

FINAL REPORT

**The Socio-Economic Impact of HIV/AIDS on
Households in South Africa: Pilot Study in Welkom and
Qwaqwa, Free State Province**

Booyesen, F. le R., Bachmann, M., Matebesi, Z. & Meyer, J.

JANUARY 2004



University of the Free State

Centre for Health Systems Research & Development



This research paper is jointly sponsored by the foreign development agencies of Australia (AusAID), the United Kingdom (DFID) and the United States (USAID) and administered by the Joint Center for Political and Economic Studies through a subcontract agreement with Nathan Associates Inc. The researchers also acknowledge receipt of a research grant from the National Research Foundation (NRF) of South Africa.

DFID Department for
International
Development

EXECUTIVE SUMMARY

- The household impact of HIV/AIDS was assessed by means of a cohort study of households affected by the disease. The survey was conducted in two local communities in the Free State province, one urban (Welkom) and one rural (QwaQwa), in which the HIV/AIDS epidemic is particularly rife. Comparisons are drawn between so-called affected and non-affected households. Affected households were sampled purposively via NGOs and other organizations involved in AIDS counselling and care and at baseline included at least one person known to be HIV-positive or known to have died from AIDS in the past six months. Informed consent was obtained from the infected individual(s) or their caregivers (in the case of minors). In order to explore the socio-economic impact on affected households of repeated occurrences of HIV/AIDS-related morbidity or mortality, a distinction is made between affected households in general and affected households that have experienced morbidity or mortality more frequently. Non-affected households represent households living in close proximity to affected households. These households at baseline did not include persons suffering from tuberculosis or pneumonia. The subsequent analyses, therefore, albeit based on data from a relatively small, purposive sample, present some indication of the socio-economic impact of HIV/AIDS on households. Furthermore, the classification of households employed in this analysis, albeit useful for the purposes of our analysis, belies the fact that HIV/AIDS affect entire communities and affect various households directly or indirectly at different stages of the epidemic, rather than affect select groups only of households that directly experience morbidity and mortality.
- Morbidity and mortality have jointly over time exacted a more severe burden on affected households, with a large proportion of affected households experiencing illness or death in each of the four waves of the study or at least in one wave. The morbidity and mortality experienced by affected as opposed to non-affected households exhibit a classic HIV/AIDS pattern.

- Ill members of affected household were more than twice as likely to have attended a government hospital, were less likely to have attended private hospitals, and were slightly less likely to have visited a government clinic. Being cared for at home was slightly more likely among those ill persons from affected households than from non-affected households. Ill members of affected households required significantly more care at home, with care being provided mainly by family members of the ill person.
- People who died were most likely to have visited a government hospital, followed by a government clinic. Eighty percent of deceased persons were cared for at home prior to their death, mainly by relations of the deceased, and household members spent an average of 7 hours (median = 5 hours) per day providing care to this person.
- The HIV/AIDS epidemic and the associated, growing orphan crisis significantly impacts on family life and household composition. The extended family plays a crucial role in coping with these crises. The evidence, furthermore, shows that the epidemic impacts entire communities rather than affected households per se, particularly in the context of the orphan crisis.
- Affected households in general and affected households that had experienced a greater burden of morbidity and mortality when compared to non-affected households include a relatively larger proportion of members belonging to the extended family.
- The extent of migration was higher in affected than in non-affected households. This is understandable insofar as the pressures exerted on affected households (e.g. not being able to cope financially or having to cope with illness or death) are more likely to result in the out-migration of household members. In turn, the pressures exerted on affected households (e.g. having to cope with illness or death) may also result in the in-migration of persons to help care for the ill or to fulfill other duties or assist in other tasks.

- Persons that had left affected households were specifically those persons that have been shown to care for the ill and/or fulfill other household duties that the ill cannot perform, i.e. older children and the elderly and female household members. This poses the question as to whether households will find it increasingly difficult to cope with the epidemic and as to whom will in future take on these responsibilities.
- In affected households in general and in affected households that have experienced morbidity or mortality in particular a relatively larger share of persons left because of reasons related to social support, i.e. the adoption or fostering of children, to escape from conflict in the household, or to relocate with their parents.
- Children and in particular female children from affected households were relatively more likely to not be attending school compared to children from non-affected households, especially in the case of affected households that have experienced morbidity or mortality in two or more periods. The evidence suggests that younger children may be taken from school for relative short periods rather than not attending school for a longer period of time, whereas older children may be taken from school for longer periods.
- The percentage of households that have sheltered an orphaned child and rates of orphanhood have steadily increased over time and presents stark evidence of the mounting orphan crisis in these two communities, as well as the fact that communities in general rather than affected households alone have to cope with this crisis.
- In terms of the migration of orphaned children, the majority of which belonged to affected households, the evidence shows that these children in most cases were female and generally were grandchildren, children or other relations of the head of the household. The single most important reason for migration was related to education, while reasons related to the care, adoption or fostering of children by the extended family were equally prominent. In addition, a small proportion of children cited conflict in the home and the death of their mother as the main reason for leaving.

- The evidence from this study also highlights the vulnerability of HIV/AIDS-affected households, reporting on a number of ways in which affected households, both socially and economically, are at a disadvantage compared to non-affected households.
- Fewer economically active persons in affected households and in particular in affected households that have experienced morbidity and mortality in two or more periods were employed. Economically active persons in affected households were more likely to not have been employed at any time or to have been employed in one wave only.
- As a result, affected households were relatively more dependent on non-employment sources of income compared to non-affected households. Poorer affected households in particular were relatively more dependent on non-employment income and remittances compared to more affluent affected households. Affected households that had moved into (escaped) poverty were relatively more likely than non-affected households to have experienced a decline (increase) in employment income, given lower labor force participation and higher unemployment rates. Affected households that had moved out of poverty were also relatively more likely than non-affected households to have experienced an increase in non-employment income, which hints at the likely importance of social grants in allowing affected households to escape poverty.
- Morbidity and mortality represent a considerable economic burden to affected households. The most frequent response was borrowing, followed by the utilization of savings, and the sale of assets. Affected households and in particular affected households that have experienced illness or death more frequently were more likely to have borrowed money in two or more periods. A relatively larger percentage of affected households utilized savings or sold assets compared to non-affected households, particularly households that have experienced a greater burden of

morbidity and mortality. Asset holdings, moreover, declined over time in affected households that have experienced morbidity or mortality in each period. In the longer run, these financial strategies could potentially force households deeper into poverty as household wealth decline and as more basic needs are crowded out in favor of debt repayments in the absence of improvements in household income.

- Affected households on average saved approximately 40% less than non-affected households on a monthly basis. For the most part, affected households that have experienced morbidity or mortality in two or more periods save the least. Furthermore, the decline in household savings over time has been relatively more pronounced in affected households, especially in affected households that have experienced a greater burden of ill-health.
- Affected households, and in particular affected households that have experienced morbidity or mortality in two or more periods, were relatively worse off than non-affected households and affected households that have experienced illness or death infrequently. This was the case regardless of whether income, expenditure or food expenditure was employed as measure of household welfare. The incidence, depth and severity of poverty was relatively worse amongst affected households compared to non-affected households, especially in the case of affected households that had experienced morbidity or mortality in each wave. This was the case regardless of the choice of poverty line or poverty measure. Affected households were also more likely than non-affected households to have slipped into poverty, while a relatively larger proportion of affected households, and in particular affected households that faced a greater burden of illness or death, were classified as chronically poor. Hence, cumulative burdens of morbidity and mortality may push households deeper into poverty.
- Demographic events are of great importance in explaining poverty transitions in the context of the HIV/AIDS epidemic. Affected households headed by persons aged 60 years or over were relatively more likely than non-affected households to have gotten

ahead, hinting at the role of the old age pension in alleviating poverty in HIV/AIDS-affected households. Households in which the number of employed (unemployed) members declined (increased) were relatively more likely to have fallen behind. Households in which the number of employed (unemployed) members increased (declined) in turn were relatively more likely to have gotten ahead. This underlines the importance of access to labor markets and to job opportunities in improving the general living standard of South Africans. Affected households in which the number of ill persons declined were relatively more likely to have gotten ahead, whereas affected households in which the number of ill persons had increased were relatively more likely to have fallen behind. A sizeable proportion (>60%) of affected households where two or three periods have elapsed since the death had fallen behind or experienced no change in their standard of living, reflecting the relatively high incidence of chronic poverty in HIV/AIDS-affected households. Affected households that had gained two or more orphaned children were relatively more likely to have fallen behind compared to non-affected households.

- The evidence highlights the relatively important role of social grants in mitigating the socio-economic impact of the HIV/AIDS epidemic. Households that had gained access to social grants, especially the relatively larger grants, were relatively more likely to have gotten ahead. Not surprisingly, the child support grant, the smallest of these grants, did not consistently aid households in escaping poverty. The evidence emphasizes the likely importance of the child support, disability and foster care grants in mitigating the impact of HIV/AIDS, given that increased eligibility for these grants (in addition to the required means tests) are driven largely by the increasing burden of chronic illness, the mounting orphan crisis and the impoverishment of households associated with the epidemic. The relatively high transition probabilities in access to child support, disability and care dependency grants suggest that these grants are unlikely to provide a long-term solution to poverty in affected households. The relatively low transition probabilities in turn in access to the old age pension and foster care grant highlight the likely important role of these grants in providing a longer-term social safety net to affected households, especially given the relatively

large monetary value of these two grants. Yet, take-up rates for child support, disability and foster care grants are relatively low, given the relatively high burden of illness and orphanhood in the sample population. Hence, much scope remains to improve take-up rates for these two social grants. In addition, a relatively large proportion of poor, affected households had never benefited from social grants. Hence, many affected households remain beyond the grasp of the social safety net.

- The findings suggest that the introduction of a broad-based social security system offering minimal benefits or of specifically targeted welfare programs may in the short and medium term be important in mitigating certain aspects of the impact of the epidemic. As an example, ensuring food security, making sure that children attend school and mitigating the burden of funeral costs, particularly in the case of households that have directly experienced illness or death, are social imperatives. In the longer run, however, continued efforts at poverty reduction through improved educational opportunities and job creation are likely to remain important. Efforts aimed at ensuring HIV-infected persons equitable access to the labor market will also be important in keeping these households from slipping deeper into poverty.

INDEX

EXECUTIVE SUMMARY	1
LIST OF FIGURES	11
LIST OF TABLES	12
1. BACKGROUND AND PROBLEM STATEMENT	17
2. OBJECTIVES	18
3. APPROACH AND METHOD	19
3.1 Population	20
3.2 Sampling	21
3.3 Data collection and analysis	24
4. KEY CONCEPTS FOR COMPARATIVE ANALYSIS	29

SECTION A: HEALTH OUTCOMES

A.1 MORBIDITY	31
A.2 MORTALITY	35
A.3 BURDEN OF MORBIDITY AND MORTALITY	36

SECTION B: SOCIO-ECONOMIC IMPACT

B.1 LABOR SUPPLY: HOUSEHOLD SIZE AND STRUCTURE	43
B.2 UNEMPLOYMENT AND LABOR FORCE PARTICIPATION RATES	45
B.3 MIGRATION	48
(i) Migration of households	49
(ii) Out-migration of household members	50
(iii) In-migration of household members	57
(iv) Migration of ill persons	64
(v) Migration of orphaned children	71
B.4 MEASURES OF HOUSEHOLD WELFARE	74

B.5	INCOME AND COMPOSITION OF INCOME	76
B.6	EXPENDITURE AND EXPENDITURE PATTERNS	80
B.7	SAVINGS, DEBT AND REPAYMENT OF DEBT	82
B.8	HOUSEHOLD RESPONSES TO FINANCIAL CRISES	87
	(i) New borrowing	89
	(ii) Utilization of savings	92
	(iii) Sale of assets	94
	(iv) Lump-sum payments and inheritance	97
B.9	DIRECT AND INDIRECT COST OF MORBIDITY AND MORTALITY	99
	(i) Cost of morbidity	100
	(ii) Cost of mortality	103
B.10	FUNERAL PRACTICES	105
B.11	HIV/AIDS AND CHILDREN	107
	(i) Caring for HIV/AIDS orphans	108
	(ii) School enrollment	116
	(iii) Orphans	118
B.12	ACCESS TO SOCIAL GRANTS	125
B.13	POVERTY AND HIV/AIDS	134
	(i) Morbidity, mortality and standard of living	137
	(ii) Depth, incidence and severity of poverty	142
	(iii) Income dynamics and chronic and transitory poverty	149
	(iv) Factors associated with changes in poverty status	159
5.	CONCLUSION	173
6.	BIBLIOGRAPHY	190

LIST OF FIGURES

	Page
Figure 1: Incidence of morbidity and mortality by affected status	39
Figure 2: Cumulative cases of morbidity in waves I to IV by age group	40
Figure 3: Cumulative cases of mortality in waves I to IV by age group	40
Figure 4: Age distribution of migrating ill persons (n=28)	68
Figure 5: Relation to head of household of ill migrants (n=28)	68
Figure 6: Marital status of ill migrants (n=28)	69
Figure 7: Destination of ill migrants (n=28)	69
Figure 8: Main reason for ill migrants leaving (n=28)	70
Figure 9: Age distribution of migrating orphans	72
Figure 10: Relation to head of household of migrating orphans	73
Figure 11: Origin and destination of migrating orphans	74
Figure 12: Main reason for migrating orphans joining or leaving households	75
Figure 13: Non-attendance at school amongst children aged 7-18 years (%)	117
Figure 14: Cumulative rate of orphanhood amongst children aged 15 or under	122
Figure 15: Percentage of households with access to specific social grants	127
Figure 16: Take-up and eligibility of old age pension and child support grant (%)	129
Figure 17: Percentage of households that have never received a social grant	133
Figure 18: Trends in real income	138
Figure 19: Trends in real expenditure	140
Figure 20: Trends in real expenditure: income ratio	141
Figure 21: Poverty dominance curves for affected and non-affected households	146

LIST OF TABLES

	Page
Table 1: Main reasons for attrition of households between waves I to IV (%)	23
Table 2: Diagnosis among ill household members	32
Table 3: Indicators of severity of illness	32
Table 4: Facility visited during last illness	32
Table 5: Cost of health care use, lost productivity and household burden of caring for ill people	33
Table 6: Proportions of households reporting anyone ill during previous month	33
Table 7: Predictors of illness in a household: logistic regression model	34
Table 8: Percentage of ill persons cared for at home (%)	34
Table 9: Relation of main caregiver to ill person cared for at home: Median number of days cared for at home in past month, and median number of hours spent caring for the ill (waves I to IV)	35
Table 10: Diagnoses among household members who died	35
Table 11: Facility visited before death	36
Table 12: Cost of health care use, lost productivity and household burden of caring for people who died	36
Table 13: Proportions of households reporting a death during the previous 6 months	37
Table 14: Predictors of death in a household: logistic regression model	37
Table 15: Relation of main caregiver to deceased person and average number of hours spent caring for the deceased before their death (waves I to IV)	38
Table 16: Transitions in morbidity and mortality (%)	41
Table 17: Household size	44
Table 18: Dependency ratio	44
Table 19: Average household composition (%)	45

Table 20:	Unemployment rates (%)	46
Table 21:	Labor force participation rate (%)	47
Table 22:	Changes in employment status (%)	47
Table 23:	Main reason for household migration (%)	49
Table 24:	Mean age and age distribution of out-migrating household members	51
Table 25:	Gender of out-migrating household members (%)	52
Table 26:	Relation to household head of out-migrating household members (%)	53
Table 27:	Marital status of out-migrating household members (%)	54
Table 28:	Destination of out-migrating household members (%)	55
Table 29:	Main reason for out-migration (%)	56
Table 30:	Contributions by out-migrating household members	56
Table 31:	Mean age and age distribution of in-migrating household members	58
Table 32:	Gender of in-migrating household members (%)	59
Table 33:	Relation to head of household of in-migrating household members (%)	60
Table 34:	Marital status of in-migrating household members (%)	61
Table 35:	Origin of in-migrating household members (%)	62
Table 36:	Main reason for in-migration (%)	63
Table 37:	Contributions by in-migrating household members	64
Table 38:	Real adult equivalent income (Rand)(2000=100)	77
Table 39:	Distribution of households by quintiles of average adult equivalent per capita income across waves I to IV (%)	77
Table 40:	Composition of household income (%)	78
Table 41:	Income composition by quintiles of average adult equivalent per capita income across waves I to IV (%)	79
Table 42:	Real adult equivalent expenditure (Rand)(2000=100)	80
Table 43:	Real adult equivalent food expenditure (Rand)(2000=100)	81
Table 44:	Composition of regular household expenditure (%)	82

Table 45:	Real average household savings (Rand)(2000=100)	83
Table 46:	Composition of household savings (%)	84
Table 47:	Real average total household debt (Rand)(2000=100)	85
Table 48:	Real average monthly repayment of household debt (Rand)(2000=100)	86
Table 49:	Average number of months required to settle current household debt	87
Table 50:	Use of financial responses by households to help cope (%)	88
Table 51:	Purpose of new borrowing (%)	90
Table 52:	Relative magnitude of new borrowing	91
Table 53:	Source of new borrowing (%)	92
Table 54:	Relative magnitude of utilized savings	93
Table 55:	Purpose of utilizing savings (%)	94
Table 56:	Average household asset index (maximum = 13)	94
Table 57:	Relative magnitude of asset sales	95
Table 58:	Purpose of sale of assets (%)	96
Table 59:	Type of assets sold (%)	96
Table 60:	Households receiving lump sum or inheritance following a death (%)	97
Table 61:	Source and average value of lump sum payment following a death	98
Table 62:	Monetary and non-monetary nature of inheritance	98
Table 63:	Cost of morbidity to households (Rand)	101
Table 64:	Composition of cost of morbidity (%)	102
Table 65:	Cost of mortality to households (Rand)	103
Table 66:	Composition of cost of mortality (%)	104
Table 67:	School attendance amongst children aged 7-18 years (%)	116
Table 68:	Gender of children aged 7-18 years not attending school (%)	118
Table 69:	Households sheltering orphans per wave (%)	119
Table 70:	Households sheltering orphans across waves (%)	120
Table 71:	Cumulative rates of orphan hood (%)	121

Table 72:	Distribution of orphans per household in waves I and IV (%)	124
Table 73:	Characteristics of the households and head of household sheltering a maternal orphan by wave IV (%)	125
Table 74:	Trends in access to social grants (%)	126
Table 75:	Access to social grants by wave (%)	128
Table 76:	Transitions in access to social grants (%)	130
Table 77:	Average real adult equivalent income (2000=100)	136
Table 78:	Predictors of real household income: linear regression model	137
Table 79:	Time trends for real income – affected and unaffected households	138
Table 80:	Predictors of real household expenditure: linear regression model	139
Table 81:	Time trends for real expenditure – affected and unaffected households	140
Table 82:	Predictors of real household expenditure: income ratio: linear regression model	140
Table 83:	Time trends for real expenditure:income ratio – affected and unaffected households	141
Table 84:	Estimates of the Headcount Poverty Index (H), Poverty Gap Measure (PG), Squared Poverty Gap Index (SPG) and Gini- coefficient (waves I-IV)	144
Table 85:	Trends in the incidence of poverty (%)	150
Table 86:	Quintile mobility matrix, waves I to IV	151
Table 87:	Intensity of income mobility between waves I and IV (%)	153
Table 88:	Mean absolute and algebraic change in quintile ranking, wave I to IV	154
Table 89:	Ratio between quintile mean income and mean income of first quintile	155
Table 90:	Poverty transitions (%)	156
Table 91:	Incidence of chronic and transient poverty (%)	158

Table 92:	Events associated with the movement of a household INTO poverty between waves I and IV (%)	160
Table 93:	Events associated with the movement of a household OUT of poverty between waves I and IV (%)	161
Table 94:	Absolute change in adult equivalent income between waves I and IV by net change in household size (%)	163
Table 95:	Absolute change in adult equivalent income between waves I and IV by age of household head at baseline (%)	164
Table 96:	Absolute change in adult equivalent income between waves I and IV by net change in number of employed household members (%)	165
Table 97:	Absolute change in adult equivalent income between waves I and IV by net change in number of unemployed household members (%)	167
Table 98:	Absolute change in adult equivalent income between waves I and IV by net change in burden of illness on affected households (%)	168
Table 99:	Absolute change in adult equivalent income by time elapsed since last death in affected households (%)	169
Table 100:	Absolute change in adult equivalent income between waves I and IV by net change in number of orphaned children (%)	170
Table 101:	Absolute change in adult equivalent income between waves I and IV by change in access to social welfare grants (%)	171

1. BACKGROUND AND PROBLEM STATEMENT

The HIV/AIDS epidemic poses a severe threat to the economies of developing countries, and those on the African continent in particular. South Africa, which is being affected fundamentally by the epidemic, is no exception. The estimated adult prevalence of HIV amongst 15-49 year olds in 2001 was 20.1 percent (UNAIDS, 2002), while the ASSA2000 model put adult prevalence amongst 20-65 year olds at 24.1 percent (ASSA, 2003). A recent national household survey in turn has put the 2002 estimate of adult prevalence amongst those older than 25 years at 15.5 percent (HSRC, 2002).

These infected individuals and affected children all belong to individual households and their deaths will have a significant impact on their families. Hence, the epidemic will have a considerably impact on households in South Africa. Over the next ten to fifteen years, the epidemic has the potential to erode development gains made in past decades. As the disease takes its toll on the economically active population, production and demand are expected to decline, which will slow down economic growth and development. Research into the socio-economic impact of HIV/AIDS on households and communities is crucial in guiding current and future policies and intervention strategies intended to absorb this impact. From an economic point of view, the primary impact of the disease manifests mainly among individual economic agents, i.e. individuals and households. An assessment of the socio-economic of HIV/AIDS would therefore have to start on this micro-level of analysis. Aspects of such assessment, amongst other things, includes determining how the disease affects the economic decisions and position of individuals and households over time, i.e. how they generate, save, invest and spend income in response to the disease, and how the epidemic in turn affects their quality of life.

2. OBJECTIVES

The project had the following broad objectives:

- develop and test a methodology for assessing the socio-economic impact of HIV/AIDS at the individual and household level in both an urban and a rural setting;
- identify and capture the standard minimum criteria and indicators to be incorporated into the methods of methodologies of studies of this nature;
- describe and evaluate the impact of different informal coping strategies and support systems adopted by individuals, households and communities, as well as that of formal HIV/AIDS-related interventions of national and provincial government departments and local authorities (TLCs), in terms of their impact over time on the quality of life of affected households living in both urban and rural areas;
- inform economic growth analyses and studies on the macroeconomic impact of HIV/AIDS by projecting information about the microeconomic impact of the disease onto trends in labor market participation, spending, savings and investment; and
- propose a framework for national 'best practice' for improving the quality of life of affected households in urban and rural communities based on existing macro- and micro-, as well as formal and informal responses to HIV/AIDS.

3. APPROACH AND METHOD

3.1 Population

The impact of HIV/AIDS on individuals and households was assessed by means of a cohort study of households affected by the disease, and compared with a comparison group of households non-affected by the disease. The study was conducted in two local communities in the Free State province, one urban (Welkom) and one rural (Qwaqwa), in which the HIV/AIDS epidemic is particularly rife. Of the nine provinces in South Africa, the Free State has the second highest prevalence of HIV/AIDS and is also the province with the second highest rate of increase in the prevalence of HIV/AIDS (Cohen, 2000). Welkom is situated in Region C, one of six former health regions in the Free State. In 1997, Region C had the highest HIV prevalence among antenatal clinic attendees of all the six health regions in the province, i.e. 26.6 per cent. HIV prevalence in this region is the second highest in South Africa. The prevalence of HIV/AIDS in the former Qwaqwa is also very high compared to other health districts. Because of high unemployment, men from this area are often employed as migrant laborers in towns and cities away from their homes. In addition, the lack of infrastructure, poor services and poor living conditions characteristic of this area further increases the vulnerability of the local population to the HIV/AIDS epidemic.

According to the report entitled *Measuring Poverty* published by Statistics SA early in 2000, the Welkom magisterial district is the third richest in the Free State province, with a headcount poverty ratio of 0.34 and average monthly household expenditure of R2364. The magisterial district of Witsieshoek, which is within the boundaries of the former Qwaqwa, is the poorest in the Free State province and also ranks amongst the poorest in the country. The headcount poverty ratio in this district is 0.69, while average monthly household expenditure amounts to R807. Thus, the particular selection of study sites also allows one to compare the household impact of HIV/AIDS between communities that differ substantially in terms of the general standard of living (Statistics South Africa, 2000).

3.2 Sampling

The identification of participants in the study, particularly of affected households, requires ethically meticulous research conduct. The myths and secrecy surrounding the disease, as well as the fear of stigmatization and protection of the identity of people living with HIV/AIDS, pose a real challenge for research of this nature since it complicates the identification and selection of participants. The participation of households in this research project is voluntary and is based on confidentiality and informed consent. The research protocol was submitted to the Research Ethics Committee of the University of the Free State for approval in order to safeguard the rights of the participants and to ensure ethical standards of research. The committee has approved the study. Letters of approval have also been obtained from the following individuals in the Department of Health, all of which have offered their cooperation and expressed their interest in the findings of the project:

Dr. N. Simelela, Chief Director: HIV/AIDS and STDs

Prof K.C. Househam, Head of Department of Health, Free State Province

Mrs R. Sibeko, District Health Manager DC19 (Qwaqwa)

Me N.J. Jolingana, District Health Manager DC18 (Welkom)

The CHSR&D established a formal relationship with various stakeholders in the two study sites to facilitate the recruitment of affected households, including the Department of Health and various NGOs and CBOs active in HIV/AIDS and home-based care. The research team met with a variety of stakeholders in each of the two areas during the initial phases of the project. These meetings had three purposes: to inform the stakeholders of the research projects and its aims and objectives, to involve the stakeholders in the recruitment of fieldwork managers and fieldworkers, and to involve the stakeholders in the recruitment of participating households. In the research team's opinion, the fact that the fieldwork was managed through and conducted by parties involved in HIV/AIDS-related work in these communities adds much value to the project. The questionnaire was

also circulated to these stakeholders for comment, which is important in terms of availing them the chance to ensure that the data generated by the project is of use to them in planning and managing their activities. Through this network as many households as possible that are affected by HIV/AIDS were identified, although in practice the number did not exceed by far the target of 100 households. Such approach to sampling avoids the sensitive issue of testing the members of participating households for HIV and also ensures that the selected households are indeed affected by HIV/AIDS. The manager of the fieldwork teams in each of the two study sites was responsible for coordinating this process and obtained verbal consent from each of the infected individuals belonging to the households included in the sample. The manager was also responsible for ensuring that the identified households come from a range of neighborhoods/villages in the area, thus providing the researchers with a sample that reflect differences in demographics and standards of living in the two study sites.

The manner in which the participating households were sampled to a large extent ensures that affected households are indeed affected by HIV/AIDS. However, many infected individuals have not disclosed their status to their families, which means that the study could not be introduced to respondents as an HIV/AIDS study and therefore inadvertently reveal the identity of the infected person to other household members. Non-affected households interviewed at baseline may also be discouraged to participate in the study if directly introduced as an HIV/AIDS impact study, with particular significant problems being experienced if these households become affected in later phases of the project. Hence, the study was introduced to respondents as 'a study of the impact of morbidity and mortality on households in the Free State province'. The research team found the issue of disclosure to be an important obstacle in the recruitment process and other researchers involved in similar projects are encouraged to find innovative solutions to this problem. Possible ways to perhaps deal with this problem are using the infected individual rather than the household as unit of analysis OR allowing more time for recruitment to actually facilitate a process of disclosure and involve the entire household in the data collection process.

In order to control for the effect on households of socioeconomic changes not related to HIV/AIDS, a comparison group of 100 households that were not affected by HIV/AIDS at baseline was recruited to voluntarily partake in the study. These households were recruited in the following manner. For each affected household that the fieldworker visited for interview purposes, the fieldworker also interviewed a household living in close proximity to the affected household, e.g. a neighboring household. In order to ensure that this household at the time was not directly affected by HIV/AIDS the fieldworker first asked the respondent a few key questions, i.e. whether someone in the household is being treated for TB or whether someone has been hospitalized with pneumonia in the past six months. Initially, a direct question about whether someone in the household has HIV/AIDS was included in the set of screening key questions. However, this question was dropped once it became clear during the practice interviews that this question caused respondents to refuse to participate, most probably because of the stigmatization that still surrounds the epidemic. If the respondent answered any of these questions in the affirmative (with a 'YES'), the fieldworker moved to the next household until they found a household for which none of the key questions were answered in the affirmative. Hence, it meant that the fieldworker often had to visit a number of households before they successfully identified a non-affected household for each affected household interviewed as part of the study. Fieldworkers were trained to take appropriate care in allowing time for this activity when conducting their interviews. Non-affected households, therefore, represent households living in close proximity to those so-called affected households, but which did not at the time of the first interview include persons suffering from tuberculosis or pneumonia. Such distinction, however, although convenient for the purposes of this analysis, belies the fact that HIV/AIDS indeed affect entire communities and affect various households directly or indirectly at different stages of the epidemic, as highlighted by Freire (2003), rather than select groups only of households that directly experience morbidity and mortality.

