transportation, decision- making and provision of necessities such as food, clothing and shelter (Billingsley, 1992; Hill, 2003; Martin & Martin, 1978; McAdoo, 1982; Stack, 1974 & Taylor, 1985 as cited in Simpson, 2008).

Formal social support on the other hand refers mainly to support provided by governmental/State institutions. This type of support is usually referred to as social insurance, social security, or social welfare and includes the provision of social grants, such as old age disability grant, pension, child grant, unemployment insurance and the like. This type of support is mainly available to individuals with specific characteristics, i.e. pension is available to people of old age, the disability grant is available to individuals who have a disability, and unemployment insurance is available to those individuals who were formally employed and contributed to the employment insurance fund, but are no longer employed.

There seems to be a gap in the existing literature which objectively compares the relationship between the effects of informal and formal social support on health outcome/morbidity. Literature in existence either looks at formal and informal support

on health outcome separately (Daniels, Hoffman, Lombard, Steyn Levitt & Katzenellenbogen, 1999; Overland, Glozier Henderson, Maeland, Hotof & Mykletun, 2008; Lincoln-Smith, 1998 & Orth- Gomer, Wamala, Horsten & Schenck, 2000); and where a comparison is made, different conceptualisations of formal and informal support are provided and the aim has not necessarily been to look at their effects on health or morbidity outcome (Armi, Guilley & D'epinay, 2008 & Clark, 2005).

Armi, Guilley & D'epinay (2008) investigated the interface between formal and informal support provided to old people against a background of increasing need for care and a decreasing number of potential informal caregivers. According to Armi et al. various theoretical models have been devised to describe the interface between formal and informal services. The *substitution model* hypothesizes that formal services replace part of the support provided by informal networks. According to the substitution model, the introduction of formal services may prompt relatives and friends to curtail their informal caregiving efforts and curb their feeling of responsibility for care. This model is not validated by findings of research studies by Davey & Patsios (1999) and Pennings (2002). According to Pennings (2002) no evidence was found to indicate that more extensive use of formal services is associated with less extensive self care or informal care. This is true among those receiving publicly subsidized services as well as those required to pay part or all of the cost of the in-home services they receive. The findings provide little support for the substitution hypothesis that an increase in the use of formal in-home services will tend to erode levels of informal or self-care (Pennings, 2002). In contrast to the substitution model, the *complementary model and supplementary model* hypothesize that the introduction of formal services does not produce a significant drop in the amount of services provided by informal networks (Simpson, 2008). Lastly, the *hierarchical compensatory model* details older adults' hierarchical preference for assistance. Elderly people are more likely to look first to spouses, next to adult children and finally to formal services for support. The last-mentioned generally come into play solely when no informal network is available (Cantor, 1997 as cited in Simpson, 2008). Simpson (2008) used descriptive analyses and a multilevel model to test whether formal and informal services complemented or substituted one another. The study revealed that the amount of informal services increased significantly as the frequency of formal aid increased, indicating that the two networks were

complementary in the majority of cases. In 21.2 % of the cases, the formal network partly substituted the informal network (as an adjustment) and only in 6.4% of case did the informal support end after the formal support had increased (Simpson, 2008). The concern therefore that the introduction of formal services may curb the readiness of relatives and friends to provide care was thus unfounded (Simpson, 2008).

This study mentioned above was undertaken in the United States of America and is very interesting and useful for public policy as it informs and reveals the statistics for the provision of social support by caregivers as well as the likelihood of choosing various forms of support over others or rather, the order of preference in choice of social support structure. This is very interesting to know but there is no link on the effects of these sources of support on morbidity. Studies on social support and health have mainly sought to inform readers that social support is in fact related to health, or does have an effect on health. Many social support studies have mainly looked at one factor such as religion or marital status as forms of support in order to test their impact or effect on morbidity or good health (Friedman, 2006; Ikeda, Iso, Toyoshima, Fujino, Mizoue, Yoshimura, Inaba, Tamakoshi and Jacc Study group, 2007 & Orth-Gomer, Wamala, Horsten & Schenck, 2000). The above mentioned studies mainly reported that religion and marriage/cohabitation are in fact important sources of support which can improve health. For instance, the study by Ikeda et al. in Japan concluded that single status was associated with a higher risk of mortality than was married status for both men and women. Divorce and widowhood were associated with elevated risks for men, but not for women. These findings suggested that single, divorced and widowhood status constitute potentially adverse health effects. Similarly, a long term study at Yale University of 3000 older adults who attended community religious services and events predicted better physical functioning and less disability. This type of social connectedness was identified as one of the strongest predictors of longevity and physical and mental functioning (Friedman, 2006). There is a vast amount of literature on social support on its own and its relationship to various health outcomes, such as blood pressure, cancer, or other disabilities in relation to the degree social support received by individuals who are either already sick or likely to get sick (Daniels, Hoffman, Lombard, Steyn, Levitt & Katzenellenbogen, 1999; Overland, Glozier, Henderson, Maeland, Hotopf & Mykletun, 2008). These studies sought to determine how social support increases or

decreases/reduces the likelihood of susceptibility to disease, or how social support worsens or improves prognosis of various illnesses or diseases. There is however a limited amount of literature or studies which test for the difference in effect of informal and formal/state funded support on individual health for people who are unemployed.

A more relevant study was by Woodard, Taylor, Bullard, Neighbors, Chatters & Jackson: 2008). This study investigated the use of professional [formal] services and informal support among African Americans and Caribbean blacks with a lifetime mood, anxiety, or substance abuse. Data were from the National Survey of American life and multinomial logistic regression was used to test the utilization of professional services only, informal support only, both or neither. Analyses controlled for socio-demographic characteristics, disorder-related variables, and family network variables. The sample included 1 096 African Americans and 372 Caribbean blacks. 41% used both professional [formal] services and informal support, 14% relied on professional [formal] services only, 23% used informal support only, and 22% did not seek help. There were no significant differences between African Americans and Caribbean blacks. Having co-current mental and substance abuse disorders, having a severe disorder in the past 12 months, having more people in the informal helper network, and being female increased the likelihood of using professional [formal] services and informal supports. When men sought help, they were more likely to rely on informal helpers. The study reported that marital status, age and socio-economic status were also significantly related to help seeking [behaviour]. The study concluded that reliance on informal support may also be evidence of a strong protective role that informal networks play in the lives of African Americans and Caribbean blacks. Although the study comprises of individuals who already have some form of ill health, it fails to then compare how each of the support services further worsens or improves the ill health of the individuals. Similarly, studies which do in fact test the effect of social support on improving or worsening prognoses of diseases or illnesses do not make the distinction between the effects formal and informal social support on morbidity/health outcome (Orth-Gomer, Wamala, Horsten & Schenck: 2000). This is an area of study which requires significant attention and it is what my specific study is investigating. My study goes further to look at social support on health using a sample of people who are unemployed. Previous studies which look at unemployed people

and their health seemed to have mainly tested for the effect of unemployment on health (Giatti, Barreto & Cesar, 2008) which is not what my specific study is attempting to do. Other studies (Roberts, Pearson, Madeley, Hanford & Magowan, 1997) examined the quality of social support among unemployed people without necessarily taking a step further to investigate the consequences on health.

Chapter 3 - Methodology

3.1 Data Source

Data were extracted from the 2006 General Household Survey (The data set was selected on the Stats SA website and further downloaded at a later stage upon request.

3.2 Research/Study Design

This is first of all a quantitative study. From the survey questionnaire, information was collected on health status (sicknesses or diseases) in the month preceding the survey; as well as information on social support to reveal how household members were supported and whether they made use of a welfare/state office by receiving a social grant. Receiving social grants can also be argued to serve as forms of support.

For the purpose of my study, I categorised their responses (of support) into two distinct groups, namely: *informal social support* and *formal social* support. *Informal social support* was further categorised into support provided by household members (i.e. family members) or by the respondent him- or herself (in ways of savings or petty jobs), and support provided outside the household (i.e. friends, charity, religious organisations, etc.). *Formal social support* on the other hand included household members who were supported by the state in the form of, disability grants, unemployment insurance, grants in aid, social relief & other sources such as bursaries or study loans etc.).

The individual responses indicative of health status were categorised into four groups, namely: *communicable diseases*, *non communicable diseases*, *flu or respiratory tract infections* and *no disease* (see description below). These grouped categories were easier to manage for analysis purposes.

3.3 Sample population

The sample is constituted by the unemployed individuals, aged fifteen years and above.