Fieldworkers were also trained to take particular care in recording the address and details of these households. This is crucial for the purposes of revisiting this household six months later during the second wave of the data collection phase of the project. In order

to keep track with interviewed households, all respondents were also supplied with a paid, self-addressed postcard on which any change in address can be recorded and mailed to the research team. During the first wave of interviews a total of 406 interviews were conducted. During the second wave of data collection, interviews were conducted with 387 households, which translates into an attrition rate of 4.9% (20 households). During waves III and IV respectively another 31 and 4 households could not be -re-interviewed. To date, therefore, the baseline sample has suffered an attrition rate of 13.5 percent (or 55 households). Table 1 describes the main reasons for attrition.

Table 1: Main reasons for attrition of households between waves I to IV (%)

Main reason	Qwaqwa affected	Qwaqwa non-affected	Welkom affected	Welkom non-affected	Affected	Non-affected	Total
Cannot establish current whereabouts	53	73	62	50	57	64	60
Migration to	29	13	38	40	33	24	29
• Another country	-	-	-	10	-	4	2
• Another province	6	7	38	20	20	12	16
• Another town in same province	24	7	-	10	13	8	11
Refusal	12	-	-	10	7	4	5
Data collection errors (duplication)	6	13	-	-	3	8	5
Total	100	100	100	100	100	100	100
<i>Sample (n)</i>	<i>17</i>	<i>15</i>	<i>13</i>	<i>10</i>	<i>30</i>	<i>25</i>	<i>55</i>

In almost 90 percent of cases the reasons for attrition are related to migration (Table 1), given that this study did not intend to follow those households that move outside of the two immediate study areas, i.e. Welkom and Qwaqwa. In the majority of cases (60%), attrition can be ascribed to the failure to establish the current whereabouts of the particular household during follow-up, while in 29 percent of cases it could be

established that the household had moved to another country, another province, or another town in the Free State province. Five percent only of households had refused to participate in subsequent waves, while three interviews were duplicated (the most complete of each of these questionnaires were included in the final dataset). The reasons for attrition in the original sample illustrate the manner in which migration and the disintegration of households, which are important effects of the epidemic, can act to erode the sample population. During wave IV, 55 new households were recruited into the study, with particular emphasis on recruiting child-headed households into the survey insofar as the sample to date did not include any such households. The continued payment of a minimal participation fee (R150 per household per survey visit) to those households interviewed in each wave is expected to ensure sustainability of the sample over the three years. It is envisaged that the affected status of so-called non-affected households will be revisited once the all six waves of the panel has been completed, given that non-affected households will become affected by HIV/AIDS over the three year study period.

3.3 Data collection and analysis

The impact of HIV/AIDS on households was assessed by means of a longitudinal (cohort) study of households affected by the disease. The household impact of HIV/AIDS was determined by comparing over time the observed trends in socioeconomic variables in HIV/AIDS-affected households and a control group using statistical methods. For this purpose, a six-monthly survey on the quality of life and the economics of affected and non-affected households was conducted. Households were defined in terms of the standard definition employed by Statistics South Africa in the October Household Survey (OHS), i.e. "a person or a group of persons who live together at least four nights a week at the same address, eat together and share resources". Interviews were conducted with one respondent only, namely the "person responsible for the daily organization of the household, including household finances". The results reported in this report are for the most part based on an analysis of the data for the 351 households interviews in each of the first four waves of the survey.

The instrument used for this purpose explores the issue mainly in quantitative terms. The instrument explores the economic impact of the disease on, amongst other things, household income and expenditure patterns. It also explores the experiences of households affected by HIV/AIDS with regard to their response to it with regard to caring for affected household members, utilizing certain services, and coping with the impact on their socioeconomic circumstances. The design of the instrument was informed by a literature review of the methodology of household impact studies, existing questionnaires employed in other studies of this nature¹, focus group sessions with key informants, and the piloting and revision of the draft instrument. For the purposes of comparative analysis, the instrument used for data collection in affected households is the same as that employed in collecting data from non-affected households, although certain sections of the questionnaire (notably that on morbidity and mortality) did not always apply to these households.

A first draft of the questionnaire was completed in early April 2001. Before finalizing the questionnaire and having it translated, a first draft was circulated for comment amongst stakeholders from government departments, NGOs, and CBOs, as well as other academics, which was integrated into the final instrument with issues raised in the pre-testing of the questionnaire. The socioeconomic questions/sections in the questionnaire was standardized in accordance with the recommendations put forward following a meeting between the researchers from different AIDS research projects in Johannesburg toward the end of April 2001. The questionnaire was translated into Sesotho and Afrikaans, which together with English presents the major languages spoken by the population residing in the two study sites, after which final changes were made following problems arising from the pre-testing of the questionnaire in Bloemfontein. A training manual was compiled for the fieldworkers, editors and fieldwork managers following the finalization of the questionnaire.

¹ The questionnaires that could be accessed for this purpose include those employed in the longitudinal household study conducted in Kagera, Tanzania by the World Bank between 1990 and 1994, as well as the questionnaires employed in two household studies conducted respectively in Zambia and Zimbabwe.

A common characteristic of household impact studies is to also collect data from other stakeholders, using techniques other than household interviews. To this end the research team in the second year of the project also embarked on quantitative data collection via focus groups. The main purpose of focus group research is to draw upon respondents' attitudes, feelings, beliefs, experiences and reactions. These attitudes, feelings and beliefs may be partially independent of a group or its social setting (Ackerman & Matebesi, 1998), but are more likely to be revealed via the social gathering and the interaction which being in a focus group entails. Although focus group research has many advantages, as with all research methods there are limitations. Careful planning and moderating can overcome some of these limitations, but others are unavoidable and peculiar to this approach. The researcher, or moderator, for example, has less control over the data produced (Gibbs, 1997). In particular the purpose of the focus groups in this study was to explore the experiences on HIV/AIDS orphans and funeral practices, and to complement the household survey. A snowball sampling technique was used to select the participants (i.e. male and female foster parents; child-headed households and fieldworkers who participated in the household survey) from Welkom and Qwaqwa. Seven focus-group discussions were conducted with between six to twenty people in each group (a total of 67 participants). The sessions lasted for one hour on average and the discussions were conducted in the language of the participants, i.e. Sesotho. The facilitator of the discussions employed the funnel approach – a broad question followed gradually by more narrow questions. Some of the sessions were highly emotional, especially the ones with orphans and child-headed households. As a result, the facilitator avoided asking certain sensitive questions. The sessions were taped-recorded with the permission of the participants and the recordings were transcribed and form the basis of the findings on the impact of HIV/AIDS on children and the findings on funeral practices reported in the subsequent pages.

Following an interview process, a fieldwork team consisting of a manager, editor and a number of fieldworkers was recruited in each of the two study sites, mainly from amongst persons working as volunteers in HIV/AIDS programs. On completion of the training, each member of the research teams signed a contract that stipulates the conditions of

services and other project regulations. Members of the fieldwork teams were issued with letters and certificates testifying to their participation in the project on completion of the fieldwork. The research teams that participated in the data collection phase of the project consisted of the following individuals (for purposes of capacity building and the involvement of previously disadvantaged persons in the project, please note that all the recruited persons are of PDI status), with members being replaced where members relocated to other areas, where members could not participate in the project anymore due to work or other commitments, or where member's performance were deemed to be unsatisfactory:

Welkom

Fieldwork managers	Mr J. Molefi (wave I) Ms G. Moeti (wave II to IV)
Editor	Ms K.D. Rankhakile
Fieldworkers	Ms E. Van Rooi Mr D.T. Tlali Ms D. Chabeli Ms. G. Moeti Mr J. Moholobela Ms S. Hallam Mr O. Kgware Ms M. Nyakane Ms H. Van Wyk

Qwaqwa

Fieldwork manager	Mr N. Khoapa
Editor	Ms K.R. Mofutsanyana
Fieldworkers	Ms M. Maduna Ms D. Masindwa Ms M. Masisi Mr P. Mofokeng

Ms T. Motsatse

Mr S. Ntsane

All members of the two fieldwork teams had received the basic HIV/AIDS training provided to AIDS counselors and volunteer workers by ATTIC by the time the fieldwork commenced. A team of researchers conducted three-day training sessions in Qwaqwa and Welkom with the two fieldwork teams prior to each of the waves of data collection. The training consisted of classroom training, scenarios and practice interviews. A researcher spent two more days with the fieldwork team when the fieldwork commenced to further guide the fieldwork team in the data collection process and manage the logistics and administration. The research team in their efforts to also employ fieldworker training as a tool for capacity building put much effort into guiding the fieldwork teams during the data collection process. A researcher paid regular visits to the area to perform quality control checks, to assist the editor with the editing of questionnaires, and to ensure that the process is on track. The four waves of data collection were respectively completed in May/June 2001 (wave I) and November/December of 2001 (wave II) and in July/August 2002 (wave III) and November/December of 2002 (wave IV). (Eventually, a total of six waves will be conducted over a three-year period, with wave V having been completed in July/August 2003 and the data currently being captured and cleaned.)

Due to the sampling design and small sample size, the findings from this household impact study cannot be generalized to households across South Africa, but pertain largely to the experience of poor, African households that utilize public health care services (Booyesen *et al.*, 2002c). Thus, the research is indicative only (but nevertheless telling) of the socio-economic impact of HIV/AIDS on South African households, a characteristic shared by most other HIV/AIDS household impact studies (Booyesen and Arntz, 2003).

4. KEY CONCEPTS FOR COMPARATIVE ANALYSIS

The results presented in the subsequent pages of this report draws comparisons between households in terms of the socioeconomic impact of HIV/AIDS based on a number of stratifications of the data. These concepts and terminology can be defined as follows.

- **HOUSEHOLD:** Households were defined in terms of the standard definition employed by Statistics South Africa in the October Household Survey, i.e. "a person or a group of persons who live together at least four nights a week at the same address, eat together and share resources".
- **URBAN** versus **RURAL** comparisons: This refers to the distinction between households living in Welkom and households living in Qwaqwa. Welkom is a relatively large urban settlement in the Goldfields in the Eastern Free State. Qwaqwa is a former homeland, which is still governed mainly by traditional leadership in an area where communities reside in 42 smaller villages. The distinction therefore between urban/rural is based on the nature of governance structures in the two areas rather than the physical housing infrastructure characteristic of these areas. In Qwaqwa for example the majority of the population reside in formal dwellings (refer page elsewhere), yet the community remains a predominantly rural one.
- **AFFECTED** versus **NON-AFFECTED** comparisons: This refers to the distinction between interviewed households in which at least one person is known to be HIV-positive as opposed to interviewed households residing in close proximity in the affected households which was sampled as controls (see discussion elsewhere). The former households were recruited purposively from established networks and/or organizations in the two areas involved in HIV/AIDS. In the case of the latter households no one in these households is known to be HIV-positive insofar as testing could not be conducted, nor was any member of these households at baseline treated for tuberculosis or hospitalized for pneumonia in the month before the first interview.

- **ILLNESS** versus **NO ILLNESS** comparisons: This refers to the distinction between households in which one or more members had been continuously ill in the month preceding the interview as opposed to households where no member had been continuously ill in the month preceding the interview.
- **DEATH** versus **NO DEATH** comparisons: This refers to the distinction between households in which one or more members had died in the six month preceding the interview as opposed to households where no member had died in the six month preceding the interview.
- **ILLNESS/DEATH** versus **NO ILLNESS/DEATH** comparisons: This refers to the distinction between affected households that have experienced illness or death more frequently as opposed to households that have experienced illness/death less frequently or not at all. The main aim with these comparisons is to emphasize how the socio-economic impact of HIV/AIDS differs across these groups of affected households, i.e. that it is the burden of morbidity and/or mortality associated with the epidemic that translates into severe socio-economic impacts at the household level.
- **WAVE I** to **WAVE IV** comparisons: This refers to the comparison of outcomes between the data collected during the first four rounds of interviews, the main aim being to establish the main trends in certain socio-economic impact variables.

In the subsequent pages, the results and main findings of the project are elaborated on. Section A focuses on health outcomes, which is important in establishing whether affected and non-affected households actually represent a foundation for determining the impact of HIV/AIDS and for informing certain aspects of health policies related to coping with the HIV/AIDS epidemic. Section B focuses on various aspects of the socio-economic impact of HIV/AIDS on households, e.g. the supply of labor at the household level, expenditure patterns, financial coping strategies, issues related to the impact on children, access to social grants, and the link between poverty and HIV/AIDS. The conclusions are discussed in the final part of the report.

SECTION A: HEALTH OUTCOMES

At each wave, questions about illness and death were asked about each person who was reported to have been ill during the month before the interview, or to have died during the six months before the interview. The diagnosis and severity of each case of illness or death were described, as well as the associated costs and burden of illness and death on their household. Data of deaths and illness from all four waves were firstly pooled and summarized, and then examined for trends over the four waves, using basic statistical methods.

We used multiple regression methods to identify predictors of a household reporting a death or illness, and predictors of household income and expenditure, using Stata statistical software. As income, expenditure and the expenditure:income ratio were all positively skewed, they were logarithmically transformed, producing normal distributions and permitting linear regression analysis. We examined trends over time by using dummy variables for time in regression models. To take account of the non-independence of repeated measures on the same households over time, we adjusted for inter-household correlation of outcomes in regression models. Differences in trends over time between affected and unaffected households were tested by including time*affected status interaction terms in regression models.

A.1 MORBIDITY

A total of 611 household members were reported to have been ill in the past month. The distribution of diagnoses is shown in Table 2. Ill members of affected households were twice as likely to have an infectious disease than those in unaffected households (62% vs 33%)(Table 2). Their illnesses tended also to be more severe (Table 3).

Table 2: Diagnosis among ill household members

	Affected		Unaffected		P (χ^2)
	n	(%)	n	(%)	
TB	114	(23)	26	(21)	
HIV/AIDS	70	(14)	1	(0.3)	
Bronchitis	44	(9.0)	2	(1.7)	
STD	36	(7.4)	1	(0.83)	
Pneumonia	27	(5.5)	5	(4.1)	
Cholera	8	(1.6)	0	(0)	
Gastroenteritis	3	(0.61)	5	(4.1)	
Other	188	(38)	81	(67)	
Total	490	(100)	121	(100)	<0.001

Table 3: Indicators of severity of illness

	Affected		Unaffected		P (χ^2)
	n/N	(%)	n/N	(%)	
Recovered from illness	95/509	(19)	39/133	(29)	0.007
Able to perform daily tasks	326/510	(64)	105/133	(79)	0.001
Admitted to hospital	128/510	(25)	23/133	(17)	0.059
Cared for at home	347/507	(68)	72/133	(54)	0.007
Lost income while ill	25/503	(5)	4/134	(3)	0.33
Had to be accompanied to health service	296/499	(59)	56/134	(42)	<0.001

Ill members of affected household were more than twice as likely to have attended a government hospital, were less likely to have attended a private hospital, and were slightly less likely to have visited a government clinic (Table 4).

Table 4. Facility visited during last illness

	Affected		Unaffected		P (χ^2)
	n	(%)	n	(%)	
Govt clinic	262	(53)	78	(63)	
Govt hospital	130	(26)	14	(11)	
Private doctor	77	(16)	20	(16)	
Private hospital	9	(1.8)	6	(4.9)	
Other	14	(2.8)	5	(4.1)	
Total	492	(100)	123	(100)	0.030

Costs of hospital use were significantly lower among members of affected households, partly reflecting the greater use of private hospitals by members of unaffected households (Table 5). Ill members of affected households required significantly more care at home.

Table 5: Cost of health care use, lost productivity and household burden of caring for ill people

	Affected Mean	Unaffected Mean	P (ranksum)
Consultation fees	46	41	0.36
Transport costs	17	18	0.26
Medicine costs	40	150	0.43
Hospital fees	137	310	0.017
	Median	Median	
Days cared for at home	23	25	0.74
Hours per day cared for	4	3.5	0.033
Work days lost in last month	21	7	0.66

None of the distributions shown in Tables 2-5 varied significantly over the four waves, that is, there were no clear trends over time.

Affected households were significantly likely to report any illness at each wave (Table 6). In both affected and unaffected households, the prevalence of illness decreased over time.

Table 6: Proportions of households reporting anyone ill during previous month

Wave	Affected		Unaffected		P (χ^2)
	n/N	(%)	n/N	(%)	
1	148/202	(73)	40/204	(20)	<0.001
2	103/194	(53)	29/193	(29)	<0.001
3	77/174	(44)	22/181	(12)	<0.001
4	70/171	(41)	20/181	(11)	<0.001

Table 7 shows that the odds of illness was independently over seven times higher in affected households, decreased over time, decreased with increasing household expenditure and increased as the male proportion of households increased. It was not independently associated with the mean age of household members, the number employed, or household income.

Table 7: Predictors of illness in a household: logistic regression model

Explanatory variable	Odds ratio	(95% CI)	P*
Affected vs unaffected	7.5	(5.3) - (10.8)	<0.001
Rural vs urban	1.5	(1.1) - (2.1)	0.025
Wave 2 vs wave 1	0.49	(0.35) - (0.67)	<0.001
Wave 3 vs wave 1	0.33	(0.23) - (0.46)	<0.001
Wave 4 vs wave 1	0.29	(0.21) - (0.41)	<0.001
Real household expenditure (per R1000)	0.79	(0.65) - (0.97)	0.025
Males as percent of household	2.5	(1.3) - (4.5)	0.004

* Adjusted for intra-household clustering of outcome.

Table 8: Percentage of ill persons cared for at home (%)

	Affected households	Non-affected households	Total all households
Yes	68.4	54.1	65.5
No	31.6	45.9	34.5
Total	100.0	100.0	100.0
<i>Sample (n)</i>	<i>507</i>	<i>133</i>	<i>640</i>

In total, 65.5% of ill persons were cared for at home, the rest being hospitalized or ambulatory (Table 8). Being cared for at home was slightly more likely among those ill persons from affected households (68.4%) than from non-affected households (54.1%).

There was a significant difference between affected and non-affected households in the median number of days in the past month that ill persons were being cared for at home (23 compared to 25 days respectively)(Table 9). Among the 428 ill persons for whom the logistical burden of home care was reported, caring for the ill person took a median of 4 hours per day. The burden of care was slightly higher in affected (median 4 hours) than in non-affected households (median 3.5 hours). Care appeared to be provided mainly by relatives of the ill. In the case of ill persons from affected households, a parent (25.3%), sibling (12.6%), or child (12.4%) of the ill person provided care in most cases. The next most prominent caregivers were non-related persons (10.1%) or the partner or grandparent of the ill person (9.6% each). The picture looks slightly different in non-affected households. Here, a child (25%) or parent (19.4%) of the ill person was the most

common caregiver, followed by a grandparent (11.1%), sibling (9.6%), or partner of the ill person (8.3%).

Table 9: Relation of main caregiver to ill person cared for at home: Median number of days cared for at home in past month, and median number of hours spent caring for the ill (waves I to IV)

Relation to ill person	Affected households			Non-affected households			Total all households		
	Percentage (n)	Median number of days	Median number of hours	Percentage (n)	Median number of days	Median number of hours	Percentage (n)	Median number of days	Median number of hours
Head/acting head	0.6 (2)	21.5	6.5	1.4 (1)	28.0	3.0	0.7 (3)	28.0	6.0
Wife/husband/partner	9.6 (34)	28.0	5.5	8.3 (6)	7.0	4.0	9.3 (40)	28.0	5.0
Son/daughter/stepchild/adopted child	12.4 (44)	19.0	4.0	25.0 (18)	28.5	4.0	14.5 (62)	21.5	4.0
Brother/sister	12.6 (45)	15.0	5.0	9.7 (7)	11.0	3.0	12.1 (52)	15.0	4.0
Father/mother	25.3 (90)	25.0	5.0	19.4 (14)	23.0	3.5	24.3 (104)	24.0	5.0
Grandparent	9.6 (34)	25.0	4.0	11.1 (8)	30.0	3.0	9.8 (42)	30.0	4.0
Grandchild	1.7 (6)	30.0	3.0	2.8 (2)	28.5	3.0	1.9 (8)	30.0	3.0
Other relative	9.0 (32)	18.5	3.5	6.9 (5)	28.0	3.0	8.6 (37)	21.0	3.0
Maid/servant	0.3 (1)	30.0	4.0	0.0 (0)	0.0	0.0	0.2 (1)	30.0	4.0
Non-related person	10.1 (36)	15.0	4.0	5.6 (4)	28.5	4.0	9.3 (40)	15.0	4.0
Him/herself	5.1 (18)	30.0	2.0	8.3 (6)	22.0	3.0	5.6 (24)	30.0	2.0
Home-based care	0.8 (3)	26.0	5.0	0.0 (0)	0.0	0.0	0.7 (3)	23.0	4.0
Neighbour/friend	3.1 (11)	6.0	4.0	1.4 (1)	30.0	4.0	2.8 (12)	8.0	4.0
Total or Average	100.0 (356)	23.0	4.0	100.0 (72)	25.0	3.5	100.0 (428)	23.0	4.0

A.2 MORTALITY

124 household members were reported to have died during the four waves. 82% of those in affected households were due to HIV/AIDS, TB, pneumonia or meningitis, compared to 30% in unaffected households (Table 10).

Table 10: Diagnoses among household members who died

	Affected		Unaffected	
	n	(%)	n	(%)
HIV/AIDS	34	(33)	2	(10)
TB	28	(27)	2	(10)
Pneumonia	18	(17)	2	(10)
Meningitis	5	(4.8)	0	(0)
Other	19	(18)	14	(70)
Total	104	(100)	20	(100)

People who died were most likely to have visited a government hospital, followed by a government clinic (Table 11). There was no difference in the pattern of health services used between deaths from affected and unaffected households.

Table 11: Facility visited before death

	Affected		Unaffected		P (χ^2)
	n	(%)	n	(%)	
Govt clinic	21	(22)	5	(31)	
Govt hospital	54	(57)	9	(56)	
Private doctor	9	(9.5)	2	(12.5)	
Private hospital	8	(8.4)	0	(0.0)	
Other	3	(3.2)	0	(0.0)	
Total	95	(100.0)	16	(100.0)	0.79

Costs of health care before death did not differ between affected and unaffected households, but funerals were significantly more costly in unaffected households (Table 12).

Table 12: Cost of health care use, lost productivity and household burden of caring for people who died

	Affected Mean	Unaffected Mean	P (ranksum)
Consultation fees	41	15	0.26
Transport costs	48	25	0.17
Medicine costs	51	35	0.54
Hospital fees	48	33	0.67
Treatment costs	200	134	0.81
Funeral costs	4318	6472	<0.01
	Median	Median	
Hours per day cared for	5	6	0.84
Work days lost in last month	4	-	-

None of the distributions shown in Tables 8-10 varied significantly over the four waves, that is, there were no clear trends over time.

Affected households were significantly likely to report a death during the first 3 waves, but not at wave 4 (Table 13). Death rates decreased over time in affected by not in unaffected households.

Table 13: Proportions of households reporting a death during the previous 6 months

Wave	Affected		Unaffected		P (χ^2)
	n/N	(%)	n/N	(%)	
1	41/202	(20)	2/204	(1.0)	<0.001
2	24/194	(12)	4/193	(2.0)	<0.001
3	17/174	(10)	6/181	(3.3)	0.014
4	7/171	(4.1)	6/181	(3.3)	0.70

Table 14 shows that the odds of death was independently 4.6 times higher in affected than in unaffected households, decreased over time and with higher household expenditures, and was not associated with rural vs. urban location. The gender and age compositions and number employed were not independently associated with mortality. When real household expenditure was replaced by real income in the model, it also independently predicted lower morbidity (P=0.035), that is, poorer households were more likely to report a death. Addition of time*affected status interaction terms significantly improved the model (P=0.035). This was because the risk of death decreased over time in affected households (adjusted odds ratios 0.52, 0.38, 0.28 for waves 2, 3 and 4 compared to wave 1), but increased over time in unaffected households (adjusted odds ratios 2.0, 3.0, 2.7 respectively).

Table 14: Predictors of death in a household: logistic regression model

Explanatory variable	Odds ratio	(95% CI)	P*
Affected vs unaffected	4.6	(2.6 - 8.3)	<0.001
Wave 2 vs wave 1	0.70	(0.41 - 1.18)	0.18
Wave 3 vs wave 1	0.55	(0.32 - 0.96)	0.036
Wave 4 vs wave 1	0.27	(0.13 - 0.54)	<0.001
Rural vs urban	1.1	(0.7 - 1.7)	0.74
Real expenditure (per R1000)	0.61	(0.41 - 0.90)	0.013

* Adjusted for intra-household clustering of outcome.

Table 15: Relation of main caregiver to deceased person and average number of hours spent caring for the deceased before their death (waves I to IV)

Relation to deceased person	Affected households			Non-affected households			Total all households		
	Percentage (n)	Mean number of hours	Median number of hours	Percentage (n)	Mean number of hours	Median number of hours	Percentage (n)	Mean number of hours	Median number of hours
Head/acting head	1.8 (2)	6.0	6.0	0.0 (0)	0.0	0.0	1.5 (2)	6.0	6.0
Wife/husband/partner	14.3 (16)	8.9	6.0	10.0 (2)	6.5	6.5	13.6 (18)	8.6	6.0
Son/daughter/stepchild/adopted child	8.9 (10)	10.1	7.5	30.0 (6)	5.2	5.5	12.1 (16)	8.3	6.0
Brother/sister	12.5 (14)	7.2	5.5	5.0 (1)	14.0	14.0	11.4 (15)	7.7	6.0
Father/mother	28.6 (32)	7.2	5.0	25.0 (5)	5.6	4.0	28.0 (37)	7.0	5.0
Grandparent	6.3 (7)	10.7	7.0	0.0 (0)	0.0	0.0	5.3 (7)	10.7	7.0
Grandchild	2.7 (3)	9.0	9.0	0.0 (0)	0.0	0.0	2.3 (3)	9.0	9.0
Other relative	6.3 (7)	5.7	5.0	0.0 (0)	0.0	0.0	5.3 (7)	5.7	5.0
Maid/servant	1.8 (2)	4.0	4.0	0.0 (0)	0.0	0.0	1.5 (2)	4.0	4.0
Non-related person	2.7 (3)	3.7	4.0	0.0 (0)	0.0	0.0	2.3 (3)	3.7	4.0
Him/herself	1.8 (2)	N/a	N/a	5.0 (1)	N/a	N/a	2.3 (3)	N/a	N/a
Home-based care/ATTIC/church	8.0 (9)	N/a	N/a	10.0 (2)	N/a	N/a	8.3 (11)	N/a	N/a
Unknown	4.5 (5)	N/a	N/a	15.0 (3)	N/a	N/a	6.1 (8)	N/a	N/a
Total or Average	100.0 (112)	7.2	5.0	100.0 (20)	6.0	6.0	100.0 (132)	7.0	5.0

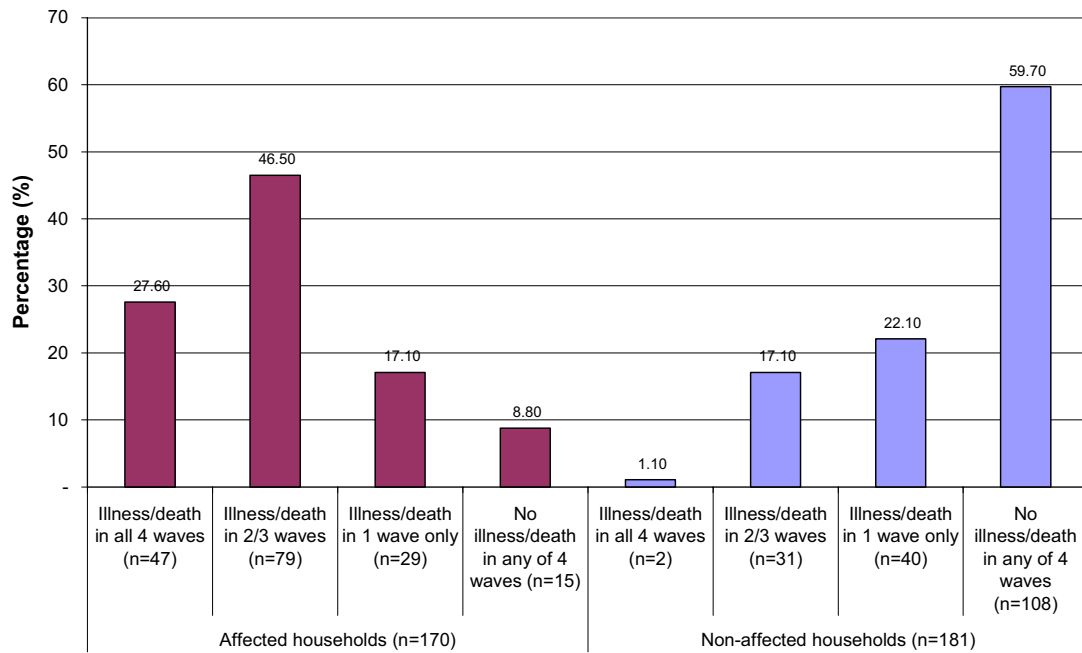
Eighty percent of deceased persons were cared for at home prior to their death (Table 15). The logistical burden of caring for the deceased during their fatal illness was as follows. Household members spent an average of 7 hours (median = 5 hours) per day providing care. There were no significant differences in the burden of care between affected and non-affected households. The mean (median) number of hours per days spent caring for the ill amounted to 7.2 (5) hours for affected households compared to 6 (6) hours for non-affected households. Care appeared to be provided mainly by relatives of the deceased. In the case of deceased persons that belonged to affected households, a parent (28.6%), partner (14.3%), or sibling (12.5%) of the deceased provided care in most cases. The next most prominent caregivers were children of the deceased (8.9%) or a church or home-based care service (8%). The picture looks slightly different in non-affected households. Here, the children (30%) or a parent (25%) of the deceased were the most common caregivers, followed by a partner or a church or home-based care service (10% each).

A.3 BURDEN OF MORBIDITY AND MORTALITY

As explained above, the incidence of morbidity and mortality are considerably higher in affected than in non-affected households. Figure 1 presents an indication of the extent to

which morbidity and mortality have jointly over time exacted a more severe burden on affected households, with a large proportion of households experiencing illness or death in each of the four waves of the study or at least in one wave.

Figure 1: Incidence of morbidity and mortality by affected status



Figures 2 and 3, moreover, illustrate that the morbidity and mortality experienced by affected as opposed to non-affected households exhibit a classic HIV/AIDS pattern, with larger numbers and a greater proportion of adults (i.e. those aged 15-49 years) as well as children in affected households having experienced illness or having died. Between 70 and 80 percent of morbidity and mortality in affected households can be attributed to HIV/AIDS or related infectious diseases and opportunistic infections (Bachmann and Booyesen, 2003).

Figure 2: Cumulative cases of morbidity in waves I to IV by age group

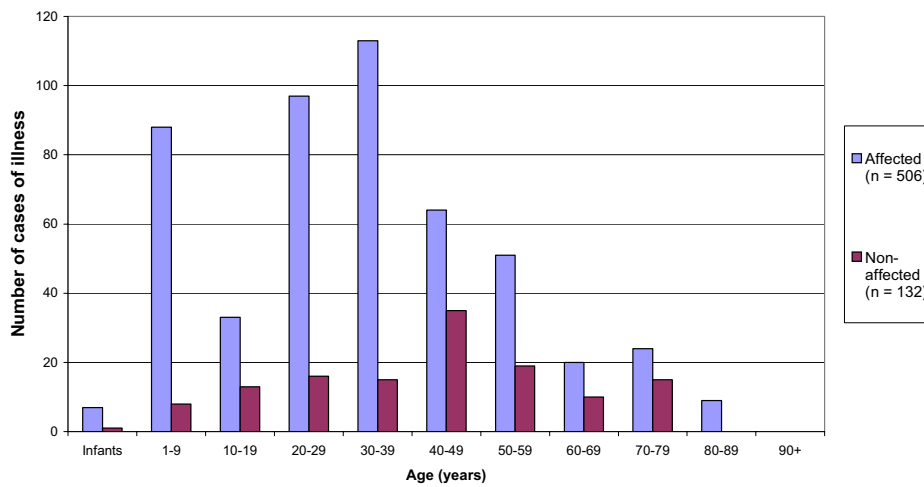
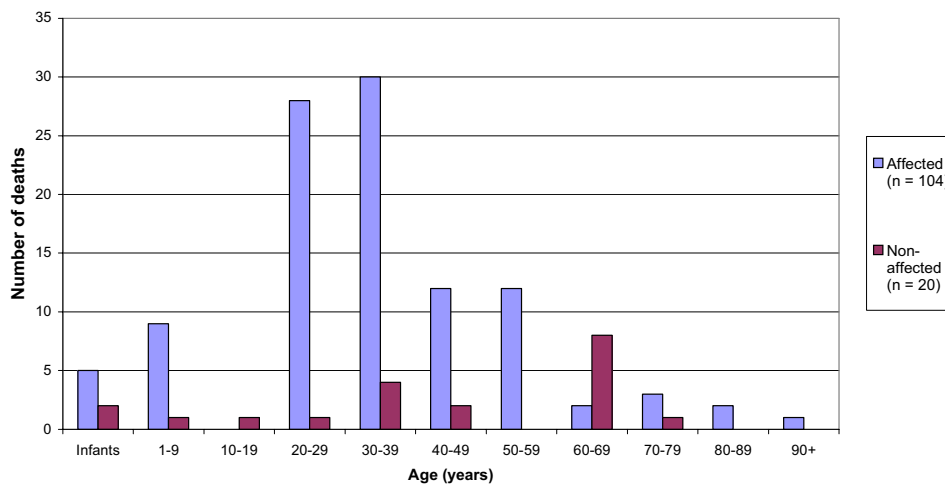


Figure 3: Cumulative cases of mortality in waves I to IV by age group



The subsequent analysis based on comparisons between affected and non-affected households, albeit based on data from a relatively small, purposive sample, does therefore present some indication of the socio-economic impact of HIV/AIDS on households. These results also highlight the effect of the epidemic on the current and future supply of labour and hints at the likely implications for employment levels in and the income earning capacity of affected households, which are discussed in the subsequent pages.

Yet, the evidence on trends in morbidity and mortality reported above and in Section A do not reflect the true nature of the burden of morbidity and mortality on affected and non-affected households. The nature of the transitions in morbidity emphasise the chronic and mounting nature of the burden of the HIV/AIDS epidemic on affected households (Table 16). Almost a quarter (23 percent) of affected households that had not reported morbidity at some point in time did so in the subsequent round of interviews, compared to 9.5 percent only of non-affected households that had not previously reported any chronic illness. Of those affected households that had experienced morbidity at any one point in time, almost two thirds (63.2 percent) also reported morbidity in a subsequent round of interviews, compared to 17.2 percent only of non-affected households that previously had experienced such illness.

Table 16: Transitions in morbidity and mortality (%)

Variable	Affected households	Non-Affected Households
Incidence of morbidity:		
Wave I	75.4	18.8
Wave II	53.8	14.4
Wave III	43.8	11.6
Wave IV	40.9	10.5
Transitions INTO morbidity	23.0	9.5
Transitions OUT of morbidity	36.8	72.8
Incidence of mortality:		
Wave I	19.2	1.1
Wave II	12.8	2.2
Wave III	9.9	3.3
Wave IV	4.0	3.3
Transitions INTO mortality	9.0	2.6
Transitions OUT of mortality	91.6	83.3
<i>Sample (n)</i>	<i>170</i>	<i>181</i>

Note: Morbidity refers to the percentage of households that included at least one member that was chronically ill during the month preceding the interview. Mortality refers to the percentage of households that had experienced a death in the six month preceding the first interview or between each subsequent interview.

The evidence on transitions in mortality, however, tells a slightly different story to transitions in morbidity (Table 16), probably due to the once-off nature of these events. Affected households were more likely to have experienced mortality in any subsequent wave, i.e. 9 percent of affected households that previously had not been affected by death had experienced a recent death in a subsequent wave, compared to 2.6 percent only of non-affected households. Yet, non-affected households were twice as likely to have again experienced a recent death compared to non-affected households, with 16.7 percent of those households that had experienced an earlier death also reporting a death at follow-up, compared to 8.4 percent only of non-affected households that had experienced a recent death.

This reflects the problems with sampling so-called affected and non-affected households in the absence of HIV-testing or other medical diagnostics (the identification of non-affected households was based on two checks only for the presence at baseline of TB or pneumonia). The non-affected sample of households is bound therefore to include a number of households that include HIV-infected persons and that over the course of the study will experience morbidity and mortality. As such, one will need to revisit the affected/non-affected classification of households employed here at the conclusion of this study, based on key information on the nature of self-reported symptoms and diagnosis of illness and causes of death. However, the magnitude of the observed differences in the burden of morbidity and mortality in these two groups of so-called affected and non-affected households remain sufficiently large to enable one to investigate the household impact of HIV/AIDS. As Freire (2003) argues, this relatively large proportion of affected households that had experienced morbidity or mortality in two or more consecutive periods allows one to explore the chronic as well as the dynamic nature of the socio-economic impact of HIV/AIDS on households, impacts that cross-sectional surveys of the impact of HIV/AIDS are unlikely to elucidate. The question, therefore, is whether this sustained burden of morbidity and mortality will push affected households into or deeper into poverty, which shifts the focus to the linkage between HIV/AIDS and poverty, an issue discussed in the final part of Section B.

SECTION B: SOCIO-ECONOMIC IMPACT

The subsequent discussion of the socioeconomic impact of HIV/AIDS on households deals with a number of main aspects of economic impact.

- Labor supply, which looks at differences in household size and composition
- Unemployment and labor force participation rates
- Migration of households and household members
- Income and composition of income
- Expenditure and expenditure patterns
- Savings, debt and repayment of debt
- Financial responses to crises, i.e. borrowing, utilization of savings and sale of assets
- Direct, indirect and total costs of morbidity and mortality to households
- Funeral practices
- HIV/AIDS and children, which focuses on school enrolment and the orphan crisis
- Access to social grants
- Poverty and HIV/AIDS

B.1 LABOR SUPPLY: HOUSEHOLD SIZE AND STRUCTURE

Affected households in general and affected households that experienced a higher burden of morbidity and mortality on average are slightly larger than non-affected household in terms of household size (Table 17). This suggests that affected households may in fact have a larger available supply of labor than non-affected households. There appears to be no significant trend over time in household size in any of the clusters of affected and non-affected households.

Table 17: Household size

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Wave I	5.1	5.2	5.2	4.2	5.8	4.4	4.8
Wave II	5.1	5.2	5.2	4.4	5.7	4.4	4.8
Wave III	5.1	5.3	5.1	4.4	5.5	4.4	4.7
Wave IV	5.3	5.3	5.4	4.6	5.5	4.4	4.8
Average	5.1	5.3	5.3	4.4	5.6	4.4	4.8
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

The dependency ratio in affected households in general however were slightly higher than that in non-affected households (Table 18), which implies that households affected by HIV/AIDS in fact have a smaller supply of labor than non-affected households, with a larger proportion of the household consisting of children and elderly persons. However, this is only the case in affected households that have experienced morbidity or mortality less frequently. The dependency ratio for affected households that experienced morbidity or mortality in each period was lower than for non-affected households. The data exhibited no consistent trend in the dependency ratio in any of the clusters of households. The subsequent analysis of household composition and migration will shed more light on these issues.

Table 18: Dependency ratio

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Wave I	35.72	31.06	36.92	40.00	35.67	33.09	34.37
Wave II	36.61	32.36	37.73	40.28	36.96	35.26	35.91
Wave III	36.51	33.73	37.90	36.06	38.71	33.59	35.00
Wave IV	35.47	33.12	36.30	35.46	38.48	35.39	35.43
Average	36.08	32.57	37.21	37.95	37.46	34.34	35.18
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

Also interesting to note is the differences in the household composition of affected and of non-affected households. Affected households in general and affected households that had experienced a greater burden of morbidity and mortality when compared to non-affected households include a relatively larger proportion of members belonging to the extended family, while a relatively smaller proportion of members belong to the nuclear family (Table 19). Only a very small proportion of members of affected and non-affected households are not related to the head of the household (i.e. less than two percent). These results suggest that the epidemic may be causing households to give shelter to members of their extended family, either because these persons are caring for the ill or because these persons are infected person that are cared for by these households. This, as does the evidence on migration reported elsewhere in these pages, implies that the extended family plays a relatively important role in coping with the socio-economic impact of the epidemic.

Table 19: Average household composition (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Nuclear family	71.3	71.7	68.3	76.1	76.8	78.8	75.2
Extended family	27.8	26.5	31.2	23.6	21.9	20.4	24.0
Non-related persons	0.9	1.7	0.6	0.4	1.3	0.7	0.8
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

B.2 UNEMPLOYMENT AND LABOR FORCE PARTICIPATION RATES

As explained elsewhere, the magnitude and the nature of the burden of morbidity and mortality on affected households imply that the current and future supply of labor in affected households is affected adversely by the epidemic. As a result, unemployment rates (both in the narrow and broad sense), although not exhibiting any clear-cut trends over time, are generally higher in affected than in non-affected households, especially in

affected households that have experienced morbidity and mortality in two or more periods (Table 20). Hence, affected households experiencing a high burden of morbidity and mortality, although slightly larger than non-affected households as reported elsewhere, actually face more severe resource constraints insofar as household resources have to be shared between larger numbers of mostly economically inactive persons.

Table 20: Unemployment rates (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
A. Narrow unemployment rate (%)							
Wave I	35.6	36.8	37.4	32.2	29.2	35.1	35.3
Wave II	34.7	38.3	36.3	30.6	22.9	31.1	32.9
Wave III	36.0	36.4	41.6	25.4	25.9	36.1	36.1
Wave IV	33.7	34.7	39.3	19.7	25.0	32.7	33.2
B. Broad unemployment rate (%)							
Wave I	38.4	39.8	40.0	37.3	29.2	37.1	37.7
Wave II	37.6	42.1	39.7	30.6	25.0	33.5	35.5
Wave III	38.9	37.1	46.5	25.4	29.6	38.4	38.7
Wave IV	35.3	35.3	40.9	21.1	28.6	33.9	34.6

Table 21 reports the labor force participation rates for the same clusters of affected and non-affected households. The results show that fewer economically active persons in affected households and in particular in affected households that have experienced morbidity and mortality in two or more periods were employed in one way or another. Again, however, there is substantial variability in labor force participation rates over time, with the data exhibiting no clear inter-temporal trends.

Table 21: Labor force participation rate (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Wave I	21.1	18.8	19.0	37.3	16.7	31.5	26.4
Wave II	20.1	16.5	16.2	37.1	25.0	29.5	24.9
Wave III	21.2	19.3	17.7	32.4	25.9	28.7	24.9
Wave IV	23.3	20.7	20.7	38.0	23.2	31.1	27.1

The panel design of the study also allows one to focus on the changes in the employment status of those persons that were part of the study population in all four waves of the survey. These results are reported in Table 22, which shows the changes over time in the labor force participation rates (or employed and unemployed status) of a total of 835 individuals.

Table 22: Changes in employment status (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
A. Employed							
All four waves	11.3	9.5	7.3	23.7	15.6	20.3	15.9
Three waves	8.4	8.7	7.3	11.9	6.7	7.2	7.8
Two waves	3.9	2.4	5.1	5.1	2.2	7.0	5.5
One wave	13.5	11.9	15.8	16.9	4.4	10.7	12.1
Not in one wave	62.9	67.5	64.4	42.4	71.1	54.7	58.7
<i>Sample (n)</i>	<i>407</i>	<i>126</i>	<i>177</i>	<i>59</i>	<i>45</i>	<i>428</i>	<i>835</i>
B. Unemployed (broad definition)							
All four waves	15.2	16.7	16.4	10.2	13.3	16.8	16.0
Three waves	16.7	14.3	21.5	11.9	11.1	15.0	15.8
Two waves	11.8	12.7	13.6	8.5	6.7	11.0	11.4
One wave	16.5	15.1	17.5	18.6	13.3	11.2	13.8
Not in one wave	39.8	41.3	31.1	50.8	55.6	46.0	43.0
<i>Sample (n)</i>	<i>407</i>	<i>126</i>	<i>177</i>	<i>59</i>	<i>45</i>	<i>428</i>	<i>835</i>

Economically active persons in affected households that have experienced morbidity or mortality in two or more periods were much less likely to have been employed in all four waves compared to economically active persons in non-affected households and in affected households that have experienced a lower burden of morbidity and mortality (Table 22). Furthermore, the former persons were more likely to not have been employed at any time or to have been employed in one wave only. These results suggest that affected households are relatively more vulnerable than non-affected households insofar as more pronounced fluctuations in employment may put more severe constraints on household finances, particularly where households have to also cope with morbidity and/or mortality. These results further illustrate the substantial divide between affected and non-affected households in terms of the supply of labor and the subsequent higher unemployment levels and lower income earning capacity of these households.

B.3 MIGRATION

The role of migration in the HIV/AIDS epidemic has been explored in a number of studies. The predominant interest, though, has been with the spatial distribution of HIV prevalence rates and AIDS cases (Ellis, 1996) and the manner in which migration is contributing to the spread of the virus (Decosas *et al.*, 1995; UNAIDS & IOM, 1998; Lurie, 2000; Soskolne & Shtarkshall, 2002). Questions about how HIV/AIDS may affect patterns of migration and how infected persons may change their migration behavior have received relatively little attention. Verghese *et al.* (1989), for example, argued that the urban to rural migration of HIV/AIDS patients is unknown and underestimated. This is also true in the case of the post-diagnosis migration of HIV-infected persons in South Africa and other developing countries in Southern Africa. Knowledge of such migration and of the impact of the HIV/AIDS epidemic on migration patterns is crucial for informing planning with regard to the funding and delivery of health care and social services aimed at mitigating the impacts of the epidemic. The longitudinal design of this study allows one to explore a number of aspects of migration, namely the migration of households, the migration of individuals between households, and the migration of ill persons and orphaned children.

(i) Migration of households

The extent of household migration is relatively limited. By wave IV, 5.4% or 19 of the 351 households interviewed in each period was living at a different address. Table 23 reports on the main reason why these households had left their previous place of residence. In the case of affected households, the reasons were primarily related to having moved to a new home (50% or 5/10 households) and to having been evicted (20% or 2/10 households). One affected household each had moved due to work-related reasons, to escape crime or violence, or due to the death of a household member. The main reason why non-affected households had left their previous place of residence was marriage (44% or 4/9 households) and to having been evicted (22% or 2/9 households). One non-affected household each had moved to a new home, had moved because they could not afford the rent, or to escape crime or violence. The relatively high frequency of eviction is worrying insofar as this may indicate the vulnerability of households to possibly exploitive landlords.

Table 23: Main reason for household migration (%)

	Affected households	Non-affected households	Total all households
Marriage-related reasons	-	44	21
Work-related reasons	10	-	5
Moved to a new house	50	11	32
Could no longer afford rent	-	11	5
Evicted	20	22	21
Left to escape crime or violence	10	11	11
Death	10	-	5
<i>Sample (n)</i>	<i>10</i>	<i>9</i>	<i>19</i>

However, it needs to be kept in mind that the main reason why it was not possible to re-interview 55 of the 406 households interviewed at baseline in ninety percent of cases was related to migration, i.e. that the current whereabouts of the household could not be established or that the households had moved to locations outside the two study sites. As such, the extent of household migration is underreported and rather represents intra-community migration, i.e. excluding migrations outside of the immediate area. In fact, the

study was not designed to nor did it intend to track and follow households moving to areas outside the two sites, which means that it is not possible to explore the why and how of these household migrations.

(ii) Out-migration of household members

During subsequent rounds of interviews, fieldworkers were able to determine who had left the household since the previous interview by checking the names of the current members against the household roster for the previous interview. After determining who had left the household, interviewers asked a number of questions regarding the characteristics of these persons, the reasons why they had left the household, what their current whereabouts were and whether and how they had contributed to the household before leaving. A total of 235 persons had left their respective households over the study period, representing approximately 12.3% of the study population at baseline. The extent of out-migration was slightly higher in affected than in non-affected households, i.e. 13.7% compared to 10.7% of the total number of individuals at baseline. This is understandable insofar as the pressures exerted on affected households (e.g. not being able to cope financially or having to cope with illness and/or death) are more likely to result in the out-migration of household members than may be the case in non-affected households. The analysis of the characteristics of those persons that left and the reasons why they left are likely to shed more light on these issues.

There was no significant difference in the average age of persons that left affected households and affected households (Table 24), although persons that had left affected households that had experienced morbidity or mortality more frequently were slightly older than persons that had left non-affected households. A comparison across age groups therefore perhaps represents a clearer picture of these differences in age.

Table 24: Mean age and age distribution of out-migrating household members

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Average age	26.1	28.3	27.0	21.2	28.8	25.6	25.9
Age distribution (%):							
Infants	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1-9 years	13.2	9.7	8.9	23.3	16.7	15.1	14.0
10-19 years	23.3	22.6	26.8	23.3	8.3	15.1	20.0
20-29 years	32.6	32.3	33.9	33.3	25.0	37.2	34.4
30-39 years	14.7	19.4	10.7	13.3	25.0	15.1	14.9
40-49 years	4.7	3.2	5.4	0.0	16.7	11.6	7.4
50-59 years	4.7	3.2	7.1	0.0	8.3	2.3	3.7
60-69 years	5.4	6.5	5.4	6.7	0.0	2.3	4.2
70-79 years	0.8	0.0	1.8	0.0	0.0	1.2	0.9
80-89 years	0.8	3.2	0.0	0.0	0.0	0.0	0.5
90+ years	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Sample (n)</i>	<i>129</i>	<i>31</i>	<i>56</i>	<i>30</i>	<i>12</i>	<i>86</i>	<i>215</i>

Table 24 also shows that a relatively larger proportion of persons that had left affected households in general and persons that had left affected households that had experienced morbidity or mortality more frequently were teenagers (i.e. 10-19 years) and elderly persons (i.e. 60+ years). This relatively high mobility of older children provides evidence of the impact of the epidemic on family life, of the growing orphan crisis in these communities and the role of the extended family in coping with this crisis. In the case of non-affected households, a relatively larger proportion of persons that had left were of an age at which one would normally expect young adults to leave their families (i.e. 20-29 years), while a slightly larger proportion of persons were aged 0-9 years compared to affected households. The persons, therefore, that had left affected households are specifically those persons that have been shown to care for the ill and/or fulfill other household duties that the ill cannot perform, i.e. older children and the elderly (Topouzis & Hemrich, 1994; Adams *et al.*, 1996; Ainsworth & Dayton, 2000; Mutangadura, 2000). This poses the question as to whether households will find it increasingly difficult to cope with the epidemic and as to whom will in future take on these responsibilities.

Table 25: Gender of out-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Male	37.1	42.4	37.7	27.3	46.2	48.4	41.7
Female	62.9	57.6	62.3	72.7	53.8	51.6	58.3
<i>Sample (n)</i>	<i>140</i>	<i>33</i>	<i>61</i>	<i>33</i>	<i>13</i>	<i>95</i>	<i>235</i>

Persons that had left affected households were primarily female (63%)(Table 25). A larger proportion of out-migrating household members were also female in the case of households that have experienced morbidity or mortality, ranging from 57.6% in affected household that had experienced morbidity or mortality in each waves to 72.7% in affected households that had experienced morbidity or mortality in one wave only. In the case of non-affected households, the gender composition was more balanced, with 48.4% of migrants being male and 51.6% female, as was the case in affected households that have as yet not experienced morbidity or mortality (i.e. 46.2% male versus 53.8% female). In all cases, therefore, a larger proportion of out-migrating household members were female, although these differences in the gender composition of persons having left non-affected and affected households that have not experienced illness or death was not as pronounced. The evidence therefore suggests that the traditional phenomenon of male migration may actually be evolving into a phenomenon of female migration. The early literature on migration and HIV/AIDS highlighted the danger that the predominant male migration to urban areas posed in accelerating the spread of the epidemic, resulting in calls for labor migration to avoid disrupting families and allowing male workers to migrate to the areas where they are employed with their wives and families (Lucas, 1991). Girdler-Brown (1998), however, also emphasize the increasing migration of South African women from rural to urban areas, thus substantiating the evidence presented here.

Table 26: Relation to household head of out-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Head of household	2.1	6.1	1.6	0.0	0.0	3.2	2.6
Wife/husband/partner	4.3	6.1	4.9	0.0	7.7	4.2	4.3
Son/daughter	37.9	36.4	37.7	33.3	53.9	42.1	39.6
Grandchild	17.1	24.2	8.2	30.3	7.7	14.7	16.2
Parent	4.3	0.0	6.6	3.0	0.0	3.2	3.8
Sibling	9.3	6.1	14.8	6.1	7.7	8.4	8.9
Other relative	17.1	12.1	18.0	21.3	0.0	16.8	17.0
Adopted/foster/stepchild	1.4	3.0	1.6	0.0	15.4	0.0	0.9
Not related	6.4	6.1	6.6	6.1	7.7	7.4	6.8
<i>Sample (n)</i>	<i>140</i>	<i>33</i>	<i>61</i>	<i>33</i>	<i>13</i>	<i>95</i>	<i>235</i>

Table 26 reports on the relationship to the household head of the person that had left the household. The relatively important role of the extended family in African communities is evident from the relation of migrating persons to the head of the household (i.e. many are parents, grandchildren, siblings or other relatives), both in the case of affected and non-affected households. As expected, the largest single proportion of out-migrating household members was sons/daughters of the head of the household (i.e. 37.9% and 42.1% respectively in affected and non-affected households), which represent the normal practice of young adults leaving their parental homes. A relatively large proportion of persons that had left their respectively households were grandchildren (17.1% and 14.7% in affected and non-affected households respectively) or other relatives (17.1% and 16.8% in affected and non-affected households respectively) of the head of the household. This relatively high mobility of grandchildren, particularly in affected households that had experienced morbidity or mortality in all four waves or in one wave only, provides evidence of the impact of the epidemic on family life, of the growing orphan crisis in these communities and the role of the extended family in coping with this crisis.

Table 27: Marital status of out-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Married	18.6	21.2	22.9	12.1	15.4	7.4	14.4
Single	41.4	36.4	42.6	36.4	61.5	54.7	46.8
Living together	2.1	9.1	0.0	0.0	0.0	2.1	2.1
Divorced	2.9	6.1	1.6	3.0	0.0	2.1	2.6
Separated	4.3	0.0	6.6	3.0	7.7	7.4	5.5
Widowed	4.3	0.0	4.9	6.1	7.7	7.4	5.5
Child (under 16 years)	25.7	27.3	21.3	39.4	7.7	18.9	23.0
<i>Sample (n)</i>	<i>140</i>	<i>33</i>	<i>61</i>	<i>33</i>	<i>13</i>	<i>95</i>	<i>235</i>

The majority of out-migrating household members were single, followed by children younger than sixteen and married persons (Table 27). The major differences in the marital status of persons that had left affected as opposed to non-affected households were that a larger share of persons were married (18.6% compared to 7.4%) and younger than sixteen years (25.7% compared to 18.9%), while a smaller share of persons were single (41.4% compared to 54.7%) and divorced, separated or widowed (11.8% compared to 16.9%). These differences are even more accentuated when one compares persons that migrated from affected households that had experienced morbidity or mortality to those persons that had left affected households that have to date not experienced morbidity or mortality, with the results for the latter group being similar to the non-affected group.

Generally speaking, persons that exited affected households that have experienced morbidity or mortality more frequently were more likely to relocate to areas relatively close to home (i.e. same or a nearby neighborhood/village), to a town in a different province, or to a rural area in a different province (Table 28). Persons that left non-affected households or affected households that have not experienced morbidity or mortality were more likely to move to towns elsewhere in the Free State province or to rural areas in the same province. The main reason cited by respondents for these persons leaving can shed more light on the possible explanation of these differences in migration patterns in terms of age and gender composition, marital status and destination.