3.4 Data collection tool - questionnaire

- Data was collected on health status in the 30 days preceding the survey (measure of health status/morbidity)

- Data was also collected on the source/type of support received by household members as well as use of state/welfare grants (measure of social support)

Variable Definitions

Dependent variable: health status/morbidity- According to Pramming (2007) *Non communicable diseases* are conditions that occur in, or are known to affect, individuals over an extensive period of time and for which there are no known causative agents that are transmitted from one affected individual to another. *Communicable diseases* on the other hand are defined by Beneson (1995) as cited in Health Edu (2004) as diseases caused by pathogenic agents which can be transmitted from an infected host to a non-infected, susceptible one. *Respiratory tract infections* comprise of infections such as bronchitis, diphtheria, *influenza (flu)*, colds, croup, pneumonia, sinusitis, legionnaires' disease, severe acute respiratory syndrome (SARS), tuberculosis and whooping cough. *Influenza* is a viral infection, which can be extremely debilitating and serious, especially in frail and elderly people (CMPMedica, 2007).

Important to mention is that respiratory tract infections comprise a mixture of both communicable and non-communicable diseases but was grouped as a separate category due to the fact that a lot of people were found to have suffered from Influenza or other tract infections during the time of the survey. As such, this group contained a large number of observations and was grouped as such for analysis purposes.

Independent variable: social support- *Informal social support* (included household members supported either by persons in their household, including the respondent by way of savings or petty jobs (1) and persons not in their household (2), such as including charity, church/community organisations etc), and *formal social support* (3) included household members supported by the state in the form of either the unemployment insurance fund, disability grants, grants in aid, social relief, or other sources such as bursaries or study loans.

3.6 Data Limitations

- The main limitation of the data is that it is cross-sectional, meaning that a causal relationship cannot really be established since events (such as access to support, health hazards, etc.) are not ordered in the respondents' life time – hence the decision to assess the relationship between social support and health status in both directions.
- A second limitation is that HIV status is one of the measurements for morbidity, and individuals interviewed about their HIV status may have not revealed accurate information about their status, thus resulting in underreporting, which may lead to bias.
- A third limitation is that one of the other measurements for morbidity is TB and this is closely related to HIV because those with HIV are likely to contract TB. As such, multicollinearity may exist due to the close relationship between the categories of variables.
- To account for the above, HIV, TB and some other indicators of morbidity (STDs) were categorised into one specific group of communicable diseases.

3.7 Study Limitations

The study is limited in that it implies that health status is dependent on participation/involvement in a particular type of social support structure whereas health status/outcome may be a result of many other factors, such as health seeking behaviours, distance to health facilities, mode of transport to health facilities as well as various other socio- economic indicators/factors.

The study may also contain a possible case of reverse causation whereby morbidity in itself may be of influence in an individual's likelihood to seek support from a specific type of social support structure. This is of course dependent on the availability of that support structure. For example, a person who is sick may decide to join a particular church (informal social support structure) because he may be aware that the particular church offers emotional and financial assistance to people with certain sicknesses or diseases. Similarly a person who becomes disabled due to an injury or accident may then apply for a disability grant, thus becoming part of the formal social support structure. Due to this, the study also investigates the effects of health status on social support i.e. the study will look at the influence of one's health status on

participation/involvement in a particular type of social support structure. This is to account for the possible case of reverse causation. This is done because this specific study uses cross sectional data and causation cannot really be established with this type of data. For instance, it cannot really be established that morbidity occurred as a result of being part of a specific type of social support structure. As such, the relationship between health status and social support is examined both ways (influence of social support on health status and influence of health status on social support). This is important to mention because the data will be analysed using logistic regression and this type of regression somewhat implies a causal relationship between the independent and dependent variables and to identify any biases it is important to examine the relationship in both directions.

A possible case of endogeneity may also be present in the study. This involves a situation in which unobservable phenomena related to both social support and health/morbidity may exist in the study. The problem of endogeneity arises when the factors that are supposed to affect a particular outcome, depend themselves on that outcome (Fisher, 2003). For example, a person who is at risk of becoming HIV positive may decide to join a particular social support structure and his decision to become part of this support structure would be dependent on the fact that he is already at risk of being HIV positive. Similarly a person highly at risk of becoming diabetic may decide to join a particular organisation which offers informational, educational and in some instances financial support for diabetics or those highly at risk of becoming diabetic. It is against this background that the study also investigates the possible influence of health status/morbidity in the decision to join a specific or particular type of social support structure.

Reverse causation is also another problem of endogeneity (Verbeek, 2008). For instance the example mentioned above about joining a particular organisation for diabetics may be dependent on an individual actually being a diabetic and being diabetic then means that one is able to join the particular organisation. At the same time the organisation in itself was created specifically for individuals who are diabetic. This problem of endogeneity is usually addressed or accounted for by a process known as instrumentation.

Spencer and Fielding (2000) mention the frequently used method of overcoming endogeneity by using instrumental variable techniques. They suggest such an approach for repeat testing in educational situations where explanatory variables are lagged versions of the response. A supplementary multivariate model for the endogenous explanatory variable is constructed using fixed effect explanatory variables that are assumed exogenous and independent of the random part of the main equation of interest. It is stressed that the existence of such variables and the adequate collection of data on them are a necessary pre-requisite. Predictions of the endogenous variable values are then obtained from the fixed parts of the supplementary models. These predicted values, being independent of the random part of the model of interest, are then used as instruments (Spencer and Fielding, 2000).

In other words, the instrumental variable, together with certain covariates are used as predictors of the independent variable, in our case, social support:

Instrument + Covariates = Social Support

Then, the covariates, together with the prediction of support/probability of support become themselves the predictors of health status:

Covariates + Prediction of support = Health Status

The instrument chosen should always affect the independent variable (social support) but not the dependent variable (health status). This is in order to reduce the bias of reverse causation (health status affecting social support) and to attempt to establish a causal relationship that social support does in fact have an influence on health status, independently of possible reverse causation.

Instrumentation could not be used due to the fact that an appropriate instrumental variable could not be found. The study attempted to use an instrumental variable/random event which could have affected state funding in the provision of unemployment insurance in the 47 districts within and across the provinces of South Africa, used in the 2005 and 2006 General Household Surveys. This potential instrumental variable could not be constructed because there was not much variation found among the people who received unemployment insurance in 2005 and 2006,

and the numbers of people receiving the insurance were much too low to yield significant results. The tables are provided in the appendix and have consequently been broken down by province as opposed to district. The study, nevertheless attempts to account for endogeneity by also testing for the influence of health status on social support as indicated above.

Also of importance is that the study does not assume that unemployment is a consequence of poor health status or morbidity, and therefore does not test morbidity or health status as a consequence of unemployment. I say this because the study population is a sample of unemployed individuals and the results of the study would have been biased due to a case of selection effect. Selection effect basically occurs when a sample is chosen because it contains certain characteristics or traits and as a result possibly ends up biasing or affecting the results of a study. In this case study, the effects of unemployment on morbidity or health status are not what is being tested. The main interest was in finding out how people who are not working are supported, and consequently how this support may have had some sort of impact on their health status. In other words, the sample was chosen merely as a way to uncover the different social support structures which people who do not work use and more specifically to differentiate between the effects of these support structures (informal and formal) on health status or morbidity. However, we can never be sure about causality because the data being used is cross sectional and not longitudinal. Had it been longitudinal it would have been necessary to obtain individual health statuses at the beginning of the study, then finding out which social support structures people use and finally following up the individuals over time to find out their health statuses in possibly determining whether or not social support structure did in fact have an influence on their health status at a later stage. This would have of course been a qualitative and quantitative study. After carrying out all of the above, it would have also been of importance to introduce covariates, such as age, sex, religion, marital status, etc into the model to see how each of them have an influence on the resultant health statuses as well as controlling for all of them at the same time to see the consequential effect of the support structures on their health status.

3.8 Data Analysis

The data was first analysed using descriptive statistics. I used simple descriptive analyses in order to show the relationship between the independent and the dependent variables by highlighting the observed percentages of the variables. This step served as preparation for more complex analyses.

I then used bivariate analyses to assess the significance of the relationship between the independent/predictor variables and the dependent/response variable. This involves looking at the association between two variables and is termed bivariate as it is done per unit variable. I tested the association of these variables using multinomial logistic regression, as it is best when the outcome consists of three (or more) categories or alternatives (type of disease, including no disease, coded 1,2,3…) instead of two (disease versus no disease, coded 0 or 1) as it is the case with ordinary logistic regression. In addition to type of social support, various covariates such as age group, gender, marital status, race, highest education level, etc, were tested.

Then all these covariates were introduced simultaneously into a multivariate regression to measure their net effect on health status. A multivariate analysis was also used to test for the reverse effect of the variable of interest, health status, on social support structure, controlling for all other covariates.

All descriptive, bivariate and multivariate statistical analyses were performed using STATA version 9.0.1

Covariates used:

Age group was used because it is expected that individuals of a certain age (elders) are likely to get sicker than individuals of younger ages and this is likely to affect *health status*.