Table 28: Destination of out-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Same neighborhood/village	32.4	33.3	36.1	36.4	0.0	30.5	31.6
Another neighborhood/village	19.4	18.2	14.8	27.3	25.0	14.7	17.5
Town in same province	15.1	15.2	13.1	6.1	50.0	26.3	19.7
Town in different province	11.5	18.2	14.8	3.0	0.0	13.7	12.4
Rural area in same province	13.7	12.1	14.8	9.1	25.0	13.7	13.7
Rural area in different province	5.0	0.0	1.6	18.2	0.0	1.1	3.4
Another country	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dwelling in backyard	0.7	3.0	0.0	0.0	0.0	0.0	0.4
Don't know	2.2	0.0	4.9	0.0	0.0	0.0	1.3
<i>Sample (n)</i>	<i>139</i>	<i>33</i>	<i>61</i>	<i>33</i>	<i>12</i>	<i>95</i>	<i>234</i>

Just more than a quarter of persons in affected and non-affected households left to seek or take up employment (i.e. 25.7%)(Table 29). There in some cases are relatively stark differences in the reasons why members of affected as opposed to non-affected households left their respective households. In the case of non-affected households, the reasons were mainly related to normal migration, i.e. migration related to employment, marriage or education, which together represents 60.5% of responses. Yet, the main reasons for out-migration even in affected households in almost half of the cases (49.6%) are related to so-called conventional causes for migration, i.e. employment, marriage and education. The difference between affected and non-affected households was especially pronounced in the case of education, with 23.1% of persons that left non-affected households citing education as reason compared to 12.2% only in affected households (this value is zero in the case of affected households that had experienced morbidity or mortality in each period). In affected households in general and in affected households that have experienced morbidity or mortality a relatively larger share of persons left because of reasons related to social support, i.e. the adoption or fostering of children, to escape from conflict in the household, or to relocate with their parents.

Table 29: Main reason for out-migration (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Employment	25.2	33.3	23.0	21.2	25.0	26.4	25.7
Marriage	12.2	12.1	11.5	9.1	25.0	11.0	11.7
Education	12.2	0.0	13.1	21.1	16.7	23.1	16.5
Illness/death	5.0	6.1	8.2	0.0	0.0	1.1	3.5
Adoption/fostering	13.7	15.2	16.4	12.1	0.0	12.1	13.0
Conflict in household	5.0	12.1	3.3	3.0	0.0	3.3	4.3
Relocated with parents	2.2	0.0	0.0	9.1	0.0	3.3	2.6
Started new households	3.6	0.0	6.6	3.0	0.0	4.4	3.9
Temporary visitors	15.1	15.2	13.1	18.2	16.7	11.0	13.5
Other	2.9	3.0	0.0	3.0	16.7	3.3	3.0
Don't know	2.9	3.0	4.9	0.0	0.0	1.1	2.2
<i>Sample (n)</i>	<i>139</i>	<i>33</i>	<i>61</i>	<i>33</i>	<i>12</i>	<i>91</i>	<i>230</i>

Interesting as well is the relatively high proportion of persons (i.e. 15.1% and 11% respectively in affected and non-affected households) that had left that were temporary visitors, i.e. who were in transit or who visited the particular household at the time (Table 29). (It should be noted that the household definition employed by Statistics South Africa in the October Household Survey probably exaggerates this pattern, given that the household is defined with reference to living arrangements over a period of one week only. Other household surveys, for example, define the household with reference to living arrangements over a longer period of time, e.g. three months or longer.)

Table 30: Contributions by out-migrating household members

	Affected households	Non-affected households	Total all households
Percentage that contributed before leaving	22.1	13.7	18.7
<i>Sample (n)</i>	<i>140</i>	<i>95</i>	<i>235</i>
Percentage contributed in kind (food)	6.5	0.0	4.5
<i>Sample (n)</i>	<i>31</i>	<i>13</i>	<i>44</i>
Average monetary contribution (Rand)	511.00	416.15	482.33
<i>Sample (n)</i>	<i>30</i>	<i>13</i>	<i>43</i>

In the final instance, respondents were asked if and in what way persons that left had contributed to the household (Table 30). Almost a fifth of persons (18.7%) did contribute to the household before leaving. A larger proportion (22.1%) of persons that left affected households had contributed compared to non-affected households (13.7%). Almost all persons contributed to the household in monetary terms. Although a relatively small proportion of persons had contributed in-kind, i.e. in terms of food and/or fuel, this practice was relatively more common amongst persons that had left affected households that had experienced morbidity or mortality in two or more periods. Out-migrating persons on average contributed R500 per month to the households before they left. The departure of persons from affected households, however, represents a relatively greater loss to households in terms of foregone contributions than was the case in non-affected households. The average monthly contribution amounted to R511 and R416 respectively in the case of affected and non-affected households and was highest (R820) in the case of affected households that had experienced morbidity or mortality in each period.

(iii) In-migration of household members

During the third and fourth rounds of interviews (these questions were not asked during the second round of interviews as this set of questions was only added to the questionnaire in wave III), fieldworkers also determined who had joined the household since the previous interview. As in the case of out-migration, a number of questions were asked to explore the nature of this in-migration. A total of 184 persons joined the households since the second round of interviews, which represents some 10.2% of the total study population surveyed in wave II. The extent of in-migration was higher in affected than in non-affected households, i.e. 9% (106 persons) compared to 7% (78 persons). This is understandable insofar as the pressures exerted on affected households (e.g. having to cope with illness and/or death) may also result in the in-migration of persons to help care for the ill or to fulfill other duties or assist in other tasks. Alternatively, affected households may perhaps more readily accept other infected or affected persons into the household, e.g. grandparents taking in abandoned and orphaned children. The likely higher levels of infection in affected households may also see

infected relatives not residing with the household return to the household to be close to their families in the final stages of the disease. The subsequent analysis of the characteristics of those persons that joined and their reasons for joining these households stands to shed more light on these issues.

There was little difference in the average age of persons that joined affected as opposed to non-affected households (i.e. 17.9 versus 16.5 years)(Table 31). A comparison across the different age groups shows that a relatively larger proportion of persons that had joined affected households were infants under 12 months of age (including new births) and young adults (20-29 years of age). In the case of non-affected households, a relatively larger proportion of persons were children aged 1-19 years (i.e. 35.9% compared to 46.1% respectively in affected and non-affected households). These differences are slightly more pronounced when one compares persons that had joined affected households that had experienced morbidity or mortality in two or more periods to those persons that had joined non-affected households.

Table 31: Mean age and age distribution of in-migrating household members

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Average age	17.9	16.0	16.5	14.8	32.3	16.5	17.3
Age distribution (%):							
Infants	20.8	24.0	20.0	14.3	25.0	16.7	19.0
1-9 years	14.2	20.0	14.5	14.3	0	20.5	16.8
10-19 years	21.7	12.0	23.6	42.9	8.3	25.6	23.4
20-29 years	26.4	32.0	29.1	21.4	8.3	19.2	23.4
30-39 years	9.4	8.0	5.5	7.1	33.3	7.7	8.7
40-49 years	1.9	0	3.6	0	0	6.4	3.8
50-59 years	2.8	0	3.6	0	8.3	2.6	2.7
60-69 years	0.9	0	0	0	8.3	1.3	1.1
70-79 years	0.9	4.0	0	0	0	0	0.5
80+ years	0.9	0	0	0	8.3	0	0.5
<i>Sample (n)</i>	<i>106</i>	<i>25</i>	<i>55</i>	<i>14</i>	<i>12</i>	<i>78</i>	<i>184</i>

Therefore, a larger proportion of persons that had joined affected households that have experienced morbidity or mortality were young adults that belong to the economically active population. As a result, the subsequent analysis of the extent to which these persons contributed to the households they joined is of particular interest.

Table 32: Gender of in-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Male	52.8	60.0	47.3	64.3	50.0	59.0	55.4
Female	47.2	40.0	52.7	35.7	50.0	41.0	44.6
<i>Sample (n)</i>	<i>160</i>	<i>25</i>	<i>55</i>	<i>14</i>	<i>12</i>	<i>78</i>	<i>184</i>

Unlike with out-migration, where persons that exited from households were mostly female, a slightly larger proportion of persons that joined the households in the study population were male (i.e. 55.4% male versus 44.6% female)(Table 32). The difference was less pronounced in the case of affected households (52.8% male versus 47.2% female) than was the case for non-affected households (59% male versus 41% female). One exception was affected households that had experienced morbidity or mortality in two or three waves, where a relatively larger number of females joined the households. In the case of affected households that to date have not experienced morbidity or mortality, the distribution by gender was equal. However, no consistent picture presented itself when comparing the nature of the age distribution across the different clusters of affected households. These differences in the gender composition of in-migrating household members need to be considered in relation to the relation of these persons to the head of the household, their marital status, and the main reason why they joined the household.

Table 33: Relation to head of household of in-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Head of household	5.7	4.0	7.3	0.0	8.3	1.3	3.8
Husband/wife/partner	0.0	0.0	0.0	0.0	0.0	3.8	1.6
Brother/sister	6.6	0.0	9.1	7.1	8.3	12.8	9.2
Parents/grandparents	5.7	4.0	0.0	0.0	41.7	1.3	3.8
Son/daughter, including stepchild/adopted child	34.9	48.0	27.3	50.0	25.0	29.5	32.6
Grandchild	29.2	36.0	38.2	0.0	8.3	34.6	31.5
Other relatives	16.0	8.0	18.2	28.6	8.3	15.4	15.8
Not related	1.9	0.0	0.0	14.3	0.0	1.3	1.6
<i>Sample (n)</i>	<i>106</i>	<i>25</i>	<i>55</i>	<i>14</i>	<i>12</i>	<i>78</i>	<i>184</i>

Evident again in Table 33 is the relatively important role of the extended family in explaining migration patterns. A substantial proportion of persons that joined these households were parents, grandchildren, siblings or other relations of the head of the household (i.e. 57.5 and 63.1% in affected and non-affected households respectively). The single largest proportion of in-migrating household members in affected households was sons/daughters of the head of the household (32.6%), including stepchildren or adopted children. Almost as many persons were grandchildren (31.5%) of the head of the household. This relatively high mobility of grandchildren, particularly in affected households that had experienced morbidity or mortality in two or more waves, but in affected and non-affected households in general, provides evidence of the impact of the epidemic on family life, of the growing orphan crisis in these communities and the role of the extended family in coping with this crisis. As was the case with out-migration, a relatively large proportion of persons were other relations of the head of households (16% and 15.4% respectively in affected and non-affected households), again attesting to the relative flux in household composition. Table 33 also hints at the disruptive nature of the HIV/AIDS epidemic as far as family life is concerned, with a relatively larger proportion of persons having headed affected households leaving their respective households compared to non-affected households (5.7% and 1.3% respectively in affected and non-affected households).

Table 34: Marital status of in-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Married	5.7	8.0	3.6	0	16.7	3.8	4.9
Single	32.1	28.0	32.7	50.0	16.7	19.2	26.6
Living together	0.0	0.0	0.0	0.0	0.0	2.6	1.1
Divorced	6.6	0.0	10.9	0.0	8.3	3.8	5.4
Separated	0.9	0.0	0.0	0.0	8.3	2.6	1.6
Widowed	24.5	40.0	18.2	14.3	33.3	30.8	27.2
Child (under 16 years)	30.2	24.0	34.5	35.7	16.7	37.2	33.2
<i>Sample (n)</i>	<i>106</i>	<i>25</i>	<i>55</i>	<i>14</i>	<i>12</i>	<i>78</i>	<i>184</i>

The majority of persons that joined these households were children under the age of sixteen (33.2%), followed by widowed persons (27.2%) and single persons (26.6%)(Table 34). This high proportion of widowers amongst migrants, both in affected and non-affected households, hints at the relatively high mortality rates in these two areas in which HIV-prevalence is relatively high. A relatively larger proportion of the persons that joined affected households were single (32.1% versus 19.2%) or married (5.7% versus 3.8%), while a relatively larger proportion of persons that joined non-affected households were younger than sixteen (30.2% versus 37.2%). The data exhibited no distinct patterns or trends in terms of the comparison of marital status across the four different clusters of affected households.

In-migrating household members originated primarily from a town in the Free State or another province of South Africa (34.3%), the same neighborhood or village in which the household reside (30.4%), or represented children born into these households (15.8%)(Table 35). Persons that joined affected households were more likely to relocate from rural areas in the Free State or in another province in South Africa (7.5%) than was the case in non-affected households (2.6%). These differences were even more pronounced when comparing the origin of in-migrating households members across the different clusters of affected households, with all migrants from rural areas joining

affected households that have suffered illness or death (obviously, these same persons in many cases may actually represent the ill or deceased, as explained elsewhere).

Table 35: Origin of in-migrating household members (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Same neighborhood/village	27.4	24.0	32.7	7.1	33.3	34.6	30.4
Another neighborhood/village	8.5	8.0	7.3	7.1	16.7	10.3	9.2
Town in same province	17.9	4.0	21.8	28.6	16.7	12.8	15.8
Town in different province	17.9	32.0	10.9	21.4	16.7	19.2	18.5
Rural area in same province	2.8	4.0	1.8	7.1	0.0	1.3	2.2
Rural area in different province	4.7	0.0	3.6	21.4	0.0	1.3	3.3
Another country	0.9	4.0	0.0	0.0	0.0	1.3	1.1
New births	17.9	20.0	20.0	7.1	16.7	12.8	15.8
Released from jail	1.9	4.0	1.8	0.0	0.0	1.3	1.6
Don't know	0.0	0.0	0.0	0.0	0.0	5.1	2.2
<i>Sample (n)</i>	<i>106</i>	<i>25</i>	<i>55</i>	<i>14</i>	<i>12</i>	<i>78</i>	<i>184</i>

Affected households that have experienced morbidity or mortality also for the most part were more likely to attract persons from urban areas, i.e. towns in the same or in a different province, compared to non-affected households and affected households that have not to date experience morbidity or mortality (Table 35). A total of 35.9% of persons that joined affected households originated from the same or a nearby neighborhood or village, compared to 44.9% of persons that joined non-affected households. The proportion of in-migration household members that came from another neighborhood or village declined as the incidence of morbidity and mortality in affected households increased. A small number of in-migrating persons were released from jail (n=3), representing a relatively larger share of persons that joined affected households that have experienced morbidity or mortality in two or more periods.

Table 36: Main reason for in-migration (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Employment	12.3	16.0	7.3	14.3	25.0	10.3	11.4
Marriage or cohabitation	6.6	0.0	12.7	0.0	0.0	5.1	6.0
Education	18.9	20.0	14.5	42.9	8.3	20.5	19.6
Duty to care for ill	1.9	8.0	0.0	0.0	0.0	0.0	1.1
New births	17.9	20.0	20.0	7.1	16.7	12.8	15.8
Adoption/fostering	25.5	32.0	20.0	28.6	33.3	25.6	25.5
Divorce	0.9	0.0	0.0	0.0	8.3	1.3	2.7
Temporary visitors	4.7	0.0	7.3	7.1	0.0	11.5	7.6
On parole/released from jail	2.8	0.0	3.6	0.0	8.3	1.3	2.2
Relocated with parents	4.7	0.0	9.1	0.0	0.0	10.3	7.1
Other	0.9	0.0	0.0	0.0	8.3	1.3	1.1
<i>Sample (n)</i>	<i>106</i>	<i>25</i>	<i>55</i>	<i>14</i>	<i>12</i>	<i>78</i>	<i>184</i>

In the total sample, the most prominent reasons for joining included the adoption or fostering of children (25.5%), education (19%), new births (15.8%), and employment-related reasons (11.4%)(Table 36). In terms of the comparison between affected and non-affected households, persons that joined affected households were relatively more likely to have cited employment as a reason, yet this difference is relatively small. Persons that joined non-affected households were relatively more likely to have cited reasons related to education than were persons that joined affected households. As reported elsewhere, a relatively larger proportion of persons that joined affected households were persons born into the household. Reasons for in-migrating related specifically to the HIV/AIDS epidemic (i.e. a duty of having to care for the ill) as expected were only cited by persons that had joined affected households that had experienced morbidity or mortality in each period. However, this proportion is relatively small (8%), thus suggesting that care for the ill is the responsibility of current rather than new members of these households. More importantly, a relatively large proportion of persons that joined affected and non-affected households indicated that the main reason was to take care of an adopted or foster child. Again, this provides stark evidence of the impact of the epidemic on entire communities rather than so-called affected households per se, particularly in the context of the orphan crisis accompanying the epidemic.

Table 37: Contributions by in-migrating household members

	Affected households	Non-affected households	Total all households
Percentage that contributed before leaving	15.1	10.3	13.0
<i>Sample (n)</i>	106	78	184
Percentage contributed in kind (food)	25.0	12.5	20.8
<i>Sample (n)</i>	16	8	24
Average monetary contribution (Rand)	967.50	900.00	942.63
<i>Sample (n)</i>	12	7	19

Only a relatively small proportion of persons that joined these households (13%) actually contributed to the household (Table 37). A slightly larger proportion of persons that joined affected households had contributed to the household compared to non-affected households (15.1% versus 10.3%). In-kind contributions of food, although uncommon, were relatively more important in the case of affected households (notably those that had experienced morbidity or mortality in two or more waves) compared to non-affected households. As in the case of out-migration, most persons contributed to the household in monetary terms. The relative magnitude of these monetary contributions was substantial. The value of monetary contributions averaged R942 and amounted to R967 and R900 per month respectively in the case of affected and non-affected households.

(iv) Migration of ill persons

In this section, the migration patterns of ill persons are explored in more detail. Knowledge about the nature of the post-diagnosis migration of HIV-infected persons and AIDS patients is important for four reasons. *Firstly*, an understanding of migration is more crucial in the context of HIV/AIDS than is the case with other diseases, given that the population at risk of infection is relatively young (HIV-prevalence rates in South Africa for example peak between the ages of 15 and 29 years) and highly mobile (these young adults normally migrate during this time for reasons related to education, employment and marriage). *Secondly*, migration of infected persons will determine where additional health care services will be needed to care for these persons once they become

ill, which holds further implications for the manner in which HIV/AIDS funds are allocated to departments responsible for providing health care and welfare services targeted at HIV/AIDS patients. *Thirdly*, HIV-infected persons that migrate can aid the spread of the epidemic in recipient areas, which is the aspect of migration addressed in the majority of the literature on this topic. In fact, Rumley *et al.* (1991) report that although initially the patient population migrated from urban areas, that the patient population is now largely being replaced by locally infected or so-called 'home-grown' patients. *Lastly*, this influx of HIV-infected persons in certain areas may necessitate enhanced efforts at prevention and awareness and at education about HIV/AIDS in general, not only to curb the spread of the HIV/AIDS epidemic in these areas, but also to educate these communities about the nature of the epidemic and the ways in which communities can support those infected and affected by HIV/AIDS (Davis & Stapleton, 1991; Rumley *et al.*, 1991; Cohn & Klein, 1994; Buehler *et al.*, 1995; Ellis, 1996; Ellis & Muschkin, 1996).

Most of the evidence on post-diagnosis migration of HIV/AIDS patients comes from studies conducted in the United States, notably in Florida, Iowa, North Carolina, Oklahoma, Tennessee, Texas and West Virginia (Davis & Stapleton, 1991; Cohn & Klein, 1994; Ellis, 1996). There is evidence that HIV-infected persons move to urban areas and in particular larger metropolitan centers in order to access health care services (Buehler *et al.*, 1995; Ellis, 1996; Wood *et al.*, 2000). However, the available evidence also indicates that the opposite has occurred, i.e. infected persons migrating to rural areas to access health care services and social support in rural rather than in urban settings (Davis & Stapleton, 1991). Ellis (1996) describes these differences in migration patterns in terms of a 'stage model of mobility for people infected with HIV/AIDS'. He argues that persons that are unaware of their status will migrate as in general do people of the same age, gender, population group and educational status. Once aware of their infected status and once having experienced the associated symptoms of HIV/AIDS-related illness, these individuals are likely to migrate from rural areas to urban centers where health care services are more readily available. In the final stages of the disease, these persons may migrate back to those rural areas where they originate, in order to access the care and

supported of their families in the final months of their lives (Ellis, 1996; Ellis & Muschkin, 1996).

There is anecdotal and empirical evidence of a migration of infected persons (many of whom reportedly were infected and diagnosed in urban and larger metropolitan areas) to those rural areas or towns where they grew up or where their immediate family resides, particularly for reasons related to social support and health care (Verghese *et al.*, 1989; Davis & Stapleton, 1991; Cohn & Klein, 1994; Ellis, 1996; Ellis & Muschkin, 1996; Wood *et al.*, 2000). As such, social support from the family remains an integral part of caring for HIV/AIDS patients (Verghese *et al.*, 1989). In North Carolina, for example, almost 90 percent of patients that had lived outside of the state indicated that they had migrated to North Carolina for better social support, while 65 percent moved to be near family. Almost three quarters of patient diagnosed outside of the state indicated that they had moved there for health reasons, i.e. for better or more personalized health care or for help caring for their HIV diseases (Cohn & Klein, 1994). Elsewhere, HIV/AIDS patients who had moved to Iowa or back to Iowa utilized a substantial share of HIV/AIDS-related health care services provided in an outpatient clinic located in a rural area (Davis & Stapleton, 1991). In Southern Africa, such urban to rural migration accompanying the HIV/AIDS epidemic are likely to be strengthened by existing systems of migrant labor, with HIV/AIDS-related chronic illness causing migrant workers in cities to return to their homes in rural areas (Girdler-Brown, 1998).

An exception, though, to the above evidence of urban to rural migration of HIV/AIDS patients are two studies conducted in Canada (Hogg *et al.*, 1997) and the United States (Buehler *et al.*, 1995). Both studies found that a relatively small proportion of infected persons actually changed residence between AIDS diagnosis and death. However, this may reflect the limited mobility of people between AIDS diagnosis and death, given that illness at this stage are quite severe and patients often are weak and unable to perform any daily tasks. Therefore, the latter evidence does not negate the above evidence that mobility is relatively high between HIV diagnosis and treatment or death. Although this study was not specifically designed to study migration (the emphasis is more on the

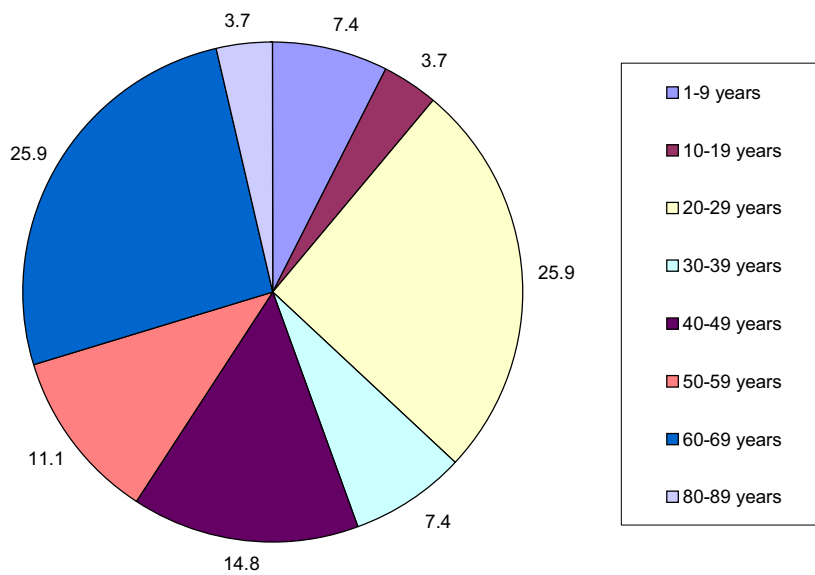
socio-economic impact of the epidemic on households), the data do allow one a glimpse of the nature and causes of migration.

Three persons only that joined a household in our sample reportedly were chronically ill at the time they joined this household (two joined an affected household and one a non-affected household by wave III or IV), which unfortunately represents an insufficient number to analyze this aspect of migration in these pages. By wave VI of this study this number will hopefully be sufficiently large to allow a meaningful analysis of the characteristics of ill persons joining the sample, as well as for the analysis of the aspects of migration discussed in this and the subsequent two sections. For now, however, the focus is on ill persons that left their respective households.

A total of 28 persons that were continuously ill in the month leading up to the previous interview, had left their respective households by the time of the subsequent follow-up. The majority of these persons were female (75%). Of these persons, almost 80% (22 persons) belonged to affected households. This implies that this analysis, albeit based on a relatively small sample, presents an indication of the migration patterns of HIV/AIDS-infected persons. However, due to the relatively small number of persons in the non-affected cluster (n=6), the analysis in these pages focus on the characteristics of the entire sub-sample of 28 persons rather than breaking down the analysis into an affected and non-affected group.

The age distribution across these cases substantiates the above claim of this analysis being indicative of HIV/AIDS-related migration patterns. Almost half of the ill persons that migrated were adults aged 20-49 years (median = 44 years)(Figure 4). Also evident, however, is that a relatively large number of elderly are included in the sample of ill persons that left their respective households over this period (29.6%%).

Figure 4: Age distribution of migrating ill persons (n=28)



Almost a third of ill persons that left were sons/daughters of the head of the household (32.1%), while 39.3% belonged to the extended family (i.e. parents, grandchildren or other relations of the head of household)(Figure 5). A relatively large proportion of persons (17.8%) had headed the household or was a husband/wife/partner of the head of the household.

Figure 5: Relation to head of household of ill migrants (n=28)

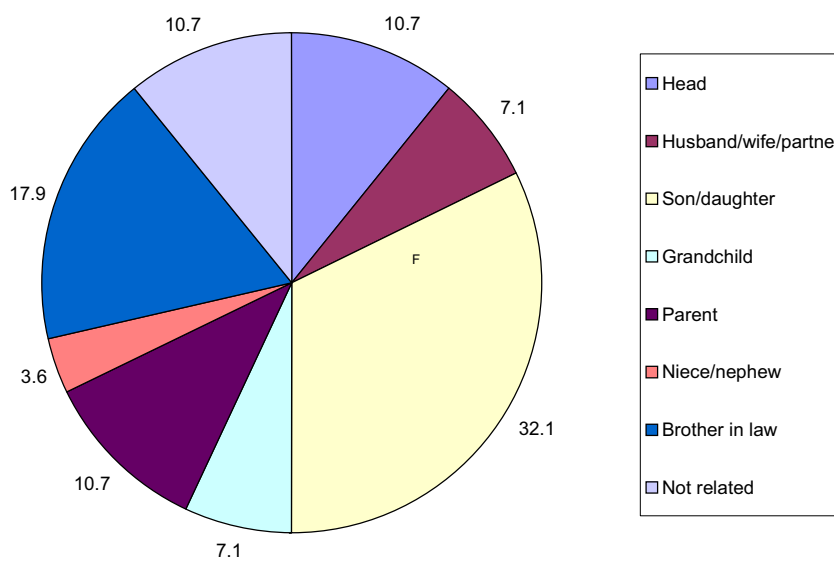
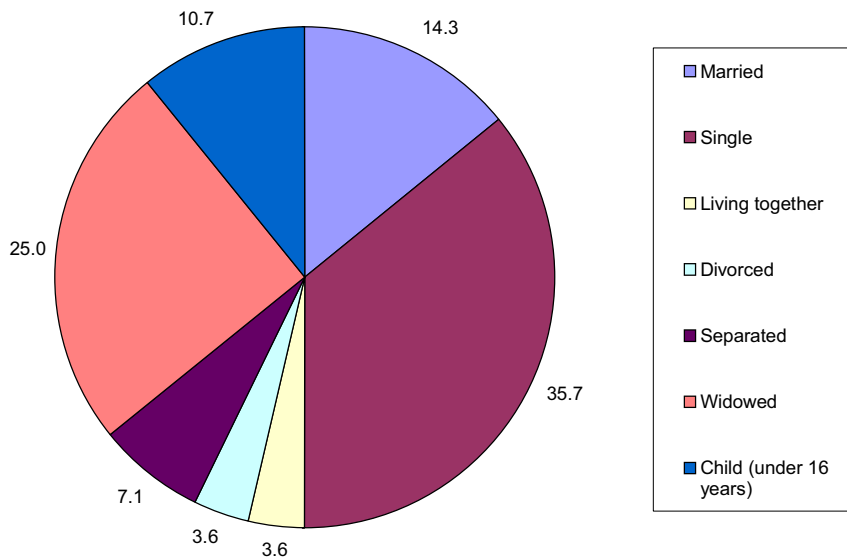
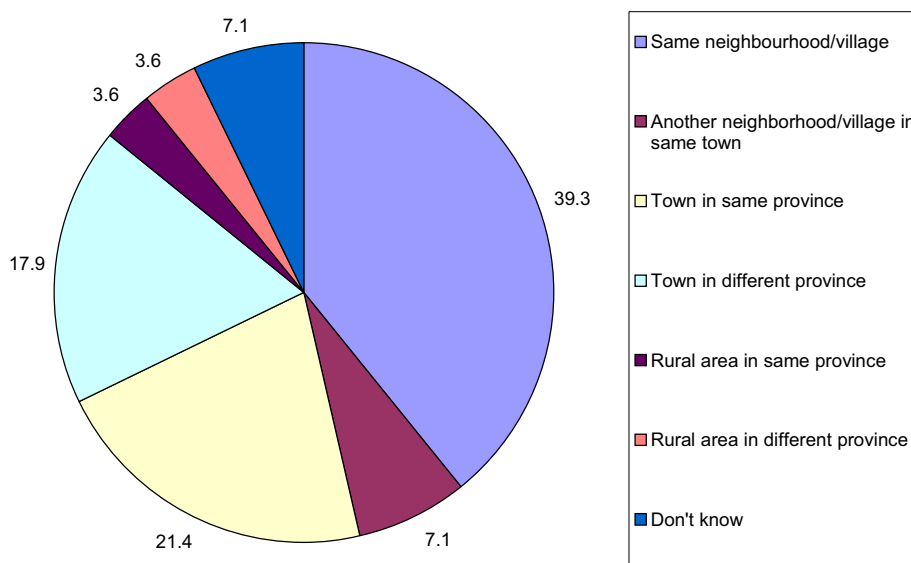


Figure 6: Marital status of ill migrants (n=28)



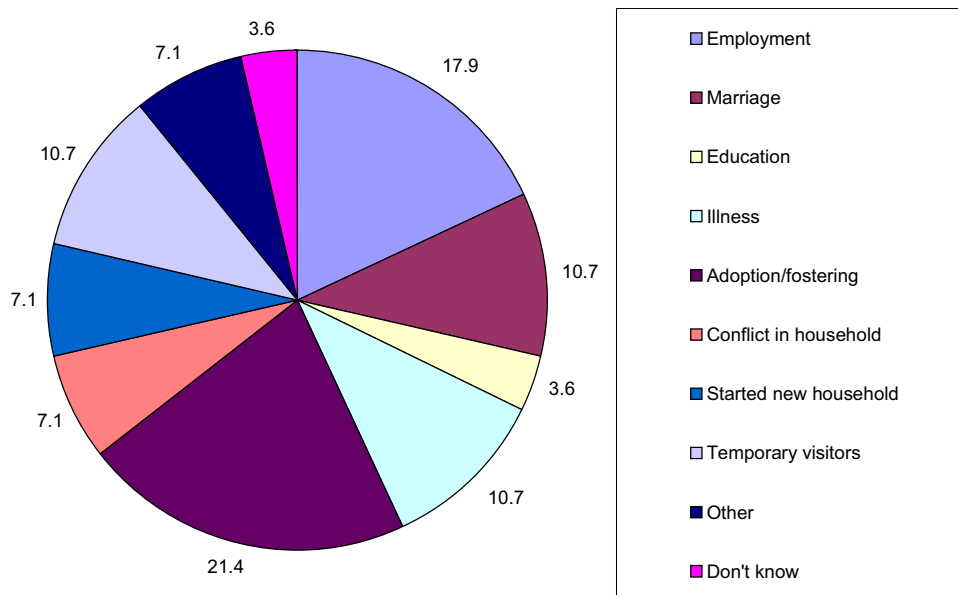
The largest single proportion of ill persons that left was single (35.7%) or was divorced, separated or widowed (35.7%)(Figure 6). Just more than a tenth (10.7%) of persons were younger than sixteen years of age, while 14.3% of persons were married. A small proportion (3.6%) of these ill migrants were cohabiting with their partner.