Gender was used as it is expected that individuals of a certain gender/sex (e.g. males) are likely to get sicker than females due to their high risk-taking behaviour and this is likely to affect *health stat*us.

Marital status was used because it is expected that married individuals are likely to have better health than single, divorced or widowed individuals (protective role of marital union).

Race was used because it is expected that individuals from a specific race are likely to be sicker than individuals from other races due to many varying factors such as discrimination, community-level effects, etc.

Highest education level is used because it is expected that individuals who are better educated are likely to be healthier than those with lower educational achievements, because of better access to and understanding of information.

The *Duration of unemployment* is used because it is expected that the longer an individual is unemployed, the higher the chance that he/she may get sick because he/she may have insufficient funds to see a doctor when unwell, and this is expected to affect *health status.*

Key to Tables 1 to Table 2 in Chapter 4 of Results

[ ]	Brackets indicate the reference categories.
n.a.	Not applicable: when the chance are nil (relative risk ratio=0) then the 95% confidence interval cannot be computed.
* ** ***	The two stars indicate that we are working within a 95% confidence interval at a 5% (0.05) level of significance. The numbers in brackets also represent the confidence interval whereby the observed relative risk (of suffering from a particular disease) is expected to fall somewhere in the range given by the interval. The 5% level of significance implies that there is only a 5% chance that the results obtained are inaccurate and a 95% chance that they are in fact accurate. One star indicates a 10% level of significance and three stars indicate 1% level of significance.

Chapter 4 – Results and Discussion

4.1 Descriptive Statistics

Tables 1.1 to 1.4 indicate that out of a sample of 10 630 unemployed people, 9 912 suffered from no diseases at all, 94 suffered from communicable diseases, 110 suffered from non communicable diseases and 524 suffered from flu or respiratory tract infections (i.e. bronchitis, pneumonia, sinusitis and the like). Communicable

diseases included diseases such as Tuberculosis (TB), Human Immuno-deficiency Virus (HIV), Sexually Transmitted Diseases (STDs) and Diarrhoea. Although flu could be described as a communicable disease, it was categorised into a separate category with respiratory infections due to the fact that its observed frequency was very high and categorising it as such served better for analysis purposes. One possible reason for the high frequency could be due to the fact that the survey was conducted in July, which is during the winter period and it is likely that a common cold may have been mistaken for the flu by the respondents/participants in the survey. But overall, it seems that very few people actually suffered from any diseases. There may have been cases of under-reporting at the time the survey was conducted. For instance, individuals with HIV, STDs or even TB may not report their conditions for fear of discrimination or stigmatisation.

From the Table 1.1 it can be seen that 85% of the individuals who suffered no diseases at all were supported informally by members of their household whereas 16% of them were also supported informally by people outside their household (i.e. charity or religious organisations) and only 1% of them were supported formally by the state either in the form of unemployment insurance or other social grants such as social relief, disability or grants in aid. The study also reveals that 71% of the individuals who suffered from communicable diseases were supported by members of their household, while 22% of them received supported outside the household. In this case, 6% of them received formal support from the state, and of those suffering from non communicable diseases, 74% were supported in their household, 23% outside their household and 3% formally, by the state. Finally, 73% of individuals with flu or respiratory tract infections were supported by household members, while 25% were supported by non household members and 2% by the state.

Tables 1.1-1.4 Frequency Distributions of Diseases by Source of Support and other Covariates (Sample Weighted Multinomial Logit Regression)

Table 1.1

No disease (base outcome)	Frequency
Support [Household]	85%
Non-Household	16%
Formal/state	1%
Gender [female]	55%
Male	45%
Education *[*secondary]	70%
None	5%
Primary	20%
Tertiary	4%
unknown	1%
Marital status [never married]	72%
Married	16%
Living together	9%
Widow/widower	1%
divorced	4%
Duration unemployment [1 year]	55%
Never worked	31%
1 week	14%
Age group [15-24]	22%
25-34	42%
35-44	26%
45-54	10%
55+	1%
Race [Africans]	85%
Others	15%
	100% [N=9912]

Table 1.2

Communicable diseases	Frequency
Support [Household]	71%
Non-Household	22%
Formal/state	6%
Gender *[*female]	52%
Male	48%
Education *[*secondary]	58%
None	4%
Primary	31%
Tertiary	0%
Unknown	1%
Marital status [never married]	72%
Married	12%
Living together	11%
Widow/widower	1%
divorced	4%
Duration unemployment [1 year]	36%
Never worked	21%
1 week	48%
Age group [15-24]	22%
25-34	42%
35-44	26%
45-54	10%
55+	1%
Race [Africans]	88%
Others	12%
	100% [N=94]

Table 1.3

Non Communicable diseases	**Frequency**
Support [Household]	74%
Non-Household	23%
Formal/state	3%
Gender *[*female]	60%
Male	40%
Education *[*secondary]	55%
None	12%
Primary	29%
Tertiary	3%
Unknown/othereduc	1%
Marital status [never married]	45%
Married	32%
Living together	15%
Widow/widower	3%
Divorced	6%
Duration unemployment [1 year]	36%
Never worked	32%
1 week	32%
Age group [15-24]	15%
25-34	27%
35-44	30%
45-54	19%
55+	8%
Race [Africans]	88%
Others	12%
	100% [N=110]

Table 1.4

Flu or Respiratory tract infection	Frequency
Support [Household]	73%
Non-Household	25%
Formal/state	2%
Gender *[*female]	66%
Male	34%
Education *[*secondary]	66%
None	12%
Primary	22%
Tertiary	3%
Unknown	0%
Marital status [never married]	55%
Married	25%
Living together	13%
Widow/widower	4%
Divorced	2%
Duration unemployment [1 year]	36%
Never worked	21%
1 week	43%
Age group [15-24]	24%
25-34	34%
35-44	25%
45-54	11%
55+	5%
Race [Africans]	93%
Others	7%
	100% [N=524]

The figures in the above tables indicate a common pattern where most people, irrespective of whether they suffered any diseases or not, were mostly supported by members of their household, followed by people outside their household and lastly by state grants. Although this is the case, it is quite possible that individuals who are unemployed are inherently supported by other state grants such as the child grants, care dependency grants, disability grants and so forth. This is because these grants generally support entire households who live below poverty level. This is especially the case for poor households where the grant is actually used to buy household necessities such as groceries.

Statistics on the recipients/beneficiaries of social grants and unemployment insurance form the nine provinces and forty seven districts sampled for the 2005 and 2006 general household surveys are also provided in the appendix. Very briefly, it was observed that only 237 and 274 people in the sampled districts were supported by unemployment insurance in 2005 and 2006 respectively. These figures are very low,

particularly as they represent all unemployed people of working age included in the surveys. The reason for the low numbers may be because unemployment insurance is mainly obtained by individuals who were formerly employed and themselves, together with their previous employers contributed to the UIF during their tenure of employment. This means that only these individuals will receive unemployment insurance in the event that they become retrenched, as a result of death (family members of deceased can claim from UIF), in times of illness or during maternity leave (four weeks before expected birth and six weeks after birth). Individuals who resign may not claim from the fund.

Statistics on recipients and beneficiaries of social relief grants are also highlighted in the appendix. For example, the figures in the appendix show that only 86 people (in 2005) and 46 (in 2006) received social relief from the state. This type of support is usually provided in the event of sudden loss of income in families due to sickness, imprisonment of the breadwinner, disasters or any contingency that leaves family members and communities vulnerable. The only possible reason for such low numbers is that people may actually not really be aware that such a grant exists. Imprisonment, disasters (natural or otherwise) and sickness are phenomena which occur almost daily in South Africa and it is alarming that very few people are actually benefiting from this grant.

Table 2. Relative Risk Ratio of having a Disease by Type of Support and other Covariates (Sample Weighted Multinomial Logit Regression).