Figure 7: Destination of ill migrants (n=28)



The majority of persons (46.4%) migrated to locations in close proximity to their original place of residence, i.e. the same or a nearby town/village (Figure 7). This suggests that the duty to care for ill persons is being shared amongst related households in the same community, again emphasizing the role of the extended family in coping with the HIV/AIDS epidemic. Yet, almost a fifth of persons migrated to towns elsewhere in the Free State province (21.4%), while 17.9% migrated to towns elsewhere in the country. Surprisingly, a relatively small proportion of persons left for a rural destination in the Free State or another province (1 person each or 7.2% of persons). This preference of urban over rural locations suggests that access to health care is an important reason for migration, given that health care services generally is better developed in urban areas.

Figure 8: Main reason for ill migrants leaving (n=28)



Most ill persons left to be close to their family and most of these moved with or to be with their parents or grandparents, which fulfills a caring, adoption or fostering role (21.4%)(Figure 8). The second most prominent reason for migration was related to employment (17.9%) followed by marriage and visitation (10.7% each). A tenth of persons (10.7%) left for another reason that can be linked directly to HIV/AIDS, i.e. reasons related to illness, including access to health care.

Finally, it is worth noting that half of these persons contributed to their respective households before leaving. Whilst one person contributed to the household in kind, the other 13 persons contributed to the household in monetary terms. The average value of these monetary contributions amounted to R686 per month, which represents a sizeable 'loss' of earnings and is likely to severely impact on the livelihood of these households in the absence of increased remittances from family or friends or improved access to social grants, which can fill this resource gap.

(v) Migration of orphaned children

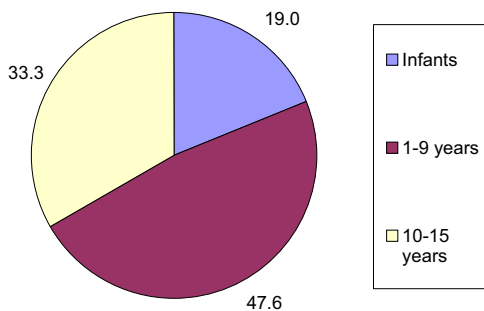
Given the evidently high mobility of children and grandchildren in particular, which hints at the impact of the orphan crisis of the HIV/AIDS epidemic on these household, this section explores the migration patterns of orphaned children in more detail. Orphans here represent children aged 15 years of under that had lost at least one parent. A total of 21 orphans had joined the households in this sample in wave III or IV, while 18 orphans had left their respective household since baseline. Approximately two thirds of these children (61.9% of in-migrating orphans and 66.7% of out-migrating orphans) belonged to affected households. This implies that this analysis, albeit based on a relatively small sample, presents an indication of the migration patterns of orphaned children. Due to the relatively small size of the sub-sample in the non-affected cluster (n=8 and n=6), the analysis in this section focuses on the characteristics of the entire sub-samples of orphaned children rather than breaking down the analysis by affected status.

The orphaned children that joined these households were relatively younger than those orphaned children that left their respective households (Figure 9). Almost a fifth of in-migrating orphans represent children born into the household whose mother or father had passed away since the previous interview (19%). A third of in-migrating orphans were aged 10-15 years, compared to 55.6% of out-migrating orphans. The median age of in-migrating orphans was 6 years compared to 10.5 years for out-migrating orphans. As expected, due to their age (i.e. not being economically active), none of these orphaned

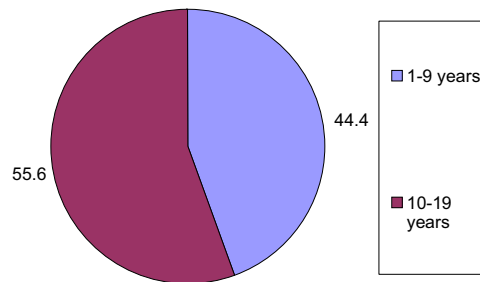
children contributed to their respective households on joining or before leaving. The majority of these orphaned children were female (61.9% and 72.2% respectively in the case of in- and out-migrating orphans).

Figure 9: Age distribution of migrating orphans

(a) In-migrating orphans



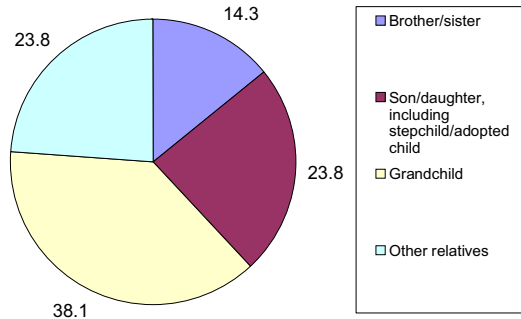
(b) Out-migrating orphans



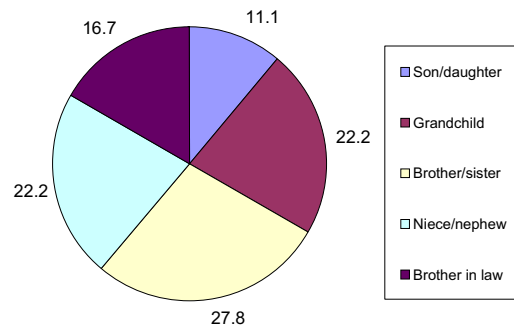
The nature of the relation of migrating orphans to the head of the household emphasizes the important role of the extended family in coping with the HIV/AIDS epidemic. The largest share of orphaned children that had joined these households represented grandchildren of the head of the household (38.1%)(Figure 10). Almost a quarter of in-migrating orphans (23.8%) were children, stepchildren or adopted children of the head of the household, while an equal number were other relations of the head of the household. In the case of out-migrating orphans, the largest proportion of children represented brothers or sisters of the head of the household, while 22.2% respectively were grandchildren or nieces or nephews of the head of the household. Only 11.1% of these children represented sons or daughters of the head of the household, including stepchildren and adopted children.

Figure 10: Relation to head of household of migrating orphans

(a) In-migrating orphans



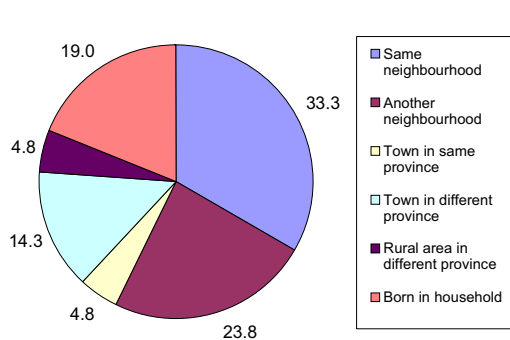
(b) Out-migrating orphans



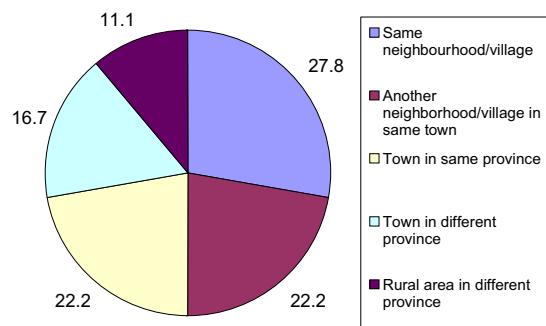
The majority of persons (57.1% and 50% respectively of in- and out-migrating orphans) migrated to locations in close proximity to their previous or new place of residence, i.e. the same or a nearby town or village (Figure 11). This suggests that the duty to care for orphaned children is being shared amongst related households in the nearby community, again emphasizing the role of the extended family in coping with the HIV/AIDS epidemic. As was evident from the age distribution, almost a fifth of in-migrating orphans were born into the household. Furthermore, out-migrating orphaned (50%) were relatively more likely than in-migrating orphans (23.9%) to migrate over longer distances, i.e. moving from or to towns or rural areas elsewhere in the Free State province or South Africa, which highlights the relative high mobility of children in this cohort of households, as does the other findings on migration presented in these pages.

Figure 11: Origin and destination of migrating orphans

(a) In-migrating orphans

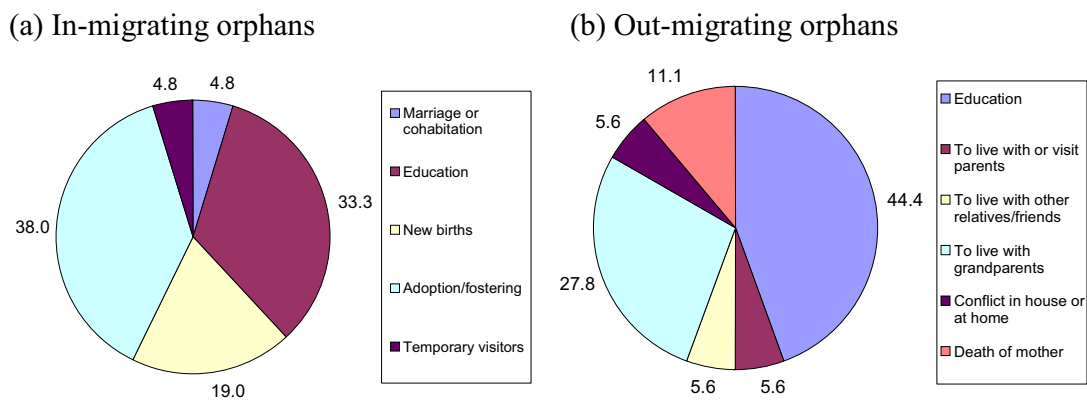


(b) Out-migrating orphans



The single most important reason for migration was related to education, both in the case of in-migrating orphans (33.3%) as well as in the case of out-migrating orphans (44.4%)(Figure 12). Also prominent, and indicative of the important role of the extended family in coping with the orphan crisis, are reasons related adoption or fostering (38% for in-migrating orphans joined households for this reason) or being cared for by members of the extended family, especially grandparents but also parents and other relatives or friends (38% of out-migrating orphans cited this as the main reason).

Figure 12: Main reason for migrating orphans joining or leaving households



As was evident from the age distribution, almost a fifth of in-migrating orphans were born into the household (Figure 12). Interestingly, one orphaned child each cited visitation and marriage (this child was orphaned in a previous wave and turned sixteen in the subsequent wave when the migratory movement was captured) as the main reason for joining the household in the study population. Also indicative, however, of the impact of the HIV/AIDS epidemic is that 5.6% and 11.1% respectively of out-migrating orphans cited conflict in the home and the death of their mother as the main reason for leaving.

B.4 MEASURES OF HOUSEHOLD WELFARE

Standards of living are measured here at the household rather than the individual level, given that the focus here is on the household impact of HIV/AIDS. Poverty is here interpreted in terms of the command over commodities that resources afford people via

income and consumption (Lipton and Ravallion, 1995). The concern, therefore, is with 'poverty proper' (i.e. resource adequacy) and not with the physiological, sociological or political dimensions of poverty (Kgarimetsa, 1992; Woolard and Leibbrandt, 1999). (One should note that the complex nature of the association between poverty and HIV/AIDS also requires that capability, social exclusion and participatory approaches to poverty eradication be focused on this research topic, as argued by Stewart (2003), approaches that cannot be explored here due to the nature of this survey.)

During the survey, data were collected from one key informant regarding the employment income, non-employment income and receipts of remittances for the members of the particular household. An estimate of total monthly household income was derived from these figures by adding up the various component items. Likewise, fieldworkers collected expenditure-related data from the household member in charge of household finances. This include estimates of household expenditure on specific items such as food, education, health care, transport, monthly repayments of debt, and clothing, as well as remittances made to persons not living with the household. As in the case of income, an estimate of total monthly household expenditure was calculated by adding these items together. The income-based estimates of household welfare in the case of this study exceeded the expenditure-based estimates. Normally, one would expect the opposite, with expenditure-based estimates exceeding income-based estimates of household welfare. This may be because the one informant that was interviewed (i.e. the person in charge of household finances) generally has a better idea of the employment status and average earnings of other members of the household. (In fact, the person during the interview often verified this information with other household members.) This person is unlikely to be knowledgeable about the manner in which each member of the household spends their income on a range of consumption categories. In fact, individuals and/or households have been found to rarely record expenditure data in detail (Woolard and Leibbrandt, 1999: 23). Expenditure, therefore, in this case most likely reflects only that amount of resources of household members that is spent on communal household needs. As a result, household income is preferred to expenditure as measure of poverty where the link between HIV/AIDS is discussed, although we report here in more detail on the

differences in the level and composition of income and of expenditure in affected and non-affected households.

Households with the same level of income do not necessarily enjoy the same level of welfare. The larger the household, the lower the level of welfare at similar levels of household income or expenditure. Measures of equivalent income and expenditure are employed to allow for these differences in standard of living related to household characteristics (Lipton and Ravallion, 1995; Burkhauser *et al.*, 1997). Estimates of household income and expenditure were here adjusted for differences in household size by dividing total monthly income by n^α , where n represents the number of household members and α an adjustment for household economies of scale (Filmer and Pritchett, 1998: 13). According to Lanjouw and Ravallion (1995), a α coefficient of 0.6 represents an adequately robust and reliable adjustment for household economies of scale. In addition, the income and expenditure estimates for the four waves, as well as the aggregates for savings, debt and repayment of debt, were converted into real values using the most recent CPI estimates (2000=100) published by Statistics South Africa (2003).

B.5 INCOME AND COMPOSITION OF INCOME

Affected households, and in particular affected households that have experienced morbidity or mortality in two or more periods, are relatively worse off than non-affected households and affected households that have experienced illness or death infrequently (Table 38).

Mean adult equivalent per capita income in affected households on average represents 62% of the levels of income in non-affected households (Table 38). These differences are less pronounced when one focuses on median rather than mean adult equivalent income, although the evidence still supports the above findings that affected households and in particular affected households that have experienced illness or death in two or more periods are relatively worse off compared to non-affected households and affected households that have experienced a smaller burden of morbidity and mortality.

Table 38: Real adult equivalent per capita income (Rand)(2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	456	325	411	586	864	848	663
Wave II	428	337	337	585	886	681	561
Wave III	444	381	363	556	843	606	530
Wave IV	446	366	362	540	945	606	530
<i>Average</i>	437	369	364	528	850	682	564
Median							
Wave I	284	269	263	494	455	406	337
Wave II	287	278	268	460	500	437	353
Wave III	297	274	291	394	349	346	328
Wave IV	263	263	287	349	390	416	347
<i>Average</i>	290	290	289	440	420	399	357

Another way in which to underscore this finding that affected households were relatively worse off, is to explore the nature of the income distribution across these same clusters of households. Approximately half of affected households that had experienced morbidity or mortality in two or more periods fell into the lower end of the income distribution (Table 39). In the case of non-affected households and affected households that faced a relatively lower burden of illness or death, more than 60% of households fell into the top two quintiles of the income distribution.

Table 39: Distribution of households by income quintiles across waves I to IV (%)

Quintile	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households
1	17.0	25.6	16.7	8.0	7.7	13.1
2	27.9	23.3	34.8	20.0	23.1	15.5
3	19.7	25.6	22.7	8.0	7.7	22.6
4	23.1	18.6	19.7	36.0	30.8	20.8
5	12.2	7.0	6.1	28.0	30.8	28.0
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	147	43	66	25	13	168

There were also significant differences in the composition of the income of affected and of non-affected households (Table 40). Affected households in general and those affected households that have experienced a greater burden of morbidity and mortality in particular were relatively more dependent on non-employment sources of income (40% or more of income originates from this source in the latter households) compared to non-affected households (29.3%). A relatively smaller proportion of the income of affected households that have experienced morbidity or mortality in two or more periods consisted of employment income (less than 46%) compared to non-affected households and affected households that have experienced morbidity and mortality less frequently (in excess of 56%). The main explanation for this is the relatively high levels of unemployment and low labor force participation rates in affected households, as well as the greater eligibility of affected households for social transfers or grants.

Table 40: Composition of household income (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Employment	50.1	45.9	41.2	77.5	56.8	58.0	54.2
Non-employment	38.7	40.6	46.4	15.5	37.5	29.3	33.8
Remittance	11.2	13.5	12.4	7.0	5.7	12.7	12.0
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

Differences between affected and non-affected households in the share of income originating from remittances were not that pronounced (Table 40). Remittances made up 11.2% and 12.7% respectively of household income in affected and non-affected households. Surprisingly, remittance income did not represent a relatively more important source of income in affected households compared to non-affected households, even in the case of affected households that have experienced a relatively high burden of morbidity and mortality. This may in part reflect the likelihood of social grants crowding

out private transfer, an issue discussed in more detail in the section of this report on access to social grants.

Table 41 reports the composition of income per income quintile for affected and non-affected households respectively. Evident is that poorer affected households in particular were relatively more dependent on non-employment income and remittances compared to more affluent affected households, with the share in total income of these sources declining as one moves up the income distribution. The share of employment income in turn declined as one moves down the income distribution. The composition of income for non-affected households exhibited similar patterns, although the share of remittances was relatively higher for the poorest households compared to affected households in the lowest income quintile.

Table 41: Income composition by quintiles of average adult equivalent per capita income across waves I to IV (%)

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Average
A. Affected households						
Employment income	29.6	38.5	44.6	60.2	81.4	48.5
Non-employment income	56.7	44.0	49.6	34.2	16.5	41.6
Remittance income	13.7	17.5	5.8	5.6	2.1	9.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	25	41	29	34	18	147
B. Non-affected households						
Employment income	37.5	43.8	41.5	67.5	84.0	58.6
Non-employment income	24.5	41.3	47.1	27.1	12.5	29.4
Remittance income	38.0	14.9	11.4	5.4	3.5	12.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	22	26	38	35	47	168

The above findings raise the question as to whether remittances are crowded out by public transfers or whether affected households are severed from the extended family and kinship system due to stigmatization and therefore received relatively less private transfers, an issue discussed in more detail in the section on access to social grants.

B.6 EXPENDITURE AND EXPENDITURE PATTERNS

As in the case of income, affected households are relatively worse off than non-affected households when expenditure is used a measure of socio-economic status (Table 42). Mean adult equivalent per capita expenditure was relatively lower in the affected group of households than in the non-affected group, especially in affected households that have experienced morbidity or mortality more frequently. Mean adult equivalent per capita expenditure in affected households on average represented 67% of the levels of income in non-affected households. Although these differences were not that pronounced in terms of median adult equivalent per capita expenditure, the results still showed affected households that have experienced illness or death in two or more periods to be relatively worse off than non-affected households and affected households that have experienced morbidity and mortality relatively infrequently or not at all.

Table 42: Real adult equivalent per capita expenditure (Rand)(2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	324	252	246	380	886	465	396
Wave II	257	219	185	312	645	394	328
Wave III	236	183	179	311	534	378	310
Wave IV	263	193	181	394	650	378	323
Average	271	216	198	349	673	403	339
Median							
Wave I	217	223	181	233	316	282	248
Wave II	182	183	151	242	371	253	212
Wave III	160	150	142	174	257	196	172
Wave IV	166	157	143	267	397	228	193
Average	188	167	167	232	428	232	207

It is also important to look at differences in expenditure on food, particularly insofar as lower levels of expenditure may impact negatively on the nutrition. Affected households spent less on food than non-affected households, with mean adult equivalent per capita

expenditure on food on average representing 78% of that in non-affected households (Table 43). This ratio is as low as 50% for affected households that have experienced morbidity and mortality in two or more periods. Although these differences are not that pronounced in terms of median adult equivalent per capita food expenditure, the results still show food expenditure to be substantially lower in affected households that have experienced morbidity or mortality in two or more of the four waves of the study. In the longer run, this may contribute to malnutrition amongst household members.

Table 43: Real adult equivalent per capita food expenditure (Rand)(2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	114	97	104	124	209	147	131
Wave II	101	92	85	105	198	142	122
Wave III	104	88	92	109	204	129	117
Wave IV	109	95	95	120	202	136	123
Average	107	94	94	114	204	138	123
Median							
Wave I	90	87	78	106	182	124	108
Wave II	82	75	73	96	146	106	96
Wave III	81	83	80	74	111	97	88
Wave IV	85	76	85	94	140	110	102
Average	89	82	85	97	137	108	101

Important in terms of understanding the impact of HIV/AIDS on the economy are differences in expenditure patterns. More than 90% of household expenditure consisted of regular monthly household expenditure. Approximately 5% were remittances sent to persons outside of the household, while just less than 5% of total household expenditure consisted of irregular, once-off expenditure. The following differences can be observed in the composition of regular monthly expenditure (Table 44). Expenditure on food (40.9%) and household maintenance (17.3%), which includes payments for water and electricity, represent the most important expenditure items. Affected households in general, but in particular affected households that have experienced morbidity and mortality in two or

periods, allocated relatively MORE of their resources to food, health care, and rent and relatively LESS to education, transport, clothing, and personal items when compared to non-affected households. Differences in the share of expenditure allocated to household maintenance and durables were relatively small and do not exhibit clear trends across the different clusters of households. Particular important in terms of these results is the apparent crowding out of household expenditure on education, personal items and durables in affected households in favor of expenditure on health care, food and other basis necessities.

Table 44: Composition of regular household expenditure (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Regular expenditure							
Food	42.2	40.6	46.8	36.9	34.0	39.6	40.9
Education	4.1	3.0	3.1	6.1	8.7	6.0	5.1
Health care	6.4	9.5	5.6	3.3	6.3	3.7	5.0
Household maintenance	17.5	17.0	18.3	16.7	16.3	17.0	17.3
Transport	8.0	7.9	7.6	10.0	6.5	8.5	8.2
Clothing	5.0	2.7	4.9	9.2	4.6	6.3	5.7
Rent	1.6	2.3	1.3	1.6	1.3	1.1	1.3
Personal items	6.3	6.8	6.2	5.3	6.7	7.4	6.9
Durables	9.0	10.2	6.3	11.0	15.7	10.3	9.7
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

B.7 SAVINGS, DEBT AND REPAYMENT OF DEBT

In order to understand the financial responses of affected and non-affected households to changes in households circumstances, which are discussed in the subsequent pages, it is necessary to look at differences between affected and non-affected households in terms of current levels of savings, debt and repayment of debt.

Affected households on average save approximately 40% less than non-affected households on a monthly basis (Table 45), although these differences are less pronounced

when one compare median real households savings. For the most part, affected households that have experienced morbidity or mortality in two or more periods save the least compared to non-affected households and affected households that have experienced illness and death less frequently.

Table 45: Real average household savings (Rand)(2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	196	262	136	200	286	326	269
Wave II	152	90	121	149	374	300	234
Wave III	144	135	121	139	302	536	352
Wave IV	106	104	92	117	146	266	192
Average	145	169	109	154	219	304	230
Median							
Wave I	95	95	95	189	103	123	104
Wave II	66	54	61	82	94	94	76
Wave III	68	64	55	92	68	85	77
Wave IV	57	68	53	82	58	83	69
Average	68	76	66	90	62	110	84

Furthermore, the decline in household savings over time has been relatively more pronounced in affected households, especially in affected households that have experienced a greater burden of ill-health, although the level of households savings have declined in all the clusters of households (Table 45). This is understandable insofar as affected households generally face higher unemployment burdens, have to divide household resources between a larger number of people, and also have to face illness and morbidity which is likely to crowd out savings in favor of expenditure on health care and/or funerals.

Table 46 reports on the composition of household savings. Interestingly in terms of the composition of household savings, is that the most prominent source of savings is a funeral or burial policy (70.9%) followed by bank and post office savings (9.9%) and life

insurance (9.7%). Affected households and in particular those affected households that have experienced morbidity and mortality were relatively more likely to invest in a funeral or burial policy or to save via stokvels or other informal savings associations compared to non-affected households and affected households that to date have not experienced illness or death. The latter households were relatively more likely to have saved at the bank or post office or to have invested in retirement annuities, unit trusts or shares. This suggests that affected households may in fact be acting proactively in terms of precautionary saving, either by means of benefiting from a stokvel or informal savings association or being able to afford to pay for the impending funeral of an infected household member.

Table 46: Composition of household savings (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Bank and post office	9.8	4.3	6.7	21.5	12.3	10.0	9.9
Retirement annuity	1.6	2.4	0.0	0.0	7.3	5.5	3.8
Funeral policy	72.1	72.7	78.5	66.1	59.9	70.1	70.9
Life insurance	9.8	2.4	13.4	7.1	17.7	9.6	9.7
Unit trusts and shares	0.5	0.0	0.8	0.0	1.7	0.8	0.7
Stokvels and other informal saving associations	5.3	14.7	0.7	5.3	1.1	2.7	3.9
Other	0.9	3.6	0.0	0.0	0.0	1.2	1.1
<i>Sample (n)</i>	<i>69</i>	<i>18</i>	<i>28</i>	<i>14</i>	<i>9</i>	<i>86</i>	<i>155</i>

Non-affected households had considerably higher levels of mean real household debt than non-affected households (Table 47), with mean household debt being the lowest in affected households that have experienced morbidity or mortality. This is understandable insofar as higher levels of income makes it possible for these households to borrow larger sums of money. However, these differences were not as pronounced in terms of the median of real household debt. In fact, the median household debt of affected households often exceeded that of non-affected households, which may be explained by the fact that affected household may need to take on new debt to pay for health care and/or funerals.

Furthermore, the trends in real household debt exhibit no clear trend or pattern across the different clusters of households, although levels of debt appeared to have increased in most cases. Hence, one needs to consider the reasons why these households acquired new debt and the characteristics of these responses to financial crises to shed more light on the impact of HIV/AIDS on household economies, which are discussed in the subsequent section on this report.