Communicable diseases	**Bivariate Analyses**	**Multivariate Analyses**
Support [Household]	[Ref]	[Ref]
Non-Household	2.5 [0.9-6.95]	2.0 [0.7-6.2]
Formal/state	1.2 [0.6-2.36]	1.0 [0.5-2.05]
Gender *[*female]	[Ref]	[Ref]
Male	1.10 [0.64 – 1.88]	1.06 [0.6 – 1.9]
Education *[*secondary]	[Ref]	[Ref]
None	0.85 [0.3-2.3]	0.7 [0.3-2.1]
Primary	2.02** [1.2-3.6]	1.8 [0.9-3.3]
Tertiary	0.0 [n.a.]	0.0 [n.a.]
Unknown	0.6 [0.8-4.2]	0.5 [0.1-4.1]
Marital status [never married]	[Ref]	[Ref]
Married	0.92 [0.4-1.8]	0.6 [0.3-1.3]
Living together	0.75 [0.2-2.0]	0.2 [0.2-1.5]
Widow/widower	0.44 [0.1-3.3]	0.26 [0.0-2.1]
divorced	1.22 [0.3-4.3]	0.77 [0.2-2.8]
Duration unemployment [1 year]	[Ref]	[Ref]
Never worked	1.14 [0.6-2.2]	1.0 [0.5-2.0]
1 week	2.07** [1.1-3.9]	1.5 [0.8-2.9]
Age group [15-24]	[Ref]	[Ref]
25-34	1.9** [1.0-3.6]	2.0** [1.1-3.8]
35-44	3.6** [1.7-7.5]	3.5** [1.4-8.4]
45-54	2.5 [1.0-6.8]	2.4 [0.8-6.8]
55+	0.67 [0.1-5.2]	0.7 [0.7-6.5]
Race [Africans]	[Ref]	[Ref]
Others	0.36** [0.2-0.8]	0.4** [0.2-0.4]

Non Communicable diseases	**Bivariate Analyses**	**Multivariate Analyses**
Support [Household]	[Ref]	[Ref]
Non-Household	1.95 [0.38-10]	1.1 [0.2-6.1]
Formal/state	1.29 [0.6-2.5]	0.9 [0.5-1.9]
Gender *[*female]	[Ref]	[Ref]
Male	0.47** [0.24-0.91]	0.5** [0.2-0.8]
Education *[*secondary]	[Ref]	[Ref]
None	1.62 [0.7-3.8]	0.9 [0.3-2.5]
Primary	1.89 [0.9-4.0]	1.3 [0.5-3.2]
Tertiary	0.35 [0.1-1.6]	0.4 [0.1-1.7]
Unknown/othereduc	2.75 [0.4-21]	2.2 [0.3-17]
Marital status [never married]	[Ref]	[Ref]
Married	2.46** [1.1-5.5]	1.0 [0.3-3.5]
Living together	1.72 [0.6-4.9]	1.1 [0.3-3.4]
Widow/widower	1.98 [0.5-7.8]	1.1 [0.1-2.8]
Divorced	7.22** [1.9-27]	2.7 [0.6-13]
Duration unemployment [1 year]	[Ref]	[Ref]
Never worked	2.36 [1.0-5.8]	1.9 [0.7-5.0]
1 week	3.84** [2.0-7.2]	1.8* [0.9-3.4]
Age group [15-24]	[Ref]	[Ref]
25-34	1.47 [0.7-3.4]	2.2 [0.5-2.7]
35-44	5.3** [1.7-15]	3.4 [0.6-18]
45-54	6.2** [2.7-14]	3.9** [1.0-15]
55+	6.5** [2.1-21]	4.9 [0.2-29]
Race [Africans]	[Ref]	[Ref]
Others	1.19 [05-2.9]	0.9 [0.3-2.5]

Flu or respiratory tract infections	**Bivariate Analyses**	**Multivariate Analyses**
Support [Household]	[Ref]	[Ref]
Non-Household	1.90 [0.8-4.3]	1.5 [0.7-3.6]
Formal/state	1.70** [1.2-2.4]	1.56** [1.1-2.2]
Gender *[*female]	[Ref]	[Ref]
Male	0.62** [0.48-0.80]	0.62** [0.48-0.80]
Education *[*secondary]	[Ref]	[Ref]
None	1.7** [1.0-2.9]	1.2 [0.7-2.1]
Primary	1.15** [1.0-1.6]	0.99 [0.7-1.4]
Tertiary	1.69** [1.0-2.8]	1.7** [1.0-2.8]
Unknown	2.12 [0.7-6.8]	2.3 [0.7-7.9]
Marital status [never married]	[Ref]	[Ref]
Married	1.88** [1.4-2.5]	1.4** [1.0-1.9]
Living together	1.83** [1.2-2.9]	1.5* [0.9-2.3]
Widow/widower	2.3** [1.2-4.5]	1.3 [0.7-2.8]
Divorced	1.3 [0.5-2.5]	0.8 [0.3-1.7]
Duration unemployment [1 year]	[Ref]	[Ref]
Never worked	1.4** [1.1-1.9]	1.3** [1.0-1.8]
1 week	1.6** [1.17-2.2]	1.2** [0.8-1.7]
Age group [15-24]	[Ref]	[Ref]
25-34	1.3 [1.0-1.8]	1.1 [0.8-1.4]
35-44	2.3** [1.6-3.3]	1.6** [1.1-2.4]
45-54	1.6** [1.0-2.4]	1.1 [0.6-1.8]
55+	2.4** [1.4-4.4]	1.6 [0.8-3.1]
Race [Africans]	[Ref]	[Ref]
Others	0.65 [0.3-1.2]	0.6 [0.3-1.1]

4.2 Bivariate Analysis

Communicable Diseases

For this category of diseases, type of social support structure did not seem to have any effect or impact. The statistics revealed that individuals with primary education were 2 times more likely to suffer from communicable diseases than those with secondary education and the effects of those with primary education were shown to be significant. This could be explained by the fact that individuals with lesser education are expected to be sicker due to their low education. It is possible that their low educational standards means that they are either not well informed about certain sicknesses or diseases, and are therefore not aware of certain symptoms or, due to their low education, they may not be in a better financial position to seek medical treatment for their conditions.

The statistics also showed that individuals who have never worked before were more likely (1.1 times) to suffer from communicable diseases than those were been unemployed for one year, and those who were unemployed for one week were also

shown to be two times significantly more likely to suffer from communicable diseases than those who remained unemployed for a year.

Individuals in age groups (25-34) and (35-44) were also shown to be significantly more likely to suffer from communicable diseases than those between the age groups 15-24. The data also shows that other races (White, Indian & Coloured) were significantly less likely (0.36 times) to suffer from communicable diseases than black Africans.

Non-Communicable Diseases

Non-communicable diseases include diseases or illnesses/sicknesses such as blood pressure (high or low), diabetes, cancers, trauma, substance abuse problems, depression and the like. The data once again showed that the type of social support received by unemployed individuals did not have any significant effect on the likelihood of suffering from non communicable diseases. The data did however reveal that males were significantly less likely (0.47 times) to suffer from them than females. It is was very interesting to see that individuals unemployed for just one week were significantly more (3 times) likely to suffer from non communicable diseases than those employed for one year. This tells us that those unemployed for shorter periods of time were perhaps quite stressed regarding their state of unemployment and may have either resort to substance abuse (drugs or alcohol) or may eventually suffer from diseases such as high blood pressure or even trauma (such as in the sudden event of unemployment). As can be expected, those in the age groups (35-44), (45-54) and (55 and above) were significantly more likely to suffer from non communicable diseases. The relative risks were 5.3, 6.2 and 6.5 respectively. These seemed to increase with age indicating that the more older people become the more likely they are to get sick because non-communicable diseases are likely to affect older people due to the fact that they usually occur later in life due to stressful life events, poor nutrition, or perhaps even substance abuse possibly suffered by individuals over a number of years during the course of their lives.

Flu or Respiratory Tract Infections

The data in this category showed that those who were supported formally by the state were significantly (1.7 times) more likely to suffer from flu or respiratory tract

infections. Those that were supported by others outside their household were also shown to be more likely to suffer from flu or respiratory tract infections although this effect did not prove to be significant. The statistics reveal that males were 0.62 times significantly less likely to suffer from flu or respiratory tract infections. The effects of no education, primary education and tertiary education were quite significant in their contribution to suffering from these infections, because it is expected that those less educated may not know about the dangers of close contact and proximity with other sick people, whereas those who are educated would be expected to know about these dangers. As such all levels of education are significant because education in itself is an important factor related to morbidity or ill health.

Marital status was also been shown to have a significant relationship with flu or respiratory tract infections. Individuals who were married (1.88), living together (1.83) and those who have been widowed (1.3) were significantly more likely to suffer from flu or respiratory tract infections than those who were never married. This may be because of the close proximity with which married and cohabitating partners are, consequently resulting in the contraction of contagious diseases. The effects of duration of unemployment as well as age, from 35 years upwards were also significant, possibly implying that those of older ages were likely to be unemployed for longer, particularly from the ages of 60 upwards thus resulting in significant impacts on the likelihood of suffering from ill health.

4.3 Multivariate analysis

Table 2 showed that even when controlling for all other factors there did not seem to be a significant effect of social support on health status. This was the case for both non household and formal support in their effects on communicable and non communicable diseases. However, formal support did seem to have a significant effect on the likelihood of suffering from flu or respiratory tract infections. This may be due to the fact that those who received formal support were probably the poorer individuals, possibly living with many other individuals in the household, thus resulting in flu and other respiratory infections spreading from one individual to

another. The formal supports received by these individuals were probably social relief or grants in aid which usually support people who have experienced loss of income due to some disaster, death or imprisonment as well as those individuals who are supported by some form of social development project which is geared towards offering poverty relief to targeted individuals or communities. Communicable diseases are thus likely to spread due to the fact that the communities are generally densely populated resulting in individuals being in very close proximity to one another.

The statistics also indicated that age and race had more significant impacts when included in the multivariate model than all other covariates/factors. Individuals in the age groups (25- 34) and 35-44) were significantly more likely than to suffer from communicable diseases than individuals from other age groups. This may be because the category of communicable diseases included diseases such as HIV/AIDS and STDs and the age groups mentioned above (25-34) and (35-44) are known to be the typical ages plagued by such diseases, perhaps due to the high risk sexual behaviours which generally occur during these ages. Other races were also significantly less likely to suffer from communicable diseases than black Africans. This could perhaps be attributed to the fact the majority of those who participated in the survey were black, poor, with low educational standards and living in overcrowded areas, thus likely to suffer from communicable diseases which easily spread from individual to individual.

The statistics in the multivariate model also showed that gender and age were significant contributors to non-communicable diseases. It was shown that males were 0.62 times significantly less likely to suffer from non-communicable diseases as was also shown when a bivariate analysis was done. This may be because of the large numbers of female headed households, whereby many young women face constant pressures to provide for their children thus resulting in them experiencing elevated stress levels due to the daily pressures and demands of providing for their families. These daily pressures faced by most women could have a detrimental effect on their health, resulting in them suffering from cases of high blood pressure at later stages in life. In certain instances, these pressures may result in these women also turning to

substance abuse and perhaps even suffering from depression without being aware of it, thus having adverse health consequences in late adulthood to old age.

Individuals in age groups 45 to 54 were also 3.9 times significantly more likely to suffer from non-communicable diseases than individuals in age groups 15 to 19. This could be because non- communicable diseases are generally known to affect people of middle to older ages regardless of their socio- economic backgrounds. It is however worth noting that those with higher incomes and education standards would be more likely to have a better quality of life thus enabling them to take care of themselves throughout their lives from early adulthood.

For flu or respiratory tract infections, gender, education, marital status, duration of unemployment and age all seemed to be quite significant in their effect. The statistics showed that males are 0.62 times less likely to suffer from flu or respiratory tract infections as was also shown in the bivariate analysis. This could perhaps be explained by the fact that females are usually in closer proximities to one another and are quite affectionate in nature by using the sense of touch. Flu and most respiratory tract infections are contagious and may have been spread from one person to another through touching, coughing and sneezing, especially if the individuals in question are in close proximity. From the captured data it can also be seen that black Africans constitute the majority race of the people included in the survey and it may be the case that the individuals who participated in the survey were mostly poor to middle class black Africans and if this was the case, chances are that they were more or less likely to be living in densely populated areas with households possibly headed by poor black women taking care of a number of children. In these densely populated areas, the children themselves, particularly females may play in polluted areas with other children and because they frequently communicate through touching and are in close proximity to another, flu's or tract infections would be likely to be contracted and spread further. This would also be the case for married people as they are expected to be in close contact to one another.

All of the abovementioned covariates also proved to be significant when a bivariate analysis was undertaken. The effect of age group (25-34) was significant in its effect on flu or respiratory tract infections although it was not significant when a bivariate analysis was undertaken. Formal support, as mentioned previously was also shown to

be quite significant in its effect on flu or respiratory tract infections, formally supported individuals were 1.5 times more likely to suffer from flu or respiratory tract infections than those supported by members of their household.

Table 3. Method of recycled predictions, looking at the effect of support on health status (before and after running the multivariate model)

UNADJUSTED	**N=**	**None**	**Commun-icable**	**Non-commun-icable**	**Flu or respiratory disease**
Own household support	8683	94.0%	0.8%	0.9%	4.3%
Other household support	1797	90.3%	1.2%	1.4%	7.1%
Formal support	150	85.3%	4.0%	2.0%	8.7%
ADJUSTED (multinomial logit model)		**None**	**Commun-icable**	**Non-commun-icable**	**Flu or respiratory disease**
Own household support		93.7%	0.7%	1.1%	4.5%
Other household support		91.6%	0.7%	1.0%	6.7%
Formal support		90.8%	1.3%	1.2%	6.7%

(% in row, do not always to 100% because of rounding)

Table 2 provided the recycled predictions of the effect of type of social support structure on health status before and after running a multivariate model. In other words, the recycled predictions provided above sought to confirm, or provide more definitive statistics of the effect of type of support on health status before and after a multivariate analysis was undertaken. The figures above did not indicate any significant difference in the effect of type of support on the likelihood of disease before and after running a multivariate test, controlling for all other variables (age, gender, education, marital status, duration of unemployment and race). For instance, when looking at the percentages, before running the model, the difference in formal, household and non- household support on each of the diseases (or no disease) seem to differ by only 2 to 5 per cent at the most. This also seems to be the case after running the multivariate model, also controlling for all other variables. The differences in this case are between 0 and 3%, indicating that the type of social support structure used by unemployed individuals did not have a significant impact on their susceptibility to disease

Table 4. Relative Risk Ratio of getting Support by Type of Disease Controlling for other Covariates (Sample Weighted Multinomial Logit Regression).

Source of Support	*Multivariate*
Own household (base outcome)	
Formal/State *[No disease]*	[Ref]
Communicable diseases	2.0 [0.6-6.3]
Non Communicable diseases	1.0 [0.2-5.3]
Flu or Respiratory tract infections	1.5 [0.7-33]
Non Household *[No disease]*	[Ref]
Communicable diseases	1.0 [0.5-2.0]
Non Communicable diseases	0.9 [0.4-1.9]
Flu or Respiratory diseases	1.5** [1.0-2.2]

(support==household is the base outcome).
Other covariates include those listed in Table 1. See appendix for the full results.

Table 3, above provided the statistics of the effect of health status in its impact on the likelihood of being supported by a specific type of support structure. These statistics were obtained after running a multivariate model while controlling for all other variables (age, gender, education, marital status, duration of unemployment and race). The effects of each of the variables have not been provided in this table, but are showed in the appendix, revealing that marital status (widowed, divorced), unemployment (for 1 week and never worked), age group (55+) all have significant effects on type of support. The figures in the table indicated that only flu or respiratory tract infections had a significant impact on type of social support structure. The statistics revealed that individuals with flu or respiratory tract infections were 1.5 times significantly more likely to be supported by people outside their household. In other words, they were likely to be supported by charity, religious organisations or friends outside their own specific household. These statistics did not show any significant impact on the effects of other diseases in their likelihood to affect the type of social support received by unemployed individuals.

Table 5. Method of recycled predictions, looking at the effect of health status on support (before and after running the multivariate model)

UNADJUSTED	**N=**	**Own Household**	**Non Household**	**Formal (State)**
No disease	9912	82.3%	16.4%	1.3%
Communicable diseases	94	71.3%	22.3%	6.4%
Non Communicable diseases	110	74.6%	22.7%	2.7%
Flu or Respiratory tract infections	514	72.6%	24.9%	2.5%
ADJUSTED (multinomial logit model)		**Own Household**	**Non Household**	**Formal (State)**
No disease		80.7%	17.7%	1.5%
Communicable diseases		79.2%	17.8%	3.0%
Non Communicable diseases		81.6%	16.7%	1.6%
Flu or Respiratory tract infections		74.0%	24.0%	2.0%

(% in row, do not always to 100% because of rounding)

The recycled predictions in table 4 were carried out in order to obtain the sample-wide percentages on the effect of health status in its effect on the type of social support structure individuals belong to. In other words, the recycled predictions sought to confirm, or provide more definitive statistics of the effect of health status on type of support before and after a multivariate analysis was undertaken (all things being equal). The figures indicated a significant difference on the effect of health status in its impact on type of social support structure after running a multivariate analysis. More specifically, the effect of flu or respiratory tract infections was shown to have quite a significant effect on support received outside the household. These figures indicated a 6 to 7 per cent increase on non household support for individuals suffering from respiratory diseases as opposed to those suffering from other diseases or no diseases at all.