Table 47: Real average total household debt (Rand)(2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	4899	3494	4959	3314	12542	7089	6006
Wave II	6488	5753	7425	5700	5737	8072	7383
Wave III	8231	4962	7977	5955	17348	11586	9991
Wave IV	8668	5480	6278	7982	24726	9177	8940
Average	6035	3853	5651	5031	14696	7343	6726
Median							
Wave I	1892	1561	1419	2365	3784	1561	1892
Wave II	3790	3283	4690	3256	2439	3039	3311
Wave III	4263	1705	5286	3218	9350	4263	4263
Wave IV	4095	2437	3491	3645	18489	2420	2776
Average	3046	2171	2838	2706	8003	3323	3189

There were considerable differences between the real monthly repayment of debt by affected and non-affected households, both in terms of mean and median repayments (Table 48). Most evident here is that affected households in general and in particular affected households that have experienced morbidity or mortality more frequently, on average made smaller repayments on debt compared to non-affected households and affected households that have experienced morbidity or mortality less frequently. The question is whether these households paid less because they could afford to pay less or whether they paid less because they had lower absolute levels of debt. Thus, one requires a comparison of the average repayment of debt relative to total debt.

Table 48: Real average monthly repayment of household debt (Rand)(2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	386	253	369	464	705	461	423
Wave II	241	213	228	271	314	294	271
Wave III	256	188	193	315	450	365	313
Wave IV	271	172	154	250	878	392	334
<i>Average</i>	255	200	205	298	522	312	284
Median							
Wave I	194	142	192	199	350	265	218
Wave II	141	141	118	197	263	159	155
Wave III	128	188	85	213	149	128	128
Wave IV	123	123	82	180	622	180	157
<i>Average</i>	159	143	129	205	300	167	159

Table 49: Average number of months required to settle current household debt

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean							
Wave I	12.7	13.8	13.4	7.1	17.8	15.4	14.2
Wave II	26.9	27.0	32.6	21.0	18.3	27.5	27.2
Wave III	32.2	26.4	41.3	18.9	38.6	31.7	31.9
Wave IV	32.0	31.9	40.8	31.9	28.2	23.4	26.8
<i>Average</i>	23.7	19.3	27.6	16.9	28.2	23.5	23.7
Median							
Wave I	9.8	11.0	7.4	11.9	10.8	5.9	8.7
Wave II	26.9	23.3	39.7	16.5	9.3	19.1	21.4
Wave III	33.3	9.1	62.2	15.1	62.8	33.3	33.3
Wave IV	33.3	19.8	42.6	20.3	29.7	13.4	17.7
<i>Average</i>	19.2	15.2	22.0	13.2	26.7	19.9	20.1

Table 49 reports on the average number of months required to settle total household debt at the current rate of repayment, per wave as well as on aggregate. Evident is the high indebtedness of these households, i.e. the relatively long time it will take these households to settle their debt. It will on average take these households between one (12

months) and almost two and a half years (30 months) to settle their debt, although the figures for select waves are as high as three (36 months) to five years (60 months) in certain clusters of households.

These findings illustrate the substantial pressure that debt puts on relatively poor households. However, there is no evidence that relative indebtedness was consistently higher in affected households in general or that relative indebtedness increased as the burden or morbidity and mortality on households increased. As argued above, one needs to consider the reasons why these households acquired new debt and the characteristics of household responses to financial crises to shed more light on the impact of HIV/AIDS on household economies.

B.8 HOUSEHOLD RESPONSES TO FINANCIAL CRISES

Households generally have three alternatives in terms of responding to changes in income and expenditure, i.e. to borrow money, to utilize their savings, or to sell some of their assets. According to evidence from other household impact studies, households affected by HIV/AIDS-related morbidity and mortality appear to first deplete their savings and assets before they borrow money in order to alleviate the financial pressure on the household. For example, households in rural Thailand that were affected by an adult death first tried to cope with increased medical care expenses by employing their savings, after which they considered borrowing (Parker *et al.*, 2000:44). In the subsequent pages the differences between affected and non-affected households in terms of these financial responses to crises are explored in more detail.

Table 50: Use of financial responses by households to help cope (%)

Response	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Borrowed money							
In one wave only	31.8	29.8	29.1	48.3	20.0	29.3	29.3
In two waves	13.5	21.3	10.1	3.4	26.7	8.8	8.7
In three waves	4.7	6.4	6.3	0.0	0.0	6.1	4.1
In all four waves	1.2	4.3	0.0	0.0	0.0	1.7	1.1
Total	51.2	61.8	45.5	51.7	46.7	45.9	43.2
Utilized savings							
In one wave only	16.5	21.3	17.7	6.9	13.3	10.5	12.8
In two waves	1.2	0.0	2.5	0.0	0.0	2.2	1.3
In three waves	0.0	0.0	0.0	0.0	0.0	0.6	0.2
Total	17.7	21.3	20.2	6.9	13.3	13.3	14.3
Sold assets							
In one wave only	7.6	8.5	8.9	6.9	0.0	5.5	7.0
In two waves	0.0	0.0	0.0	0.0	0.0	1.1	0.4
In three waves	0.6	0.0	1.3	0.0	0.0	0.0	0.2
Total	8.2	8.5	10.2	6.9	0.0	6.6	7.6
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

Table 50 reports on the frequency of these financial responses in each of the different clusters of affected and non-affected households. The most frequent response was borrowing (43.2%), followed by the utilization of savings (14.3%), and the sale of assets (7.6%). This makes sense when considering that the households included in the sample are primarily poorer households with few assets and low income, which explains why a relatively small percentage of households actually utilized savings or sold assets. Consequently, the subsequent analysis for the most part compares affected and non-affected households. Only in the case of the analysis of borrowing (where the numbers per cluster were sufficiently large) were the results for affected households broken down by incidence of morbidity and mortality.

A relatively larger percentage of affected households utilized savings or sold assets compared to non-affected households, particularly households that have experienced a

greater burden of morbidity and mortality. Although there were no substantial differences across the clusters of households in terms of the percentage of households that had borrowed money in one wave only, affected households and in particular affected households that have experienced illness or death more frequently were more likely to have borrowed money in two or more periods. This illustrates the likely burden that HIV/AIDS exerts on household finances and how the epidemic may push households deeper into poverty by means of rising indebtedness, an argument substantiated in terms of the further analysis of these financial responses of households to crises.

Evidently, a considerably smaller percentage of households exercised these strategies in more than one wave. This decline in the frequency of responses across waves may be the result of changes in the reference period employed when asking these particular questions in the different waves. During the first round of interviews households were asked whether they had sold an asset or borrowed money in the past 12 months. During the subsequent rounds of interviews this reference period was changed to six months so as to only record details about financial responses since the previous interview. Another explanation of this decline in the frequency of responses across waves is that households may employ a combination of these strategies over time to cope with financial crises, e.g. borrowing money at first, utilizing savings as a next step and only selling an asset as a last resort. Furthermore, differences in the duration and depth of the crises necessitating the response may also mean that similar strategies are not used in consecutive waves.

The discussion in the subsequent sections focuses on the specific details of these financial responses, e.g. the way in which and the reasons why households exercised these strategies. As such, the focus is not on comparing these results across the different waves of the survey, but on analyzing the pooled data from the four rounds of interviews.

(i) New borrowing

The predominant purpose for borrowing money was to pay for food (39%)(Table 51), thus emphasizing the relatively impoverished situation in which these households found

themselves. The danger of course in the longer run is that this will move affected households deeper into poverty as more resources are crowded out in favor of debt repayments in the absence of improvements in household income or employment levels. The reality of this threat is clear when looking at the amount of money borrowed relative to average annual household income and total current debt. New borrowing on average represented almost a quarter of average annual household income and more than 60% of total debt (Table 52). This may be particularly devastating for households affected by illness and death, given that these households also have to cope with increased medical expenses and funeral costs.

Table 51: Purpose of new borrowing (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Food	37	37	41	38	15	42	39
Education	5	5	3	-	15	11	8
Durables	5	-	3	25	15	1	3
Medical expenses	8	13	8	-	-	1	5
Funeral	14	13	16	6	15	3	8
Clothing	3	5	3	-	-	9	6
Repayment of debt	5	3	7	13	-	2	4
Maintenance of assets	1	-	-	6	8	3	2
House reparations	4	2	3	-	23	3	4
Transport	5	3	5	13	-	6	5
Fuel	7	10	5	-	8	6	6
Municipal account	3	6	2	-	-	6	4
Communication	1	2	-	-	-	-	0
Other	2	2	3	-	-	6	4
Don't know	1	2	-	-	-	1	1
Total	100	100	100	100	100	100	100
<i>Sample (n)</i>	<i>153</i>	<i>63</i>	<i>61</i>	<i>16</i>	<i>13</i>	<i>159</i>	<i>312</i>

Table 52: Relative magnitude of new borrowing

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Average amount borrowed (Rand)	1682	606	1509	3077	5491	1904	1792
<i>Sample (n)</i>	<i>132</i>	<i>51</i>	<i>54</i>	<i>16</i>	<i>11</i>	<i>129</i>	<i>261</i>
As % of average annual household income	22.2	26.2	21.8	11.2	19.2	25.8	24.0
<i>Sample (n)</i>	<i>125</i>	<i>51</i>	<i>49</i>	<i>14</i>	<i>11</i>	<i>126</i>	<i>251</i>
As % of total current debt	63.2	66.9	65.9	51.6	52.0	68.0	65.6
<i>Sample (n)</i>	<i>119</i>	<i>46</i>	<i>47</i>	<i>15</i>	<i>11</i>	<i>120</i>	<i>239</i>

More importantly, the purpose for which households borrowed money also suggests that the HIV/AIDS epidemic do play a role in causing affected households to take on increasing levels of debt (Table 51). A relatively larger proportion of responses by affected households indicated that the money was used to pay for funerals and medical expenses (22% compared to 4% respectively in affected and non-affected households), particularly in the case of affected households that have experienced morbidity or mortality in two or more periods. In turn a relatively larger proportion of non-affected households indicated that the money was used to pay for education, clothing and other expenses.

Table 53: Source of new borrowing (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Relative/friend	66	82	63	56	27	69	68
Money/micro-lender	23	12	32	31	18	18	20
Employer	2	4	-	6	-	8	5
Bank	4	-	2	6	36	4	4
Stokvel	1	2	-	-	-	-	0
Government agency	1	-	-	-	9	-	0
Landlord	1	-	-	-	9	-	0
Church	1	-	2	-	-	-	0
Shopkeeper	1	-	2	-	-	1	1
Total	100	100	100	100	100	100	100
<i>Sample (n)</i>	<i>134</i>	<i>51</i>	<i>56</i>	<i>16</i>	<i>11</i>	<i>135</i>	<i>269</i>

Money in most cases was borrowed from relatives or friends (68%), while 20% of loans were obtained from money- or micro-lenders (Table 53). Affected households were relatively more likely to have borrowed money from a money- or micro-lender compared to non-affected households (23% compared to 18%). Affected households that had experienced morbidity or mortality in each period were most likely to have borrowed money from family or friends (82%), again hinting at the relative important role of not only the extended family but wider social network in helping households cope with the socio-economic impact of HIV/AIDS. In the case of non-affected households, which generally included more employed members who are more likely to have access to financial institutions, a considerably larger share of households borrowed from their employer or a bank compared to affected households.

(ii) Utilization of savings

Affected and non-affected households on average used an amount of savings to the value of R3355 and R3124 respectively (Table 54). The relative magnitude of this dissaving is considerable, particularly in the case of affected households that have experienced morbidity or mortality in two or more periods. Utilized savings represented 21.3% of the

average annual household income of affected households, compared to 12.9% for non-affected households. Affected households on average utilized 29 months of savings, whereas non-affected household only utilized 20 months of monthly savings. The relative magnitude of dissaving was lowest in affected households that have experienced morbidity or mortality in one period only or not at all. This suggests that the utilization of savings, as argued elsewhere, represent a response to relatively severe and ongoing financial crises.

Table 54: Relative magnitude of utilized savings

	Affected households	Non-affected households	Total all households
Average amount utilized (Rand)	3355	3124	3241
<i>Sample (n)</i>	31	30	61
No of months worth of current monthly savings	29.2	19.9	25.1
<i>Sample (n)</i>	31	25	56
As % of average annual household income	21.3	12.9	17.3
<i>Sample (n)</i>	31	28	59

The two purposes for utilizing savings cited most often by affected households were to pay for expenses on funerals (50%) and medical expenses (18%), followed by food (12%), clothing (9%) and transport (6%)(Table 55). In non-affected households in turn the most often cited reasons for utilizing savings were to pay for food (24%), education (21%) and funerals (21%), followed by maintenance of assets (15%), investments in house reparations (9%), and the purchase of durables (6%). Evidently, therefore, as explained elsewhere, the HIV/AIDS epidemic directly explains differences in the reasons by affected as opposed to non-affected households have utilized savings in the recent past. The fact that funerals featured prominently in both affected and non-affected households as the main reason for utilizing savings illustrate the relatively large financial burden that funeral costs put on households, as substantiated by the average funeral costs of R4000 to R5000 noted elsewhere in these pages.

Table 55: Purpose of utilizing savings (%)

	Affected households	Non-affected households	Total all households
Food	12	24	18
Transport	6	0	3
Education	3	21	12
Medical expenses	18	0	9
Funeral	50	21	35
Clothing	9	3	6
Maintenance of assets	0	15	7
Durables	0	6	3
Repayment of debt	3	3	3
New infrastructure	0	9	4
Total	100	100	100
<i>Sample (n)</i>	<i>34</i>	<i>34</i>	<i>68</i>

(iii) Sale of assets

On average, the households in this sample owned relatively few assets (3.3)(Table 56). Asset ownership, furthermore, was relatively lower in affected households in general and in particular in affected households that have experienced morbidity or mortality more frequently. The decline in asset holdings of affected households that experienced morbidity or mortality in each period, as pointed out elsewhere, is explained by the fact that these households were relatively more likely than non-affected households to have sold assets. This relatively low asset ownership also explains why only a very few households were able or willing to exercise this financial strategy.

Table 56: Average household asset index (maximum = 13)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Wave I	3.04	3.13	2.81	3.07	3.93	3.57	3.32
Wave II	3.09	3.04	2.91	3.07	4.20	3.61	3.36
Wave III	3.04	3.02	2.75	3.21	4.27	3.56	3.31
Wave IV	3.05	2.81	2.87	3.24	4.40	3.49	3.28
Average	3.05	3.00	2.84	3.15	4.20	3.56	3.31
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

The absolute value of the proceeds from the sale of assets and the relative magnitude of these proceeds were considerably higher in affected households than was the case in non-affected households (Table 57). This suggests that proceeds from asset sales, although relatively uncommon, represent a substantial source of resources in times of financial crises.

Table 57: Relative magnitude of asset sales

	Affected households	Non-affected households	Total all households
Average proceeds from sale (Rand)	5489	830	3315
<i>Sample (n)</i>	<i>16</i>	<i>14</i>	<i>30</i>
As % of average annual household income	94.2	8.7	54.7
<i>Sample (n)</i>	<i>14</i>	<i>12</i>	<i>26</i>

Unlike in the case of new borrowing and the utilization of savings, however, the reported reasons why these assets were sold do not outright suggests that HIV/AIDS plays an important role in causing households to sell assets, although funerals do feature as a reason (Table 58). However, this may only indicate that affected households that do sell assets actually do so to pay for expenses they can no longer afford since having to pay for medical expenses and/or funerals. Amongst affected households the primary reasons for selling an asset was to pay for food (45%) or to service debt (20%), followed by expenses on education or funerals (10% each). In the case of non-affected households, the most often cited reasons for selling an asset was to pay for food (72%) and to service debt (13%), followed by expenses on education or funerals (8% each). The relatively high proportion of households that employed the proceeds from asset sales to service debt is the result of the relatively high debt burdens faced by these households.

Table 58: Purpose of sale of assets (%)

	Affected households	Non-affected households	Total all households
Food	45	72	58
Education	10	6	8
Transport	5	-	3
Repayment of debt	20	6	13
Funeral	10	6	8
Replace of asset	-	6	3
Medical expenses	5	-	3
Food	5	6	5
Total	100	100	100
<i>Sample (n)</i>	20	18	38

Households primarily sold household appliances, which represent 43% of the type of assets sold, followed by furniture (31%)(Table 59). There was no clear-cut difference between affected and non-affected households in terms of the type of assets sold. Evident from the nature of assets sold by these households is that these assets in most cases (with the exception of the sale of cattle, motor vehicles and a house) are of a non-productive nature, i.e. these are not assets the household require to in the short term sustain their livelihoods.

Table 59: Type of assets sold (%)

	Affected households	Non-affected households	Total all households
Household appliances	42	44	43
Vehicles	5	13	9
Livestock	5	-	3
Furniture	32	31	31
House	5	-	3
Other	11	13	11
Total	100	100	100
<i>Sample (n)</i>	19	16	35

However, the loss of any asset means that the wealth of that particular household is depleted, in the process making it more difficult to in the longer term cope with the impact of the epidemic. The sale of household appliances may of course also in the longer run have implications for households, with households requiring more labor and/or

time to prepare meals, which may in turn have implications for the supply of household labor for other productive activities such as employment and the schooling of children.

(iv) Lump-sum payments and inheritance

Households were also asked whether they received a lump-sum payment or inheritance following a death, which would make it possible for households to cope better with the effect of this death on household finances.

Table 60: Households receiving lump sum or inheritance following a death (%)

	Affected households	Non-affected households	Total all households
Lump sum	11.5	25.0	13.7
Inheritance	13.5	30.0	16.1
<i>Sample (n)</i>	<i>104</i>	<i>20</i>	<i>124</i>

Only in 13.7% and 16.1% of cases did households where a death had occurred indicate that they had respectively received a lump-sum payment or inheritance following the death (Table 60). This relatively infrequent nature of these types of transfers of wealth may also explain why a relatively large proportion of households had to borrow, utilize savings or sell assets to cope with the financial pressures related to a death in the household. Furthermore, affected households that had experienced a recent death were relatively less likely to have received lump-sum payments or an inheritance compared to non-affected households. As argued elsewhere, this may reflect the fact that affected households are relatively worse off than non-affected households and are less likely to have benefited from such transfers of wealth following the death of a household member. Yet, the mean monetary value of lump-sum payments (R7 861) and inheritances (R22 250) was substantially higher in affected households compared to non-affected households (R4960 and zero respectively)(Tables 61 and 62). This suggests that these transfers play a relatively important role in affected households in coping with immediate financial crises.

Table 61: Source and average value of lump sum payment following a death

	Affected households	Non-affected households	Total all households
Average value (Rand)	7861	4960	6954
<i>Sample (n)</i>	11	5	16
Insurance	61.5	80.0	66.7
Workmen's compensation	30.8	0.0	23.5
Neighbours	0.0	20.0	5.6
Pension	7.7	0.0	5.6
Total	100.0	100.0	100.0
<i>Sample (n)</i>	13	5	18

Lump-sum payments mainly originated from insurance (66.7%) and workman's compensation (23.5%)(Table 61). The lump-sum payments were in almost all cases used to pay for funeral costs, with one household only saving this money. The fact that lump-sum payments in this population are the exception rather than the rule is understandable insofar as very few of the deceased actually was employed prior to their death and that most belonged to relatively poor households, which lessens the possibility of these persons benefiting from life insurance and/or employment benefits.

Table 62: Monetary and non-monetary nature of inheritance

	Affected households	Non-affected households	Total all households
Average value (Rand)	22520	0	22520
<i>Sample (n)</i>	2	0	2
Non-monetary nature of heritage (%):			
Clothing	40	33	38
House/shack	33	33	33
Vehicle	7	-	5
Furniture	20	33	24
Total	100	100	100
<i>Sample (n)</i>	15	6	21

Inheritances in most cases consisted of clothing (38%), a shack/house belonging to the deceased (33%), or furniture (24%), while in one case only did the inheritance consist of a vehicle (Table 62). In the two cases only did the inheritance include money, which on average amounted to a fairly substantial R22 250. While the persons benefiting from the

inheritance stayed in the house or shack inherited from the person, they in most other cases shared the inherited clothing, furniture and car with their other relatives or kept it for their children. Only in one case had the person not yet received this inheritance at the time of the interview.

B.9 DIRECT AND INDIRECT COST OF MORBIDITY AND MORTALITY

In order to determine the economic impact of illness and death on households it is necessary to include both the direct and indirect costs of morbidity and mortality. *Direct costs* include the cost of medical treatment and transport expenses required to reach health care facilities so as to receive treatment. In the case of deaths, funeral costs represent another direct cost. In the case of illness, *indirect costs* include the loss of income to the ill person and to those persons caring for the ill, including both direct care and time spent accompanying the ill person on visits to health care facilities. The income loss to the ill person was determined in monetary terms, i.e. respondents were asked how much money the person lost by not being able to work in the past month. In terms of caring, respondents were asked to indicate the number of working days the person caring for the ill has lost in the thirty days before the interview in terms of caring for the ill and in terms of accompanying the ill person to a health care facility. These losses in income were estimated based on the number of days of work lost by those caring for the ill, employing the specific household's average monthly employment earnings divided by thirty as a proxy of the daily loss of income. When it comes to mortality, indirect costs refer to the income loss to the persons caring for the deceased individual in the month prior to their death, as well as the income loss to the household resulting from the death of the specific person. The income loss to the person caring for the ill was estimated in the same manner as for morbidity (see above). The loss in income to the household resulting from the death was directly estimated by asking respondents to indicate whether the deceased was employed before their death and how much income the deceased received prior to their death.

All costs reflect the average cost to households in the month preceding the interview (morbidity) or in the month preceding the death (mortality), with the exception of funeral costs, which are reported as a once-off cost to the household at the time of death. The cost of morbidity and mortality was determined by adding together the average values of the various components of direct and indirect costs and NOT by calculating the average total cost across the total number of cases. Averages for each cost component were calculated only across those cases where costs exceeded zero, i.e. where respondents were able to give an indication of the magnitude of costs and/or working days lost. The reason for doing so was to arrive at an estimate of the most likely economic impact of illness and death on households, including out-of-pocket expenditure and income losses. If total costs had been averaged across all cases, the magnitude of the impact would have been underestimated insofar as a relatively large number of persons were not able to report the cost of medical treatment, either because treatment was free or because expenses were paid for via medical aid and respondents did not know the actual costs. In addition, a relatively large number of households incurred no income loss because those persons caring for the ill or deceased were in fact unemployed. In this sense, the estimates reported here presents 'worst case' estimates of the cost of morbidity and mortality.

In order to determine the magnitude of these costs, the cost of morbidity and mortality is expressed as a percentage of average monthly household income and expenditure. The composition of the cost of morbidity and mortality indicates the main sources of economic impact. Evident from the results discussed below is that the cost of morbidity and mortality presents a relatively substantial economic burden, thus emphasizing the severity of the socio-economic impact of HIV/AIDS at the household level.

(i) Cost of morbidity

The direct cost of morbidity to affected households averaged R333 per ill person, compared to R349 for non-affected households (Table 63). These relatively low direct costs (i.e. the cost of medical treatment and related transport) may be attributed to the fact that most ill persons visit government clinics and hospitals where services are free or

heavily subsidized. Most persons probably also reach health care facilities on foot rather than by taxi or bus, implying relatively low transport costs.

Table 63: Cost of morbidity to households (Rand)

	Affected households	Non-affected households	Total all households
Total direct cost	333	439	351
- <i>Medical treatment</i>	293	389	310
- <i>Travel expenses</i>	40	50	41
Total indirect cost	1011	713	1051
- <i>Income loss to carer (care)</i>	430	713	470
- <i>Income loss to carer (visit to health facilities)</i>	286	0	286
- <i>Income loss to ill person</i>	295	0	295
Total cost	1344	1152	1402
Average total monthly household income (Rand)	674	962	735
- <i>as % average monthly income</i>	199	120	191
Average monthly household expenditure (Rand)	1167	1575	1252
- <i>as % average monthly expenditure</i>	115	73	112

The indirect cost of illness to affected and to non-affected households amounted to R1011 and R713 per person respectively (Table 63). Therefore, indirect cost of morbidity was relatively higher in affected households compared to non-affected households. The total cost of illness to affected households was 1.2 higher than the cost incurred by non-affected households. The respective estimates of total cost of morbidity amounted to R1344 and R1152 per ill person. Hence, the data do not exhibit any major cost differentials between affected and non-affected households as far as total cost was concerned. The burden of illness on affected households amounted to twice average monthly household income and to 1.2 times average monthly household expenditure. These estimates respectively amounted to 1.2 and 0.73 times average monthly household income and expenditure in the case of non-affected households. Hence, illness does represent a considerable economic burden to these households, particularly to affected households.

Table 64: Composition of cost of morbidity (%)

	Affected households	Non-affected households	Total all households
Medical treatment	22	34	22
Travel expenses	3	4	3
Income loss to carer (care)	32	62	32
Income loss to carer (visit to health facilities)	21	-	21
Income loss to ill person	22	-	22
Total	<i>100</i>	<i>100</i>	<i>100</i>
Total direct cost	25	38	25
Total indirect cost	75	62	75
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>

The composition of the total cost of morbidity differs between affected and of non-affected households (Table 64). Indirect costs on average amounted to approximately 75% of the total cost on affected households, whereas indirect costs made up 62% of the total cost of illness to affected households. In the case of non-affected households, direct costs represented a relatively larger share of costs, i.e. 38% compared to 25% for affected households. This suggests that the economic burden of illness on affected households is more pronounced than is the case in non-affected households primarily because of the loss of income to the ill person and to the person that accompanied this person to the health care service rather than because of significant differences in the direct costs or in the loss of income to the caregiver due to time spent caring for the person.

In terms of the evidence presented here, the cost of morbidity to households are relatively low. This is so where unemployment levels are very high, where household members are primarily cared for by family members with no direct loss of income, and where ill persons primarily use free or subsidized public health services. If, however, one was to put an economic value on the time of household labor utilized for this purpose rather than for alternative and perhaps more productive activities and if one was to put a market price to free or subsidized health care, these estimates of the cost of morbidity would be substantially higher.

(ii) Cost of mortality

The average direct cost of mortality to affected households amounted to R4567, compared to R6631 for non-affected households (Table 65). As was the case with the direct cost of morbidity, treatment and transport costs were generally relatively low, averaging R192 and R46 respectively. The largest part of the direct cost of a death was made up of funeral costs, which in affected and non-affected households averaged R4319 and R6472 respectively. The indirect cost of a death to affected households amounted to R1476 compared to R958 for non-affected households. The largest share of the indirect cost of mortality consisted of the income loss to the household resulting from the foregone earnings of the deceased (R1353 and R958 in affected and non-affected households respectively). The total cost to affected and to non-affected households of one death amounted to R6043 and R7589 respectively.

Table 65: Cost of mortality to households (Rand)

	Affected households	Non-affected households	Total all households
Total direct cost	4567	6631	4880
- <i>Medical treatment</i>	200	134	192
- <i>Travel expenses</i>	48	25	46
- <i>Funeral expenses</i>	4319	6472	4642
Total indirect cost	1476	958	1412
- <i>Income loss to carer (care)</i>	123	0	123
- <i>Income loss to deceased</i>	1353	958	1289
Total cost	6043	7589	6292
<i>Sample (n)</i>			
Average total monthly household income (Rand)	1077	671	1012
- <i>as % average monthly income</i>	561	1131	622
Average monthly household expenditure (Rand)	636	574	625
- <i>as % average monthly expenditure</i>	950	1322	1007

Evident as well from Table 65 is that a death puts a greater financial burden on a household than does illness, primarily because of the cost of funerals as well as the foregone earnings of the deceased. The burden on affected households amounted to 5.6 times average monthly household income and 9.5 times average monthly household expenditure. These estimates were 11.3 and 13.2 respectively for non-affected

households. Surprisingly, therefore, the economic burden of mortality was relatively higher for affected than for non-affected households.

Table 66: Composition of cost of mortality (%)

	Affected households	Non-affected households	Total all households
Medical treatment	3	2	3
Travel expenses	1	0	1
Funeral expenses	71	85	74
Income loss to carer	2	-	2
Income loss to deceased	22	13	20
Total	<i>100</i>	<i>100</i>	<i>100</i>
Total direct cost	76	87	78
Total indirect cost	24	13	22
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>

Unlike in the case of illness, where the majority of the cost to households consisted of indirect costs, the cost of a death consists largely of direct costs (78%), because of the high burden that funeral costs place on households (Table 66). In fact, funeral costs represent 74% and 80% of the total burden, with the income loss to the deceased making up 20%. These two cost components (i.e. funeral costs and loss of income to the deceased) therefore represent the bulk of the burden of mortality on households. This means that expenditure on funerals will increase dramatically as the AIDS epidemic takes its toll, leading to increasing growth in this sector but also putting pressure on the insurance industry in terms of coping with increased claims. Households affected by AIDS deaths may also temporarily be moved into poverty where provision is not made for funeral costs via funeral or burial policies, either through conventional financial insurance or other community-based support mechanisms aimed at coping with funeral expenses.