Chapter 5 - Conclusion

This study investigated the effect of social support in its impact on the likelihood of individuals (unemployed in this case) becoming susceptible to disease or illness, with a view to distinguish between the effects of both formal and informal support. The findings of the study indicate that social support did not have a significant effect on the health status. In other words, the type of social support structure which unemployed individuals belonged to did not seem to determine their likelihood or susceptibility to various forms of diseases. This finding reveals that formal state support does not in fact have a protective effect on the likelihood of being sick as one might expect. One would think that receiving formal support would at least enable unemployed individuals to seek medical treatment in times of illness but this did not prove to be the case. The same can also be said for informal non household support offered by friends, religious, charity or welfare organisations. This form of support also does not seem to have a protective effect. This is surprising because the common conception would be that individuals who receive informal support would also be receiving, emotional, instrumental (tangible), informational (advice, suggestions) and appraisal (affirmative) support thus possibly having the effect of reducing the chances of becoming sick or shortening the duration of their sicknesses due to all the support "received". As this did not prove to be the case, the hypothesis that there is no difference between formal and informal support on their effect on individual susceptibility to diseases is accepted, therefore an alternative hypothesis that social support does in fact have an effect on health status is not accepted. Further investigation into this matter using longitudinal data along with qualitative research methodologies is of extreme importance in order to establish a causal relationship and investigate the dynamics behind each individual situation.

The findings also revealed interesting results indicating that health status on the other hand may have quite a significant effect on the likelihood of belonging to a specific type of support structure. As such, the conclusion drawn is that health status does actually have an impact on social support. Upon evaluating this conclusion, I believe that it may certainly be the case that one's current health status may affect the social support structure in which he or she ultimately belongs to. When people are sick or ill, they may seek informal support from family members, friends or charity organisations

and/or formal support from the state. In this case, the study revealed that those with flu or respiratory illnesses were more likely to be supported by people outside their own household. This finding does however need more investigation due the limitation of using cross sectional data. This investigation would have best been conducted using longitudinal data where participants' social support structures and health statuses were recorded as baseline measurements at the beginning of the study, and recorded further at later stages to determine whether social support structures do in fact determine future health statuses and simultaneously whether health statuses seem to determine type of social support received or chosen in the long term.

As a policy recommendation, it is strongly advised that further studies (using longitudinal data) are of utmost importance as it is vital to investigate and determine exactly how social support, especially that funded by the government could have possibly have a protective effect and thus reduce individual susceptibility to ill health/disease. Social support currently provided by government was mainly to redress past discriminatory Apartheid practices and adjust for vast socio-economic disparities in order to assist and help the poor masses struggling with everyday necessities. Taking this into consideration, this study highlights that thorough studies into the nature of social support and security have to be carried out in order to determine the positive and beneficial aspects of this support, and perhaps uncover those which may be negative.

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Appendix I

Do file for statistical analysis using STATA

```
clear
cd "C:\DOCUME~1\020994~1.000\LOCALS~1\Temp\STD00000000.tmp"
/*
use person
gen new_weight=round(person_w,1)
sort uqnr personnr gender age new_weight
save person, replace

use worker
gen new_weight=round(workers,1)
sort uqnr personnr gender age new_weight
merge uqnr personnr gender age new_weight using person
tabulate _merge agegr

drop if _merge==2
drop _merge

capture drop new_uqnr
gen new_uqnr=1
replace new_uqnr=cond(_n==1,1,new_uqnr[_n-1]) + cond(uqnr!=uqnr[_n-1]
& _n!=1,1,0)

capture drop ident
gen double ident=(new_uqnr*10000 + personnr*1000 + gender*100 +
age)*100000 + new_weight
sort ident
codebook ident
d, sh

* Some individual have the same 'ident'
/*
* Safe to delete them:
capture drop same_ident
gen same_ident=ident==ident[_n+1] | ident==ident[_n-1]
tab same_ident
drop if same_ident==1
*/

tab status1 status2 [iw=new_weight] , miss

keep if status1==2
tab status1

save unemployed, replace
*/

tab agegrp status1 [iw=new_weight]


gen communicable=0
replace communicable=1 if q120tb_c==1
replace communicable=1 if q120diar==1
replace communicable=1 if q120hiv==1
replace communicable=1 if q120sexd==1
tab communicable

gen noncommunicable=0
```

```
replace noncommunicable=1 if q120bloo==1
replace noncommunicable=1 if q120diab==1
replace noncommunicable=1 if q120subs==1
replace noncommunicable=1 if q120trau==1
replace noncommunicable=1 if q120depr==1
tab noncommunicable

capture drop disease
gen disease=0
replace disease=1 if communicable==1
replace disease=2 if noncommunicable==1
replace disease=3 if q120flu==1
lab def disease 0 "none" 1 "communicable" 2 "non communicable" 3 "flu
+ respiratory", modify
lab val disease disease
lab var disease "Disease in the last month"
tab disease
drop communicable noncommunicable

capture drop disease_rec
gen disease_rec=disease
recode disease_rec 1 3=1 2=2
lab val disease_rec disease
lab var disease_rec "Disease in the last month (recoded)"
tab disease_rec

capture drop formal
gen formal=0
replace formal=1 if q212uif==1 | q212othr==1 | q133soci==1 |
q133disa==1 | q133gran==1
capture drop inhh
gen inhh=0
replace inhh=1 if q212inhh==1

capture drop support
gen support=3
replace support=2 if inhh==1
replace support=1 if formal==1
lab define support 1 "formal" 2 "household" 3 "non household", modify
lab value support support
lab variable support "Source of support"
tab support

save, replace

* START FROM HERE
log using unemployed, replace

* Unweighted distribution:
tab disease support, row
tab disease support, nofreq cell chi2

* Sampling weighted distribution:
tab disease support [fw=new_weight], row

capture drop male
gen male=cond(gender==1,1, 0)

svyset psu [pw=new_weight], strata(prov)

capture drop sup1-sup3
```

```
tab support, gen(sup)
drop sup2

* recodes
capture drop grpage*
recode age  (15/24=1) (25/34=2)  (35/44=3)  (45/54=4) (55/max=5) ,
generate(grpages)
tab grpages
lab define grpages 1 "15-24" 2 "25-34" 3 "35-44" 4 "45-54" 5 "55 +",
modify
lab value grpages grpages
lab variable grpages "10-year age group"
tab grpages, gen(grpage)
drop grpage1

capture drop male
gen male=cond(gender==1,1, 0)


capture drop marital*
tab q12amari, gen(marital)
drop marital5 marital6
gen marital=0
replace marital=1 if marital1==1
replace marital=2 if marital2==1
replace marital=3 if marital3==1
replace marital=4 if marital4==1
lab define marital 0 "nevermarried" 1 "married" 2 "living together" 3
"widow/widower" 4 "divorced", modify
lab value marital marital
lab variable marital "Marital Status"
tab marital

tab q19hiedu
gen noeducation=cond(q19hiedu==0,1,0)
gen primary=cond(q19hiedu==2 | q19hiedu==3 | q19hiedu==4| q19hiedu==5
| q19hiedu==6 | q19hiedu==7 | q19hiedu==8,1,0)
gen secondary=cond(q19hiedu==9 | q19hiedu==10 | q19hiedu==11 |
q19hiedu==12 | q19hiedu==13 | q19hiedu==17,1, 0)
gen tertiary=cond(q19hiedu==14 | q19hiedu==15 | q19hiedu==16 |
q19hiedu==18 | q19hiedu==19 | q19hiedu==20,1, 0)
gen othereduc=cond(q19hiedu>20,1, 0)

gen edulevel=0
replace edulevel=1 if primary==1
replace edulevel=2 if secondary==1
replace edulevel=3 if tertiary==1
replace edulevel=4 if othereduc==1
* To set the reference category
drop secondary

lab define edulevel 0 "noeducation" 1 "primary" 2 "secondary" 3
"tertiary" 4 "unknown", modify
lab value edulevel edulevel
lab variable edulevel "edulevel"
tab q19hiedu edulevel

tab q218tmga, gen(durunemp)
drop durunemp3 durunemp4

capture drop otherrace
```

```
gen otherrace=cond(popgrp!=1 & popgrp!=9,1,0)

*Bivariate analysis
tab disease male
svy: mlogit disease male , rrr
tab disease marital
svy: mlogit disease marital1 marital2 marital3 marital4, rrr
tab disease q218tmga
svy: mlogit disease durunemp* , rrr
tab disease grpages
svy: mlogit disease grpage2 grpage3 grpage4 grpage5  , rrr
tab disease edulevel
svy: mlogit disease noeducation primary tertiary othereduc , rrr
tab disease otherrace
svy: mlogit disease otherrace , rrr
tab disease support, col
svy: mlogit disease sup1 sup3, rrr

*Multivariate analysis
svy: mlogit disease sup1 sup3 male marital1-marital4 /*
*/ durunemp* grpage2-grpage5 noeduc primary tertiary othereduc
otherrace, rrr
capture mlogit disease sup1 sup3 male marital1-marital4 /*
*/ durunemp* grpage2-grpage5 noeduc primary tertiary othereduc
otherrace [pw=new_weight], rrr
recpred sup1 sup3

recpred sup1 sup3

capture drop dis2-dis4
tab disease, gen(dis)
drop dis1
svy: mlogit support dis2 dis3 dis4 male marital1-marital4 /*
*/ durunemp* grpage2-grpage5 noeduc primary tertiary othereduc
otherrace, rrr
capture mlogit support dis2 dis3 dis4 male marital1-marital4 /*
*/ durunemp* grpage2-grpage5 noeduc primary tertiary othereduc
otherrace[pw=new_weight], rrr
recpred dis2 dis3 dis4

recpred dis2 dis3 dis4

log close
```

Appendix II –multivariate model…health status on support

Number of strata = 9 Number of obs = 10630
Number of PSUs = 430 Population size = 4799732
Design df = 421
F(38, 384) = 13.20
Prob > F = 0.000

disease	RRR	Linearized Std. Err.	t	P>|t|	[95% Conf.	Interval]
formal						
dis2	2.044874	1.164611	1.26	0.210	.6675541	6.263926
dis3	1.057511	.8707517	0.07	0.946	.2095979	5.335593
dis4	1.485612	.6138517	0.96	0.339	.659442	3.346833
male	1.253242	.3135914	0.90	0.368	.7663543	2.049464
marital1	.8268128	.2748142	-0.57	0.568	.4302005	1.589071
marital2	1.409465	.6454494	0.75	0.454	.5729699	3.467183
marital3	6.167472	4.725627	2.37	0.018	1.367795	27.80951
marital4	1.710311	1.091667	0.84	0.401	.4877519	5.997237
durunemp1	2.367035	.7560398	2.70	0.007	1.263409	4.434713
durunemp2	1.877595	.6362656	1.86	0.064	.9645426	3.654959
grpage2	2.958683	1.1489	2.79	0.005	1.379149	6.347249
grpage3	7.96967	3.251354	5.09	0.000	3.574192	17.77063
grpage4	9.529723	4.549906	4.72	0.000	3.728274	24.35863
grpage5	8.408841	6.751153	2.65	0.008	1.73527	40.7479
noeducation	.7009388	.3924983	-0.63	0.526	.2331666	2.107142
primary	.6073807	.2108694	-1.44	0.152	.306966	1.201798
tertiary	1.241897	.6473869	0.42	0.678	.4457431	3.460084
othereduc	1.805343	1.376904	0.77	0.439	.4031725	8.084038
otherrace	.8602158	.3085968	-0.42	0.675	.4249756	1.741209
non househ~d						
dis2	1.031867	.3620913	0.09	0.929	.5176886	2.056739
dis3	.9296978	.345167	-0.20	0.844	.4481329	1.928754
dis4	1.528671	.2850976	2.28	0.023	1.059515	2.205571
male	1.323432	.1153115	3.22	0.001	1.115121	1.570656
marital1	.9975148	.1103207	-0.02	0.982	.8026179	1.239738
marital2	1.120884	.1992816	0.64	0.521	.7902958	1.589761
marital3	4.753859	1.108928	6.68	0.000	3.005487	7.519305
marital4	3.375529	1.138788	3.61	0.000	1.739192	6.551431
durunemp1	2.010441	.2093329	6.71	0.000	1.638349	2.467041
durunemp2	1.71346	.2213886	4.17	0.000	1.329159	2.208874
grpage2	1.455524	.161778	3.38	0.001	1.16987	1.810928
grpage3	1.685585	.2526778	3.48	0.001	1.255404	2.263175
grpage4	1.605987	.2834966	2.68	0.008	1.135143	2.272132
grpage5	3.1263	.7003384	5.09	0.000	2.012792	4.855818
noeducation	1.182922	.2188381	0.91	0.364	.8223028	1.701691
primary	.9937	.1099795	-0.06	0.954	.7994207	1.235194
tertiary	.7172327	.1781508	-1.34	0.182	.4401733	1.168682
othereduc	.9477688	.4236554	-0.12	0.905	.3936551	2.28186
otherrace	.4186979	.067143	-5.43	0.000	.3054973	.5738445

(support==household is the base outcome

Appendix III social grant recipients- derived from 2006 GHS

Breakdown of support by unemployment insurance per province in 2006

-> prov = Western cape

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
Cape Town	5	881	146	775	1,807
DC1	2	502	69	585	1,158
DC2	2	701	79	703	1,485
DC3	1	858	99	827	1,785
DC4	2	543	83	396	1,024
DC5	1	594	39	290	924
Total	13	4,079	515	3,576	8,183

-> prov = Eastern cape

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
DC10	0	919	108	450	1,477
DC12	4	961	93	306	1,364
DC13	3	1,133	130	231	1,497
DC14	3	716	116	143	978
DC15	2	1,017	165	185	1,369
DC44	0	707	69	103	879
Port Elizabeth	2	1,119	104	595	1,820
Total	14	6,572	785	2,013	9,384

-> prov = Northern Cape

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
CBDC1	0	77	17	89	183
DC6	2	570	73	323	968
DC7	6	813	93	354	1,266
DC8	7	757	85	475	1,324
DC9	3	733	92	247	1,075
Total	18	2,950	360	1,488	4,816

-> prov = Free State

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
DC16	20	746	110	243	1,119
DC17	1	618	74	350	1,043
DC18	1	824	87	337	1,249
DC19	1	612	64	234	911
DC20	2	647	91	317	1,057
Total	25	3,447	426	1,481	5,379

-> prov = Kwa-Zulu Natal

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
DC21	4	1,292	178	408	1,882
DC22	6	1,157	117	510	1,790
DC23	0	1,356	118	324	1,798
DC24	1	1,295	48	210	1,554
DC25	2	1,419	68	303	1,792
DC26	1	1,333	94	213	1,641
DC27	1	941	74	140	1,156
DC28	2	1,318	81	318	1,719

DC29	8	1,344	108	403	1,863
DC43	2	963	87	325	1,377
Durban	3	1,230	122	684	2,039
Total	30	13,648	1,095	3,838	18,611

-> prov = North West

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
CBDC1	0	627	30	63	720
CBDC8	1	38	9	23	71
DC37	2	778	80	419	1,279
DC38	5	1,015	93	284	1,397
DC39	2	839	41	127	1,009
DC40	3	712	137	369	1,221
DC9	0	80	2	11	93
Pretoria	1	300	20	118	439
Total	14	4,389	412	1,414	6,229

-> prov = Gauteng

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
CBDC2	0	247	53	212	512
CBDC8	9	470	94	391	964
DC42	4	964	116	478	1,562
East Rand	8	765	137	587	1,497
Johannesburg	8	1,010	230	815	2,063
Pretoria	0	452	98	415	965
Total	29	3,908	728	2,898	7,563

-> prov = Mpumalanga

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
CBDC2	1	149	6	82	238
CBDC3	0	201	12	46	259
CBDC4	0	15	1	8	24
DC30	7	1,136	144	473	1,760
DC31	4	1,084	107	414	1,609
DC32	2	845	139	377	1,363
Total	14	3,430	409	1,400	5,253

-> prov = Limpopo

District council/ metro	Supported by Unemployment Insur Yes	No	8	9	Total
CBDC3	15	894	24	89	1,022
CBDC4	2	639	29	89	759
DC33	2	964	30	224	1,220
DC34	1	896	130	166	1,193
DC35	4	853	73	191	1,121
DC36	2	1,023	96	443	1,564
Total	26	5,269	382	1,202	6,879

Breakdown of support by social relief per province in 2006

-> prov = Western Cape

District counsil/metro	Receive any social relief from Yes	No	9	Total
Cape Town	0	2,429	0	2,429
DC1	0	1,595	1	1,596
DC2	2	2,015	0	2,017
DC3	1	2,356	0	2,357
DC4	0	1,449	5	1,454
DC5	1	1,330	1	1,332
Total	4	11,174	7	11,185

-> prov = Eastern Cape

District counsil/metro	Receive any social relief from Yes	No	9	Total
DC10	1	2,042	1	2,044
DC12	0	1,976	4	1,980
DC13	0	2,308	14	2,322
DC14	5	1,548	0	1,553
DC15	0	2,378	2	2,380
DC44	1	1,533	0	1,534
Port Elizabeth	0	2,456	0	2,456
Total	7	14,241	21	14,269

-> prov = Northern Cape

District counsil/metro	Receive any social relief from Yes	No	Don't kn	9	Total
CBDC1	0	259	0	2	261
DC6	2	1,344	4	5	1,355
DC7	0	1,823	0	2	1,825
DC8	2	1,913	0	0	1,915
DC9	1	1,516	0	0	1,517
Total	5	6,855	4	9	6,873

-> prov = Free State

District counsil/metro	Receive any social relief from Yes	No	9	Total
DC16	1	1,638	10	1,649
DC17	1	1,453	0	1,454
DC18	2	1,757	1	1,760
DC19	0	1,371	0	1,371
DC20	0	1,404	8	1,412
Total	4	7,623	19	7,646