Unlike with the estimates of the cost of morbidity, however, the cost of a death remains relatively high even where unemployment levels are very high and household members are primarily cared for by relatives with no direct loss of income, and when free or subsidized public health care service are utilized. This can be attributed to the fact funeral costs are very high and represent the largest share of the total cost of mortality (i.e. 74%).

Again, these estimates would be higher if one was to put an economic value on the time of household labor utilized for this purpose rather than for alternative and perhaps more productive activities and if one was to put a market price to free or subsidized health care. This burden is considerable, implying that an ever-increasing amount of resources will be shifted to alternative types of expenditure as the AIDS epidemic takes its toll in the next ten years.

B.10 FUNERAL PRACTICES

Given that funeral costs alone represent the largest part of the financial burden that HIV/AIDS place on these households, focus groups were conducted to further investigate the issue of funeral practices. According to the participants, there has been a dramatic increase in the number of funerals in Qwaqwa and Welkom.

“Yes, there is definitely a change in the number of funerals here in Qwaqwa...The rising HIV infections in the country has infected us all”

The number and frequency of funerals in Qwaqwa and Welkom has increased to such an extent that it is no longer unusual to have up to five funerals during weekdays. The situation has gone out of hand to such an extent that funerals are no longer the responsibility of the affected households only but that of the community at large.

“The frequency of funerals has created a situation where they are now the responsibility of the community...it is up to everyone to see what they contribute and the street committee have to go out and actively ask for donations...”

“We are Friends for Life [a Welkom NGO] and we are also collecting donations on behalf of affected family members. One of our members is taking out insurance policies for the terminally ill. It is like this weekend, through her help, a family was able to bury their deceased.” (Fieldworker)

When asked how families are coping with the increased funeral costs it became evident that the stress associated with financial liability is often greater than the emotional stress of loosing a family member. Poverty - made more desperate by the cost of AIDS medical treatment and loss of income because of AIDS-related illnesses - is testing the strength of family ties (Crawley, 2001). The uncertain conditions under which these people die, coupled with the withholding of death benefits (Cross, 2001) lead to feelings of anxiety. The overwhelming sentiment expressed by the participants in this study was that families are left with a huge financial burden after the burial of a family member as the deceased, in most cases, die being unemployed.

“HIV infected people are usually from poor families...at the time the sickness appears, they are even more poor. Families now had to spend [money] on doctors and others will be spending money on traditional healers. By the time the person pass away, the family will inherited a huge medical bill...that is way families are forced to approach organizations for donations support because they don't have anything to bury their deceased...” (Fieldworker)

“I still had to pay R3500...but where will I get the money from if I can't even buy my grandchildren decent food.” (Foster parent)

“I am now paying off a R3000 debt at the lawyers for the funerals of my children. I cannot cope with my pension.” (Foster parent)

The affected households' structures also change when the one who passed away was a breadwinner as it is difficult to replacing an earning adult with several dependants. It is only when the death was insured that family's risk of losing all their assets and entering in a downward spiral triggered by the added dependency burden is reduced.

B.11 HIV/AIDS AND CHILDREN

A situation is developing worldwide whereby the global AIDS epidemic is causing not only a high number of adult deaths but also creating high numbers of orphans that will increase dramatically in the next 10 years (Meier, 2003). In a report, the charity Christian Aid state that more than 12 million children in sub-Saharan Africa - equivalent to the United Kingdom's entire child population - have been orphaned by Aids (BBC News, 2001; New Internationalist, 2002). In relation to this, Landman (2002) asks: "What happens to these vast numbers of children most of whom already live in miserable poverty? An aspect often overlooked when both parents die from AIDS is the burden and suffering that caregiving places on the carers of these orphans and on the orphans themselves.

Several studies have been conducted to determine the implications of orphaned children on family members and other carers (Landman, 2002; Meier, 2003; UNICEF, 2002). It has been shown, for example, that carers make considerable personal sacrifices. Children affected by AIDS are vulnerable in almost all aspects of their lives. AIDS-affected children often have lower education enrollment rates and nutritional status compared to their peers (AIDS Weekly, 2002, New Internationalist, 2002). These children, especially girls, often miss school to look after the sick, or to grow food when their ailing parents cannot. Broken families and poverty have forced some young women and children into prostitution, which in turn spreads the disease (The Economist, 2003:43). In addition to being deprived of education, these children are more likely to be poor, to be abused and to be neglected or stigmatized (New Internationalist, 2002).

The impact of the HIV/AIDS epidemic on children was explored in this study with the aid of both the survey data as well as data gathered from focus groups with caregivers, orphaned children and other key informants. Two specific issues related to the impact of HIV/AIDS on children were explored in more detail with the aid of the survey. *Firstly*, the data was used to look at the extent to which the school enrollment of children in affected and non-affected households may differ. A distinction was made between

children aged 7-13 (primary school), aged 14-18 (secondary school) and aged 7-18 years (all children of school going aged). Although the data set also makes it possible to explore the extent to which children may be behind in terms of their schooling, i.e. not having completed a grade commensurate with their current age, this specific aspect of enrollment was not investigated. The *second* issue explored here is that of orphans. The data was used to look at the percentage of children aged fifteen years or under that have lost a mother, mother or father, or both parents, which should give an indication of the extent of the problem, not only in affected households but also in so-called non-affected households, who may provide shelter to orphaned children. In addition, the enrollment of orphans was compared across affected and non-affected households, while the characteristics of those households sheltering orphans were looked into. Before turning to the survey data, however, the focus group findings are reported to present a richer, quantitative picture of the plight of HIV/AIDS orphans.

(i) Caring for HIV/AIDS orphans

The impact of the HIV/AIDS epidemic on children was explored in this study with the aid focus groups conducted with caregivers, orphaned children and other key informants.

Becoming a carer

Caregiving has a profound influence on the individual's life in terms of effort and time. A feature of caregiving that became evident in this study is that carers acquire the position by accident, in other words no prior arrangements have been made. External factors, beyond the control of carers, bring about the situation. One of the main factors reported by the participants were the death of both parents of the orphans. Once this situation had occurred, carers are often faced with perceived obligation as guardian (Cross, 2001). In most cases, foster parents are looking after their grandchildren, and/or their brother or sister's children. The number of children ranges from 1 to 5 per foster parent. There is also one instance where the responsibility of caregiving was handed over to someone else.

“My mother was living with the child of my sister who passed away...she has asked me to look after the child as she cannot cope because of illness”

Implications of caring on foster parents

It is evident from this study that once the status of caregiving had been assumed, the tasks relating to this status not only consumed much of the carer’s time and energy but also seriously affected the carer’s financial situation. This situation was further compounded when the orphans is of school-going age. According to Cross (2001), school obligations become a major obstacle to the self-sufficiency of the carers’ households. It is also clear that the foster parents had to deal with ill-disciplined children and, at times, with some “who threaten to commit suicide” if they are constantly been told about their bad behavior.

Foster care parents are also forced to dig deep into their own pockets to feed and clothe children under their care. The high school fees (R180 per annum), especially where one parent is living with four children, is a problem for many of the participants. Again, the Child Support Grant that some receive seems to be “too little as the children have to be clothed and fed from that amount”. The overwhelming feeling was that this amount can at least “be increased to R450 per month.” As indicated earlier, the participants find it difficult to pay school fees and, although it is widely known that pupils should not be chased away from school for not being able to meet their financial obligations, this is still happening in some schools.

“One of the children that I am looking after has also been chased away from school because I could not pay the school fees”

“The one in my care have been told that if she is not paying [the school fees] she will not be allowed to write exams. I cannot afford his school fees. This affects his development but there is nothing that I can do...”

The participants indicated that they had no knowledge of situations where children have been taken out of school to look after a sick family member or to work. However, there had been many controversies surrounding school fees. It is not uncommon for parents, especially foster parents, to receive “letters from attorneys in Pretoria demanding payment. When we approached the school principal he told us that the situation is out of his hand and there is nothing that he can do”.

There were also situations where “the principal sent back one child because he was wearing takkies...the child was chased out of the examination, but there is no money to buy proper shoes. He knows for sure that both parents of the child were HIV positive and have died”.

There was one case where all the children in the household were not attending school because of the household could not afford their school fees. It is a difficult situation “because if the elder child is not attending school, how is she going to teach the younger ones. The other day when I visited her, the house was full of male visitors...in such situations all the children are bound to live a useless life. There is a need for social workers to take the lives of these children seriously”.

All the participants vehemently stated that there are a high number of grandmothers looking after their grandchildren. This places a huge responsibility on the elderly in terms of seeing that the children continue with their schooling. Taking care of grandchildren often imply that the grandparents have to carry the extra financial burden of feeding and clothing these children. It was also reported that the elderly usually become trapped in a vicious cycle of debt as a result of their responsibility.

“Grandparents are spending their money on children who are supposed to be taken care of by the Government by means of grants...it is not uncommon to find grandparents borrowing money throughout the month to survive before pension day. When they receive their money, they are already out of budget and have to

start borrowing again... Sometimes you even find people waiting at the gates for the elderly to pay them..."

"Grandparents are sometimes also forced by these children to buy clothes on credit from hawkers...The hawkers will do their business with a smile, but come next month, there's no more smiling, these people want their money..."

Echoing the above, some of the participants who are grandparents stated:

"I am leaving with 11 children who are not mine. I am not receiving anything because I never knew I could approach them.... Sometimes we sleep the whole month without food. We depend on the little that we can get from neighbours."

"I am looking after two children of my brother who passed away. They are still attending school and sometimes they do not even have proper clothes to wear...but my major problem is hunger. We had to buy the complete [school] uniform and pay school fees. Food are expensive, I cannot cope because I am not working."

"It is extremely difficult; you had to run up and down like a headless chicken looking for food...This has been the situation for years."

A serious dilemma that AIDS caregivers from NGOs face is the disclosure of their patients' statuses to the family members who have to feed and wash them. One participant – a fieldworker –reported that it is difficult to disclose the patient's status, as that will be regarded as being unethical. There is also the danger that the affected patient may take legal action against the carer. As a result, this contributes to a situation where parents who care for AIDS patients at home become infected because they do not know the status of the people they are dealing with.

“Parents...do not know the status of their children. They would clean wounds without any protective gloves...they are often told that the illness is TB. There is a real danger that the elderly would be infected in the near future...it is already a big problem”

What happens to orphans when both parents have died?

Children whose parents died of AIDS are impacted medically, socially and economically. These orphans must take greater responsibility for generating income, finding food and looking after sick family members and siblings. Most African people live in crowded houses and, as a result, it becomes difficult for carers families to add orphaned children to their households. This leads to a situation where 13 and 14-year-old siblings play parents to the younger ones (Landman, 2002).

A study on orphans in Kenya found that AIDS orphans taken in by relatives tend to be treated as second-class members of the family, discriminated against in everything from schooling to food, sometimes abused and often forced to work. While most people who answered study questionnaires said relatives should care for orphaned children, most family members caring for the AIDS orphans admitted in focus-group interviews that they preferred institutionalizing the children (Crawley, 2001).

A UNICEF study of 20 sub-Saharan African countries found that children aged 5-14 who had lost one or both parents were less likely to be in school (UNICEF, 2002). In this study it became evident that the loss of both parents poses serious problems for children. In most cases these children are forced to leave school because of lack of transport money and school fees. In extreme cases, these children depend on their neighbors for survival or else, they end up stealing. And more sadly, *“young girls of about 10 years are involved in prostitution in order to feed themselves.... most of these children are sick...they are very sick because of hunger....”*

Many orphaned teenagers become confused and has a sense of abandonment. They turn rebellious, and sometimes leave home. Depending on the relationship with the family,

children will often go and stay with them. But there also seems to be instances where children “do not want to go to the family because when they are and tell their aunt that they are hungry, they are told ‘you should not think it is your mother’s home this...we did not say your mom should go and sleep around and get the thing that is responsible for her dead. The children will then go back to their parent’s home and start making friends in the street. That is where they learn that some of their friends are going to the steppings [brothel] and that’s where they will make a living. They do not care about the ages of the girls at these brothels, even 10 year olds enters that place”.

Another problem relating to children whose parents have passed away is that they are vulnerable to abuse. In most cases the people under whose care these children are placed do not have the children’s interest at heart. It is also evident that some of these children do not attend school or those who are of school going age never attempts to go to school. As a result, it is not unusual to find young children collecting bottles to sell during school hours.

Young girls in particular seem to be the most adversely affected. Their conditions of poverty render them vulnerable and powerless to the sexual demands of older men. This appears to be one of the major contributing factors of HIV infection among young women.

“Young girls are vulnerable...at a very young age these girls become involved with older men. The man would take them out, but what is the end result of such an outing.... AIDS. The whole situation leads to abuse... the man would buy her everything but what about her childhood. These girls end up as potential psychiatric cases...” (foster parent)

“I really do not want to lie, but I am involved in relationships with older men to feed myself” (orphan)

Other difficulties encountered by orphans included the following:

- ❖ Family members who are not supportive

- ❖ Shortage of food
- ❖ Difficulty to pay school fees (no reports)
- ❖ Responsibility of looking after younger siblings
- ❖ Being victimized at school and at homes. In most instances they have to face questions like “*What has killed your parents?*”
- ❖ Lack of documentations such as birth certificates and identity books which impacts on their ability to utilize available funds
- ❖ Application for grants take too long

Another harsh reality, according to Landman (2001), is that a high number of AIDS orphans are HIV positive. The status of most of their parents was kept hidden and, therefore, the children’s status is also unknown. This study did not determine the status of the orphans who participated.

Household coping strategies and suggestions on what can make their lives easier

Many carers are thrust into their caregiving role and know little where to locate resources, and how to handle mixed feelings towards the orphans. This study also reveals that most of the carers of orphans did not know any informal support systems of child fostering and livelihood support that families can make use of. The study also draws attention to the limitations on the kinds of strategies that households providing foster care are in a position to try. The households survive from the following resources:

- Support from the family
- Donations from CBOs; street committees; and individuals
- Investments (policies)
- Informal selling
- Government grants
- Informal selling
- Food parcels from NGOs

“There is a white lady who goes around food chain stores and ask for food for affected families”

“Every Wednesday we as Hospice before 10h00 we get food parcels which we sometimes give to the elderly or affected households. We also gets a R40 000 sponsorship from Washington (USA) which we utilize to assist families”

“We as Friends for Live also provided food parcels to HIV/AIDS affected households but our operations were stopped as we were not operating from an office”

The participants expressed a strong need for information, particularly advice on how to deal with the situation facing the poor and not rely on government support. It is *“high time that people should be encouraged to plant their own food and leave the practice of building shacks whenever they find an open space”* It is also important that awareness campaigns be launched to inform people about the guidelines that exist on how to make applications for government grants. The following suggestions were further made regarding things that would most benefit affected households:

- Provision of food and clothing
- Support regarding payment of school fees
- Government must provide financial support to NGOs that provide services to affected households (but there is there is a need to coordinate the activities of NGOs since they are ‘mushrooming’ all over the area)
- Support households to obtain birth certificates and Identity documents for orphans
- Make the application process for grants easier and speed up the process
- Social workers should be more supportive
- Creation of a bursary fund for orphans
- Sustainable development projects
- Child foster care grants of at least R620 per month

(ii) School enrollment

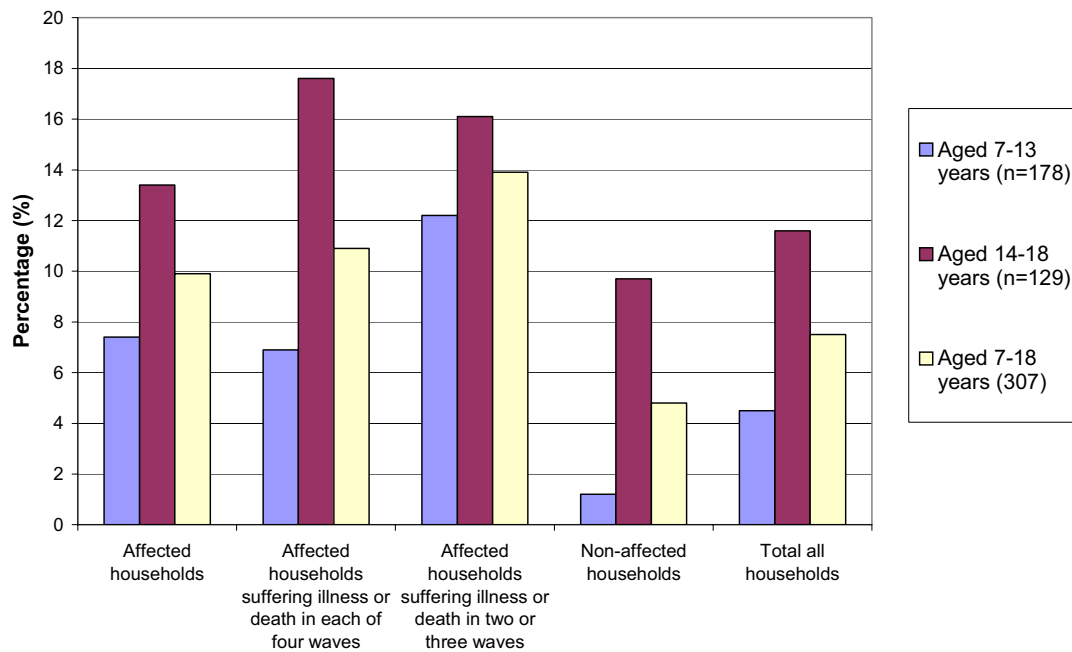
Table 67 reports on the percentage of those children recorded on the household roster in each of the four waves of the survey that were enrolled in school at the time. A relatively small percentage of children aged 7-13 did not attend school (4.5%) in at least wave, compared to 11.6% of children aged 14-18 years. On aggregate, 7.5% of children of school-going age did not attend school in at least one wave. Relative few children aged 7-13 years did not attend school in more than one period (0.6%), whereas 7.8% of children aged 14-18 did not attend school in more than one period. In total, 3.5% of children did not attend school in two or more periods.

Table 67: School attendance amongst children aged 7-18 years (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
A. Children aged 7-13 years not attending school							
In one wave only	6.3	6.9	9.8	-	-	1.2	3.9
In two waves	1.1	-	2.4	-	-	-	0.6
In three waves	-	-	-	-	-	-	-
Total	7.4	6.9	12.2	-	-	1.2	4.5
<i>Sample (n)</i>	95	29	41	15	10	83	178
B. Children aged 14-18 years not attending school							
In one wave only	3.0	5.9	3.2	-	-	4.8	3.9
In two waves	4.5	11.8	3.2	-	-	1.6	3.1
In three waves	4.5	-	6.5	9.1	-	3.2	3.9
In all four waves	1.5	-	3.2	-	-	-	0.8
Total	13.4	17.6	16.1	9.1	-	9.7	11.6
<i>Sample (n)</i>	67	17	31	11	8	62	129
C. Children aged 7-18 years not attending school							
In one wave only	4.9	6.5	6.9	-	-	2.8	3.9
In two waves	2.5	4.3	2.8	-	-	0.7	1.6
In three waves	1.9	-	2.8	3.8	-	1.4	1.6
In all four waves	0.6	-	1.4	-	-	-	0.3
Total	9.9	10.9	13.9	3.8	-	4.8	7.5
<i>Sample (n)</i>	162	46	72	26	18	145	307

The evidence therefore suggests that younger children may be taken from school for relative short periods rather than not attending school for a longer period of time, whereas older children may be taken from school for longer periods. The relatively higher non-attendance amongst older children makes sense insofar as these children are more suitable to be employed to do household chores, work or to care for the ill than are younger children.

Figure 13: Non-attendance at school amongst children aged 7-18 years (%)



The data show that children from affected households were relatively more likely to not be attending school compared to children from non-affected households (Table 67 and Figure 13). In the age group 7-13 years, 7.4% and 1.2% of children from affected and non-affected households did not attend school respectively. The estimates for the age group 14-18 years were 13.4% and 9.7% respectively, bringing the non-attendance amongst all children to 9.9% and 4.8% for children from affected and non-affected households respectively. These differences, more importantly, are greatest with respect to affected households that have experienced morbidity or mortality in two or more periods.

These results supports the argument that HIV/AIDS in particular may cause children to be taken from school so as to help the household cope with the burden of illness and/or death and the related pressures or, as argued in the discussion of the results from the focus groups, due to the inability of the household to afford to pay school fees.

Table 68: Gender of children aged 7-18 years not attending school (%)

	Affected households		Non-affected households		Total all households	
	Male	Female	Male	Female	Male	Female
In one wave only	67	33	-	100	50	50
In two waves	33	67	100	-	50	50
In three or more waves	33	67	84	17	39	61
<i>Average</i>	56	44	43	57	52	48
<i>Sample (n)</i>	9	7	3	4	12	11

A relatively larger proportion of children in affected households that were not enrolled in school in one period only were male (67%)(Table 68). In non-affected households in turn all those children that did not attend school in one period only were female. The results also suggest that female children from affected households (66.7%) were relatively more likely to not have attended school in two or more periods. Male children from non-affected households (83.5%) were in turn relatively more likely to not have attended school in two or more periods. The fact that it is primarily female children in affected households that are not attending school for relatively longer periods supports the argument that female children in particular are often employed in caring for ill persons and/or for doing household chores that other household members cannot perform because they themselves are either ill or have to care for the ill.

(iii) Orphans

The fact that the percentage of households that have sheltered an orphaned child has steadily increased over time presents stark evidence of the mounting orphan crisis in these two communities (Table 69). As expected, a relatively larger proportion of affected households (in most cases more than 40% of households) sheltered an orphaned child compared to non-affected households. Worrying, moreover, is that affected households

that to date had experienced morbidity or mortality were most likely to have sheltered an orphaned child.

Table 69: Households sheltering orphans per wave (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Wave I	33.5	34.0	36.7	31.0	20.0	22.7	27.9
Wave II	40.0	36.2	43.0	41.4	33.3	24.9	32.2
Wave III	40.0	38.3	41.8	44.8	26.7	26.0	32.8
Wave IV	43.5	42.6	46.8	37.9	40.0	27.6	35.3
<i>Sample (n)</i>	<i>170</i>	<i>47</i>	<i>79</i>	<i>29</i>	<i>15</i>	<i>181</i>	<i>351</i>

A comparison of the percentage of households that sheltered an orphaned child across the four waves of the study puts this finding into even better perspective (Table 70). Respectively 22.4% and 12.7% of affected and non-affected households sheltered an orphaned child in all four periods. Furthermore, 40% or more of affected households had sheltered an orphaned child in two or more periods. This implies that some households apart from having to care for older infected members also may have to take responsibility for caring for children displaced by the HIV/AIDS epidemic, thus increasing the pressures on families. The findings from the focus groups conducted as part of this study echoed these same concerns and perhaps highlight in even starker details the plight of orphaned children in the HIV/AIDS era. However, a relatively large number of non-affected households also sheltered orphans in at least one wave (39.8%), which is understandable insofar as the HIV/AIDS epidemic affects communities in general rather than households affected by morbidity or mortality per se.

Table 70: Households sheltering orphans across waves (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Not in any wave	41.2	46.8	35.4	41.4	53.3	60.2	51.0
In one wave only	16.5	12.8	19.0	17.2	13.3	11.0	13.7
In two waves	9.4	6.4	11.4	10.3	6.7	8.8	9.1
In three waves	10.6	10.6	11.4	6.9	13.3	7.2	8.8
In all four waves	22.4	23.4	22.8	24.1	13.3	12.7	17.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	170	47	79	29	15	181	351

An even starker reminder of the magnitude of the orphan crisis is the rate of orphanhood amongst those children aged fifteen years and under that were part of the sample population throughout they study (n=485)(Table 71). Of these children 10.5%, 27% and 5.8% reportedly had lost their mother, mother or father, and both mother and father respectively by the time of the fourth round of interviews.

The extent of orphan hood is substantially higher amongst children from affected households (Table 71). For example, 13% compared to 7.6% of children from affected and non-affected households had lost their mother by the time of the fourth round of interviews, while 22.9% and 9.2% of children from affected and non-affected households had reportedly lost both their mother or father respectively. There was no significant difference between the proportion of children from affected and non-affected households that had lost both their parents by the fourth round of interviews. These results suggest a relatively high and increasing incidence of orphanhood amongst these children, not only in affected households but also in non-affected households, again illustrating the fact that communities in general rather than affected households alone have to cope with the orphan crisis.

Table 71: Cumulative rates of orphan hood (%)

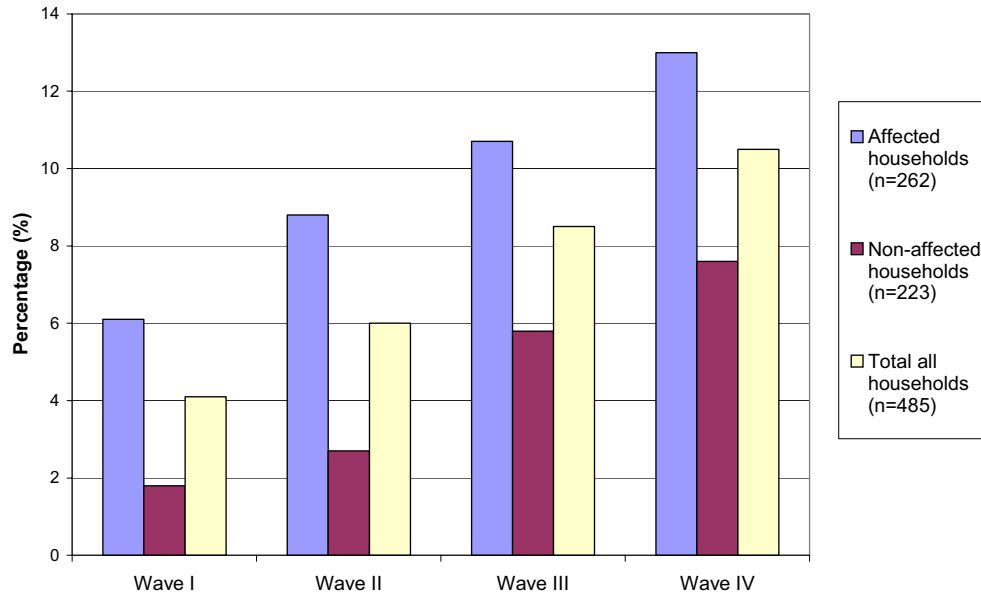
	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Maternal orphans:							
Wave I	6.1	10.0	2.3	9.1	10.0	1.8	4.1
Wave II	8.8	10.0	6.3	11.4	15.0	2.7	6.0
Wave III	10.7	11.4	8.6	13.6	15.0	5.8	8.5
Wave IV	13.0	14.3	11.7	13.6	15.0	7.6	10.5
<i>Sample (n)</i>	262	70	128	44	20	223	485
Maternal or paternal orphans:							
Wave I	18.7	17.1	18.0	27.3	10.0	14.3	16.7
Wave II	23.3	17.1	25.8	29.5	15.0	17.9	20.8
Wave III	27.5	20.0	31.3	34.1	15.0	20.6	24.3
Wave IV	30.5	22.9	35.9	34.1	15.0	22.9	27.0
<i>Sample (n)</i>	262	70	128	44	20	223	485
Double orphans:							
Wave I	1.1	2.9	-	2.3	-	0.9	1.0
Wave II	3.8	2.9	3.9	4.5	5.0	0.9	2.5
Wave III	4.2	2.9	4.7	4.5	5.0	3.1	3.7
Wave IV	5.7	2.9	7.8	4.5	5.0	5.8	5.8
<i>Sample (n)</i>	262	70	128	44	20	223	485

Also evident is the steady increase in these rates of orphanhood over time (Figure 14). The rate of maternal orphanhood more than doubled over the period, whilst the rate of double orphanhood increased five fold. Maternal or paternal orphanhood increased by just more than 60% over this two-year period.²

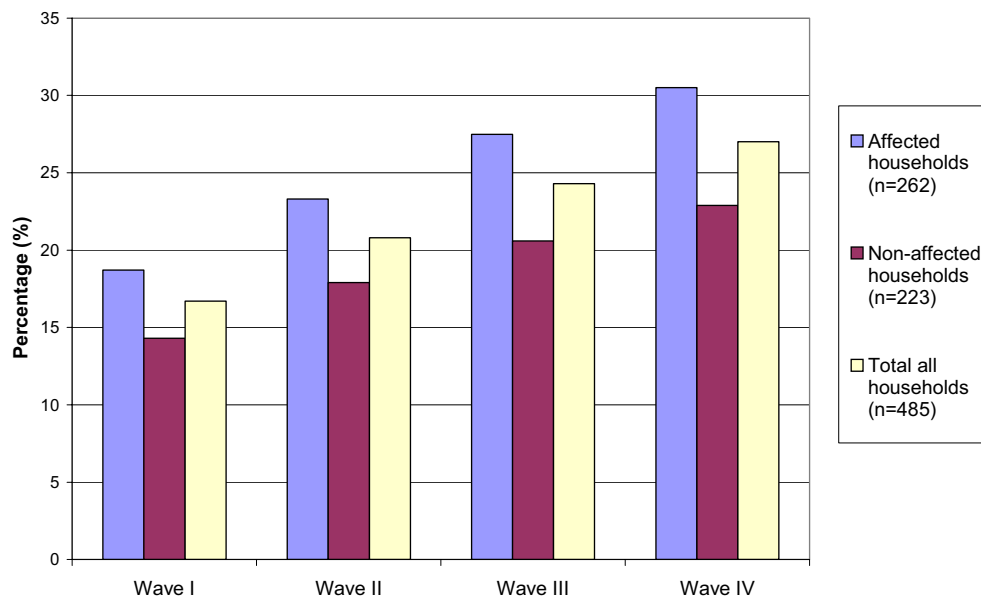
² Caution is required insofar as these findings are based on self-reported orphan status (based on whether the child's father and mother was alive at the time). This could result in the over-reporting of paternal orphanhood in particular insofar as the father may be reported as deceased where the mother does not know the father of her child and/or the father is estranged from the child's mother or family.