-> prov = Kwa-Zulu Natal

District counsil/metro	Receive any social relief from Yes	No	Don't kn	9	Total
DC21	0	2,829	0	3	2,832
DC22	0	2,499	0	1	2,500
DC23	0	2,820	0	3	2,823
DC24	0	2,473	3	2	2,478
DC25	0	2,732	0	2	2,734
DC26	0	2,651	0	3	2,654
DC27	2	1,892	0	0	1,894
DC28	0	2,552	0	26	2,578

DC29	3	2,615	0	12	2,630
DC43	2	2,195	0	0	2,197
Durban	0	2,680	1	2	2,683
Total	7	27,938	4	54	28,003

-> prov = North West

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC1	0	1,138	0	1,138
CBDC8	0	92	0	92
DC37	0	1,709	0	1,709
DC38	0	2,077	0	2,077
DC39	2	1,523	6	1,531
DC40	0	1,663	1	1,664
DC9	0	132	0	132
Pretoria	0	606	0	606
Total	2	8,940	7	8,949

-> prov = Gauteng

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC2	0	694	1	695
CBDC8	1	1,275	0	1,276
DC42	0	2,135	5	2,140
East Rand	7	1,969	3	1,979
Johannesburg	0	2,679	3	2,682
Pretoria	1	1,204	22	1,227
Total	9	9,956	34	9,999

-> prov = Mpumalanga

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC2	0	364	0	364
CBDC3	0	420	0	420
CBDC4	0	28	2	30
DC30	0	2,729	0	2,729
DC31	0	2,400	0	2,400
DC32	6	2,010	9	2,025
Total	6	7,951	11	7,968

-> prov = Limpopo

District counsil/metro	Receive any social relief from Yes	No	Don't kn	9	Total
CBDC3	0	1,639	0	1	1,640
CBDC4	0	1,234	0	0	1,234
DC33	1	1,905	0	0	1,906
DC34	0	1,922	0	0	1,922
DC35	0	1,779	0	2	1,781
DC36	1	2,326	1	24	2,352
Total	2	10,805	1	27	10,835

Appendix IV social grant recipients- derived from 2005 GHS

Breakdown of support by unemployment insurance per province in 2005

-> prov = Western Cape

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
Cape Town	7	907	108	774	1,796
DC1	0	555	96	614	1,265
DC2	2	768	82	736	1,588
DC3	2	820	124	773	1,719
DC4	0	576	79	391	1,046
DC5	0	612	51	257	920
Total	11	4,238	540	3,545	8,334

-> prov = Eastern Cape

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
DC10	2	865	98	452	1,417
DC12	4	1,021	90	283	1,398
DC13	4	1,231	98	213	1,546
DC14	2	803	95	155	1,055
DC15	2	1,085	79	174	1,340
DC44	3	718	59	89	869
Port Elizabeth	7	1,140	75	614	1,836
Total	24	6,863	594	1,980	9,461

-> prov = Northern Cape

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
CBDC1	1	69	10	87	167
DC6	4	606	64	339	1,013
DC7	1	822	97	354	1,274
DC8	3	765	68	475	1,311
DC9	0	729	53	239	1,021
Total	9	2,991	292	1,494	4,786

-> prov = Free State

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
DC16	8	768	100	254	1,130
DC17	2	658	73	359	1,092
DC18	5	797	88	343	1,233
DC19	1	684	80	204	969
DC20	1	672	82	318	1,073
Total	17	3,579	423	1,478	5,497

-> prov = Kwa-Zulu Natal

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
DC21	4	1,280	110	407	1,801
DC22	4	1,192	116	503	1,815
DC23	2	1,314	139	324	1,779
DC24	3	1,244	49	208	1,504
DC25	10	1,331	102	345	1,788
DC26	1	1,306	128	196	1,631
DC27	0	894	71	117	1,082
DC28	9	1,211	85	352	1,657

DC29	2	1,213	167	387	1,769
DC43	3	982	111	321	1,417
Durban	10	1,140	159	636	1,945
Total	48	13,107	1,237	3,796	18,188

-> prov = North West

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
CBDC1	0	616	26	82	724
CBDC8	0	35	7	42	84
DC37	3	782	90	341	1,216
DC38	9	1,055	78	264	1,406
DC39	0	850	42	169	1,061
DC40	1	747	83	407	1,238
DC9	1	79	3	14	97
Pretoria	0	302	15	109	426
Total	14	4,466	344	1,428	6,252

-> prov = Gauteng

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
CBDC2	2	292	43	226	563
CBDC8	2	508	85	446	1,041
DC42	9	999	97	473	1,578
East Rand	6	780	140	591	1,517
Johannesburg	10	1,067	245	822	2,144
Pretoria	3	552	98	451	1,104
Total	32	4,198	708	3,009	7,947

-> prov = Mpumalanga

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
CBDC2	2	131	16	66	215
CBDC3	0	237	15	54	306
CBDC4	1	13	3	4	21
DC30	6	1,157	219	520	1,902
DC31	6	1,102	156	399	1,663
DC32	3	709	184	372	1,268
Total	18	3,349	593	1,415	5,375

-> prov = Limpopo

District counsil/metro	15+yrs and unemployed:Supported Yes	No	8	9	Total
CBDC3	0	890	29	142	1,061
CBDC4	1	649	13	80	743
DC33	1	960	49	221	1,231
DC34	0	867	109	186	1,162
DC35	0	914	72	174	1,160
DC36	1	970	136	412	1,519
Total	3	5,250	408	1,215	6,876

Breakdown of support by social relief per province in 2005

-> prov = Western cape

District counsil/metro	Receive any social relief from Yes	No	9	Total
Cape Town	0	2,462	6	2,468
DC1	0	1,750	4	1,754
DC2	0	2,185	0	2,185
DC3	1	2,308	0	2,309
DC4	0	1,515	0	1,515
DC5	1	1,256	2	1,259
Total	2	11,476	12	11,490

-> prov = Eastern Cape

District counsil/metro	Receive any social relief from Yes	No	9	Total
DC10	3	1,941	6	1,950
DC12	1	2,025	9	2,035
DC13	4	2,422	2	2,428
DC14	0	1,650	0	1,650
DC15	3	2,375	16	2,394
DC44	1	1,546	0	1,547
Port Elizabeth	3	2,477	3	2,483
Total	15	14,436	36	14,487

-> prov = Northern Cape

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC1	0	240	0	240
DC6	12	1,422	0	1,434
DC7	0	1,898	0	1,898
DC8	0	1,904	0	1,904
DC9	1	1,437	6	1,444
Total	13	6,901	6	6,920

-> prov = Free State

District counsil/metro	Receive any social relief from Yes	No	9	Total
DC16	12	1,672	0	1,684
DC17	4	1,490	5	1,499
DC18	6	1,756	0	1,762
DC19	0	1,442	13	1,455
DC20	0	1,482	4	1,486
Total	22	7,842	22	7,886

-> prov = Kwa-Zulu Natal

District counsil/metro	Receive any social relief from Yes	No	9	Total
DC21	3	2,783	6	2,792
DC22	3	2,624	10	2,637
DC23	1	2,790	0	2,791
DC24	0	2,544	2	2,546
DC25	1	2,747	5	2,753
DC26	0	2,769	1	2,770
DC27	2	1,800	6	1,808
DC28	1	2,478	7	2,486
DC29	0	2,675	4	2,679

DC43	3	2,273	1	2,277
Durban	2	2,623	21	2,646
Total	16	28,106	63	28,185

-> prov = North West

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC1	0	1,158	0	1,158
CBDC8	0	105	0	105
DC37	1	1,679	0	1,680
DC38	1	2,124	2	2,127
DC39	0	1,646	1	1,647
DC40	1	1,728	1	1,730
DC9	0	140	0	140
Pretoria	0	601	0	601
Total	3	9,181	4	9,188

-> prov = Gauteng

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC2	0	793	1	794
CBDC8	0	1,356	8	1,364
DC42	3	2,130	0	2,133
East Rand	1	2,014	3	2,018
Johannesburg	1	2,788	0	2,789
Pretoria	1	1,425	3	1,429
Total	6	10,506	15	10,527

-> prov = Mpumalanga

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC2	0	336	0	336
CBDC3	0	490	0	490
CBDC4	0	28	0	28
DC30	1	2,978	1	2,980
DC31	0	2,465	4	2,469
DC32	1	1,917	3	1,921
Total	2	8,214	8	8,224

-> prov = Limpopo

District counsil/metro	Receive any social relief from Yes	No	9	Total
CBDC3	0	1,810	2	1,812
CBDC4	2	1,244	9	1,255
DC33	5	1,918	0	1,923
DC34	0	1,889	0	1,889
DC35	0	1,834	5	1,839
DC36	0	2,362	0	2,362
Total	7	11,057	16	11,080