Figure 14: Cumulative rate of orphanhood amongst children aged 15 or under

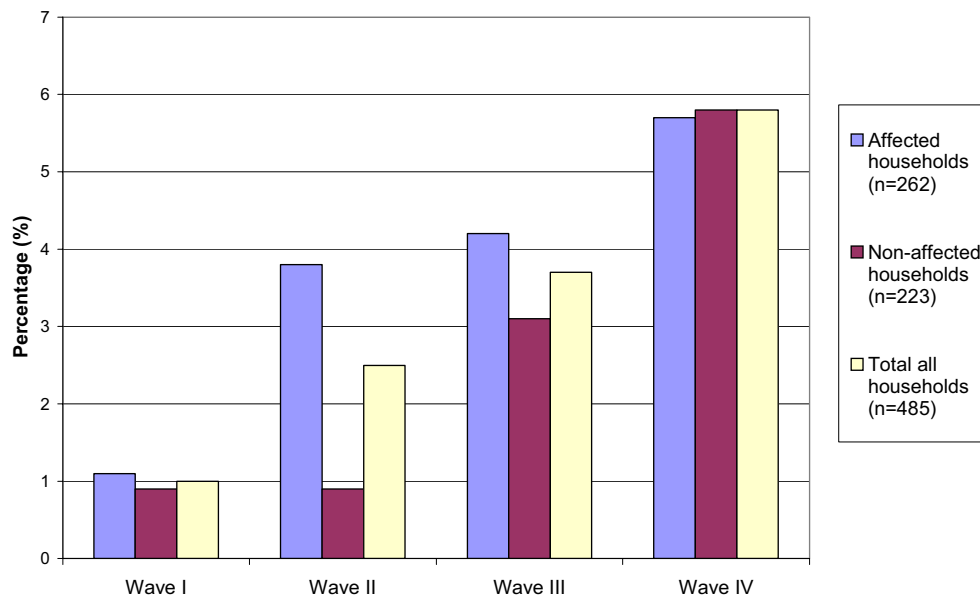
(a) Maternal orphans (%)



(b) Maternal or paternal orphans (%)



(c) Double orphans (%)



In general, the evidence in Table 72 shows that the impact on households of the orphan crisis may be particularly severe, given that a relatively large proportion of households (i.e. between 40 and 60%) sheltered more than one orphaned child. Table 72 also suggests that the number of orphans per household has increased over time. At baseline (wave I), households sheltered between one and three orphaned children. This by wave IV had increased to one to six orphaned children. Furthermore, the data suggest that non-affected households generally faced a slightly larger concentration of orphans than did affected households, with almost half of non-affected households having sheltered two or more orphans. This presents a potent reminder of the fact that the HIV/AIDS epidemic affects households and communities in a variety of ways. As such, the affected/non-affected classification of households based largely on the presence at baseline of morbidity or mortality that is employed in this report represents only one of many possible ways of differentiating between affected and non-affected households.

Table 72: Distribution of orphans per household in waves I and IV (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Wave I							
1 Orphan	55.4	56.3	57.1	44.4	66.7	51.2	53.6
2 Orphans	30.4	37.5	25.0	33.3	33.3	19.5	25.8
3 Orphans	14.3	6.3	17.9	22.2	-	29.3	20.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Wave IV							
1 Orphan	56.9	80.0	37.8	45.5	100.0	52.0	54.9
2 Orphans	31.9	20.0	37.8	45.5	-	28.0	30.3
3 Orphans	11.1	-	18.9	9.1	-	14.0	12.3
4 Orphans	-	-	-	-	-	4.0	1.6
5 Orphans	-	-	-	-	-	2.0	0.8
6 Orphans	-	-	5.4	-	-	-	-
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	170	47	79	29	15	181	351

Although Table 71 distinguishes between the various types of orphans defined in the literature, the subsequent analysis of the characteristics of those households that had sheltered orphans by wave IV focuses only on maternal orphans. This represents the most commonly used definition of orphanhood employed in the HIV/AIDS literature. Females were slightly more likely than males to head those households that sheltered orphans, particularly in the case of affected households (Table 73). The majority of persons that headed affected households that sheltered orphans were widowed (64.7%), followed by persons that were married (29.4%), albeit in a civil or traditional manner. The other persons that headed affected households sheltering orphans were either divorced/separated or have never been married. In the case of non-affected households that had sheltered orphans, the majority of household heads was married or widowed (41.2% each), followed by persons who were never married (11.8%) or who were cohabiting with their spouse (5.9%). Furthermore, households that sheltered orphans on average were somewhat larger than the average household, whilst the person heading the household on average was relatively old, i.e. close to 60 years or older.

Table 73: Characteristics of the households and head of household sheltering a maternal orphan by wave IV (%)

	Affected households	Non-affected households	Total all households
Gender of head of household:			
Male	41.2	47.1	56.9
Female	58.8	52.9	43.1
Total	100.0	100.0	100.0
Average age of household head	60.4	61.1	60.7
Average household size	7.3	6.8	7.1
Marital status of head of household:			
Married	29.4	41.2	33.3
Living together	0.0	5.9	2.0
Widowed	64.7	41.2	56.9
Divorced/separated	2.9	0.0	2.0
Never Married	2.9	11.8	5.9
Total	100.0	100.0	100.0
<i>Sample (n)</i>	34	17	51

B.12 ACCESS TO SOCIAL GRANTS

South Africa has a well-developed system of social security compared to most other developing countries and on par with systems in many developed countries (Guthrie, 2002; Seekings, 2002). This system includes a non-contributory pension system, as well as a number of social grants aimed at assisting household in caring for children and for the disabled. This discussion here of access to social grants distinguishes between five specific social grants (i.e. old age pensions [R700], the child support grant [R160], disability grant [R700], care dependency grant [R700], and foster care grant [R500]), as well as access to grants in general (defined as access to any one of these five grants). The current monthly Rand value of each of these grants (as reported by the National Treasury, 2003) is noted here in parentheses and emphasize the likely importance of old age pensions and the disability, care dependency and foster care grants in supporting poor households, given the relative size of these grants. Apart from an interest in the role of social grants in general in alleviating poverty, the old age pension, child support, disability, care dependency, and foster care grants are also likely to play an important part in mitigating the socio-economic impact of the HIV/AIDS epidemic, given the associated

increase in morbidity and mortality and the resulting impacts on household composition and formation (Guthrie, 2002; Seekings, 2002; Van der Berg and Bredenkamp, 2002). Shepherd *et al.* (2003), for example, based on qualitative interviews conducted between 1993 and 2000 with a small sample of HIV/AIDS-affected households in Uganda highlights this role of changes in household structure in explaining changes in the fortunes of HIV/AIDS-affected households over this period.

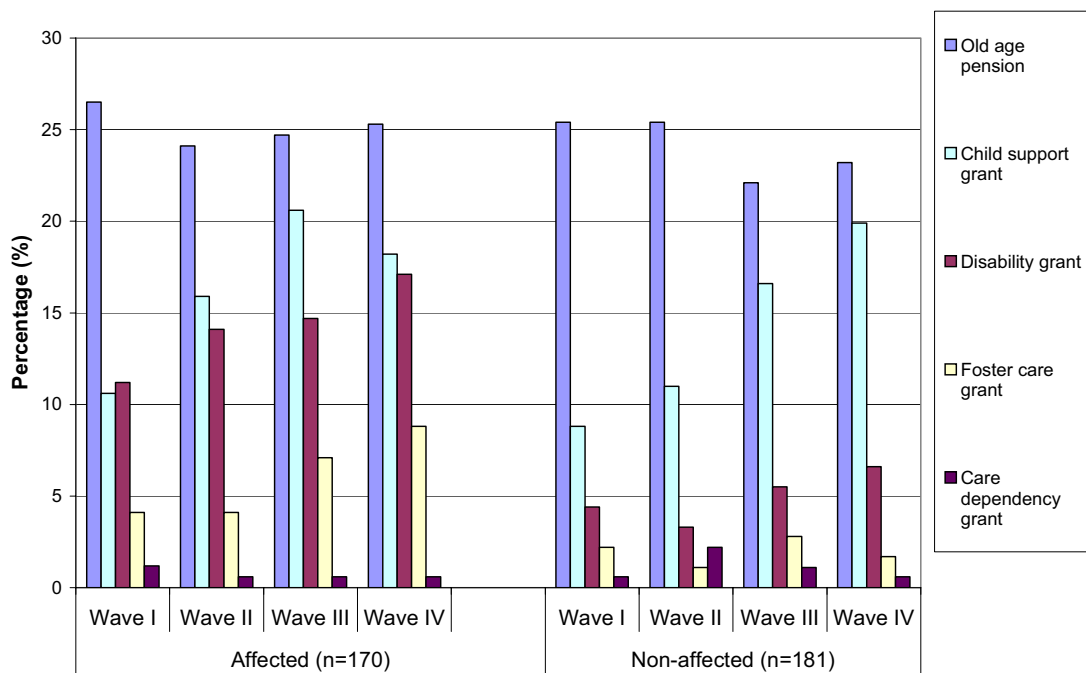
Table 74: Trends in access to social grants (%)

Variable	Affected households	Non-Affected Households
Received any social grant:		
Wave I	44.7	37.0
Wave II	46.5	36.5
Wave III	50.6	39.8
Wave IV	51.8	43.6
<i>Sample (n)</i>	<i>170</i>	<i>181</i>

Note: Access is defined in terms of the household reported to having received an income from this specific source.

Given the pro-poor bias in the sampling design, relatively large proportions of households had access social grants, i.e. 40% or more of households had received an income from any one or more of the five types of social grants (Table 74). The proportion of households with access to any social grant was slightly higher in the case of affected households (ranging respectively from 45 to 52% for affected households to 37 to 43% for non-affected households). This most likely is due to reported lower levels of income in affected households (as discussed elsewhere), which means that affected households were relatively more likely than non-affected households to have passed the means tests set for these social grants. In addition, considerably higher proportions of affected households had access to disability and to foster care grants compared to non-affected households (Figure 15).

Figure 15: Percentage of households with access to specific social grants by wave



In terms of the general trends in access to social grants over the four waves, the evidence suggests that access to social grants in general have increased, both for affected and for non-affected households (Table 74). Table 75 and Figure 15, furthermore, shows that access to the child support grant increased in non-affected households (for affected households, access to child support grants also increased markedly through waves I to III but declined slightly by wave IV). Figures on national trends in the uptake of child support grants mirror this trend, showing that uptake had increased by 40% between December 2001 and October 2002 alone (Guthrie, 2002). Between 1999 and 2003, the increase in coverage amounted to a staggering 192%, with the grant covering 2.5 million children by March 2003 (National Treasury, 2003). In the case of affected households, access to disability grants and to foster care grants had also increased markedly. Access to old age pensions remained relatively stable over the period and was only slightly higher for affected households, highlighting the high take-up rate of this grant (Table 75 and Figure 15)(Case and Deaton, 1998; Samson *et al.*, 2002).

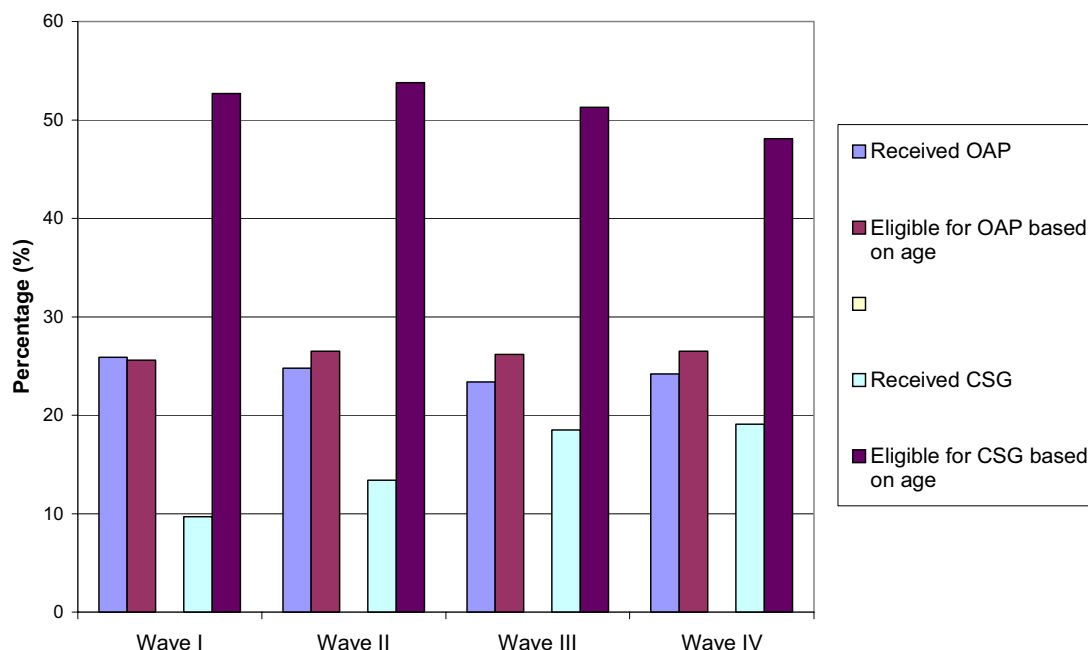
Table 75: Access to social grants by wave (%)

	Old age pension	Child support grant	Disability grant	Foster care grant	Care dependency grant	Any government grant
A. Affected households (n=170)						
Wave I	26.5	10.6	11.2	4.1	1.2	44.7
Wave II	24.1	15.9	14.1	4.1	0.6	46.5
Wave III	24.7	20.6	14.7	7.1	0.6	50.6
Wave IV	25.3	18.2	17.1	8.8	0.6	51.8
B. Non-affected households (n=181)						
Wave I	25.4	8.8	4.4	2.2	0.6	37.0
Wave II	25.4	11.0	3.3	1.1	2.2	36.5
Wave III	22.1	16.6	5.5	2.8	1.1	39.8
Wave IV	23.2	19.9	6.6	1.7	0.6	43.6

Marked increases in access to social grants, such as reported in the case of access to child support, disability and foster care grants, are only possible where initial uptake is low and/or where increasing numbers of households meet the eligibility criteria over time (e.g. a household member reaching retirement age and/or an HIV-infected persons falling ill). Thus, the evidence on access to social grants presented here emphasises the likely importance of the child support, disability and foster care grants in mitigating the impact of HIV/AIDS, given that increased eligibility for these grants (in addition to the required means tests) are driven largely by the increasing burden of chronic illness, the mounting orphan crisis and the impoverishment of households associated with the epidemic. However, continued efforts by the Department of Social Development to roll out grants to eligible households also probably explain part of these increases in uptake rates.

Yet, take-up rates for child support, disability and foster care grants are relatively low, given the relatively high burden of illness and orphanhood in the sample population. There, for example, continues to exist wide disparities between access to the child support grant and the proportions of households that included children eligible for coverage, unlike with the old age pension where uptake is close to 100% (Figure 16). Samson (2002), Samson *et al.* (2002), and Guthrie (2002) emphasise the role of problems with targeting and administration in explaining the low take-up rates for grants such as the child support, foster care and disability grants. Hence, much scope remains to improve take-up rates for these two social grants.

Figure 16: Take-up and eligibility of old age pensions and child support grants (%)



Riphahn (2001), moreover, presents an overview of the international literature on the economic modelling of take-up rates and show how predicted up-take rates increase as the value of the transfer rises, but also note that up-take falls as the application cost and stigma attached to beneficiary status increases. This raises the possibility that up-take rates of disability grants may remain low due to the associated stigma and high cost of administration of this grant (others however have argued that access to the disability grant presents a preserve incentive for opting to forego medical treatment where access to the grant in fact means that the persons will be in a better situation than without the grant, but receiving treatment), as may the take-up of child support grants due to their relatively small value compared to other social grants, as highlighted in the relatively low although increasing uptake of these grants in this sample of households as well as in South Africa as a whole (Samson *et al.*, 2002).

Table 76: Transitions in access to social grants (%)

Variable	Affected households	Non-Affected Households
GAINED access to any social grant	14.4	10.3
LOST access to any social grant	11.1	11.3
GAINED access to old age pension	3.1	2.9
LOST access to old age pension	10.7	12.3
GAINED access to child support grant	6.9	6.9
LOST access to child support grant	21.2	19.7
GAINED access to disability grant	6.9	1.5
LOST access to disability grant	30.8	16.6
GAINED access to care dependency grant	0.6	0.9
LOST access to care dependency grant	100.0	71.4
GAINED access to foster care grant	2.0	1.3
LOST access to foster care grant	7.6	72.6
<i>Sample (n)</i>	<i>170</i>	<i>181</i>

Note: Access is defined in terms of the household reported to having received an income from this specific source.

The general trends in access to grants reported in Tables 74 and 75 and in Figure 15 hide the considerable flux in access to social grants. Transitions in access to social grants are driven by changes in household composition resulting from a combination of migration and mortality, as well as by changes in the socio-economic circumstances of households. Table 76 reports for each grant and for social grants in general the respective proportions of affected and non-affected households that either gained access to a grant during a subsequent period or that did not benefit from a particular grant despite having received an income from this source in the previous period. In terms of access to social grants in general, 14.4 and 10.3% respectively of affected and non-affected households gained access to grants, whereas 11% of households did not benefit from a grant in a subsequent period, although having benefited in the previous period.

These figures hide substantial differences in the transition probabilities for different types of grants. In the case of the child support grant, 7% of affected and non-affected

households gained access to the child support grant subsequent to baseline. Yet, some 20% of affected and non-affected households reportedly did not benefit from this grant despite having received such grant at an earlier stage. This finding reflects the relatively high mobility of young children in the sample, as suggested by the findings on migration presented elsewhere in these pages, as well as by evidence from Southern African countries in general on the migration of children affected by HIV/AIDS (Young and Ansell, 2003).

Transitions in access to old age pensions were the least pronounced. Some 3% of affected and non-affected households gained access to the old age pension during a subsequent period, whereas 10.7 and 12.3% respectively of affected and non-affected households that received an old age pension in an earlier period did not receive the grant in the subsequent period. This most likely is indicative of the high take-up rate of this grant on the one hand and the relatively low mobility of the elderly on the other hand. Again, evidence on the difference between actual up-take rates and eligibility (Figure 16), as well as on the characteristics of migrating household members reported elsewhere in these pages, substantiate these finding.³

Gains in access to disability grants were much more pronounced in affected households, with 7% of households gaining access to disability grants over the period, compared to 1.5% of non-affected households. However, twice as many affected (30.8%) as opposed to non-affected households (16.6%) did not benefit from a disability grant despite having received such grant in a previous period. (These transitions most likely are the result of the death or migration of the beneficiary, although such claims cannot be substantiated with the aid of this data, because the source of grant income is only recorded at the household and not at the individual level, a problem as Keller (2002) notes that is also common to other household surveys employed by researchers in analysing the relationship between changes in household composition and access to social grants.)

³ Family history studies in general assume the elderly to be immobile, despite little empirical, historical work having specifically investigated the phenomenon of migration of the elderly (Neven, 2003), a gap that can be filled by migration histories.

Gains in access to foster care grants were small (i.e. 2% or less), thus supporting the evidence of bureaucratic and legal processes constraining expansions in the uptake of foster care grants (Guthrie, 2002, Samson *et al.*, 2002). Yet, most affected households that gained access to this grant (92%) also received the grant in subsequent waves, suggesting that it can play an important role as longer term support to HIV/AIDS-affected households, unlike in the case of non-affected households, where approximately a quarter (27.3%) only of households maintained access to the foster care grant. (As emphasised elsewhere, the reasons for these changes cannot be established directly since grant income was only recorded at the household level, although it would be possible to indirectly explore the extent to which mortality and migration at the household level are associated with changes in access to social grants.)

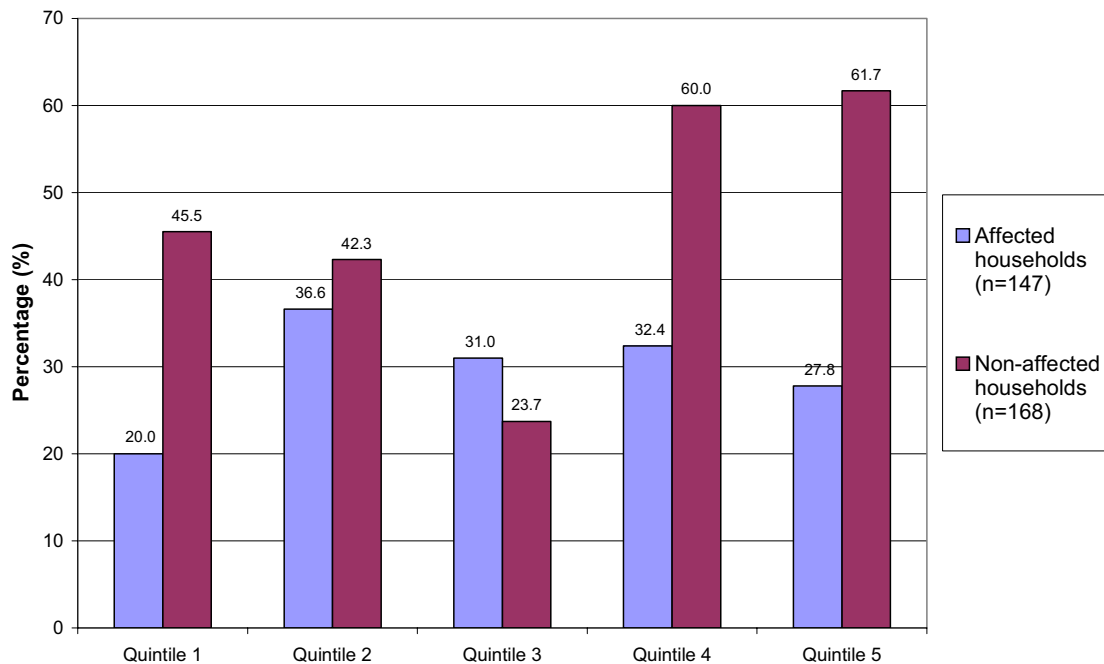
Gains in access to social grants were smallest in the case of the care dependency grant (arguably, fewer households actually qualify for this grant, as is evident from the relatively small number of national beneficiaries for this grant compared to other grants), with less than 1% of households gaining access to this grant over this 2-year period. Furthermore, few households that did gain access to this grant also received it in subsequent periods. Respectively 100 and 71% of households that received a care dependency grant in a previous period did not receive the grant by the subsequent period.

In summary, therefore, the relatively high transition probabilities in access to child support, disability and care dependency grants suggest that these grants are unlikely to provide a long-term solution to poverty in affected households, thus emphasising the importance of sustainable development in the form of job creation in addressing the socio-economic impact of the HIV/AIDS epidemic. The small value of the child support grant moreover suggests that it may help in addressing the depth and severity of poverty, but is unlikely to significantly affect the incidence of poverty, a point that will be explored further through further analysis of this dataset. The relatively low transition probabilities in turn in access to the old age pension and foster care grant highlight the likely important role of these grants in providing a longer-term social safety net to

affected households, especially given the relatively large monetary value of these two grants (R700 and R500 per month respectively).

There is a body of evidence that has highlighted the role of social assistance in reducing the incidence and depth of poverty in South Africa (Lund, 1999; Samson, 2002; Samson *et al.*, 2002; Seekings, 2002; Woolard, 2003). Ravallion (2003), moreover, emphasizes the important role of targeted transfers in alleviating poverty, based on growing evidence of some success stories that contradict the often held belief that the benefits of targeted transfers are captured by others or that coverage of such transfers are too low to make any real difference. Devereux (2002: 657) in turn argues that social safety nets can help mitigate chronic poverty insofar as part of welfare transfers is invested in ‘income-generating activities, education, social network, and the acquisition of productive assets’.

Figure 17: Percentage of households that have never received a social grant



However, research on social grants also shows that a large proportion of the South African population (as much as half of the population according to one report) would remain in poverty even if take-up rates of current grants were 100% and that not all poor

households actually benefit from social grants (Samson, 2002; Samson *et al.*, 2002; Seekings, 2002; Woolard, 2003). The same applies to this study. Although a relatively high proportion of households benefited from one or other social grant, a relatively large proportion of poor households had never benefited from social grants. In the case of affected households, 20 and 36.6% of households in the first and second income quintile respectively had not received any social grant in any period, compared to 45.5 and 42.3% of non-affected households respectively (Figure 17). Hence, although the social welfare system in some sense is often seen as the panacea to various socio-economic impacts of the HIV/AIDS epidemic, many poor households remain beyond the grasp of the social safety net, thus emphasising the importance of sustainable development in the form of job creation in alleviating poverty in the longer term, but also the need to address constraints to the take-up of social grants by those that do qualify to receive such support.

B.13 POVERTY AND HIV/AIDS

The socio-economic impact of HIV/AIDS combines to create a vicious cycle of poverty and disease. On the one hand, poverty enhances the vulnerability of people to HIV infection. Poverty, apart from being associated with poor nutrition and a breakdown of immune systems, also translates into unsafe sexual practices as a result of lack of knowledge and lack of access to means of protection, due to women's inability to negotiate about condom use with sexual partners as a result of entrenched gender roles and power relations, or in other words the entrenched cultural beliefs and socio-cultural as well as economic constraints to condom use (Whiteside, 2001/02). Desmond (2001) and Whiteside (2002) also emphasize how labor migration induced by rural poverty can contribute to the spread of the disease and how poor, single mothers may be forced to become occasional sex workers in order to survive (Desmond, 2001; Poku, 2001). Gillies *et al.* (1996) and Nyamathi *et al.* (1996) highlight the importance of homelessness, urban/rural migration patterns, migrant labor practices and the breakdown of social support networks in communities with limited access to social services in increasing the vulnerability of poor people to HIV/AIDS.

In turn, HIV/AIDS can also households or individuals to move into or deeper into poverty. As adult members of the household become ill and are forced to give up their jobs, household income will fall. To cope with the change in income and the need to spend more on health care, children are often taken from school to assist in caring for the sick or to work so as to contribute to household income. Because expenditure on food comes under pressures, malnutrition often results, while access to other basic needs such as health care, housing and sanitation may also come under threat. This acts to further reduce the resistance of infected adults and children to opportunistic infections, given lower levels of immunity and knowledge, which in turn leads to increased mortality (World Bank, 1998; Bonnel, 2000; Wekesa, 2000; Gaffeo, 2003). Therefore, HIV/AIDS and the associated burden of morbidity and mortality expose already vulnerable households to further shocks (Desmond, 2001; Poku, 2001; Whiteside, 2002), hence locking those poor households already infected and affected by the epidemic in a vicious cycle of underdevelopment. This section of the report investigates this complex link between HIV/AIDS and poverty with the aid of data from this household panel designed for the purpose of investigating the socio-economic impact of HIV/AIDS.

Levels of household welfare change over time as members of households move into and out of employment and as household composition changes. Shepherd *et al.* (2003) for example report that the failure of households to invest in the secondary education of children explained why some HIV/AIDS-affected households remained in chronic poverty. In addition, households will also experience changes in income received from remittances, social grants and other sources of non-employment income, due largely to changes in household composition driven by migration and mortality. Access to social grants, moreover, stand to influence a number of other individual decisions by those household members that are likely to benefit directly or indirectly from such grant, including decisions about saving, labor market participation, retirement, education, migration and fertility (Marchand and Pestieau, 1991). Furthermore, members of households affected by HIV/AIDS will fall ill or die as the epidemic progresses, resulting in inter-temporal changes in the burden of morbidity and mortality on households, which

in turn translates into income volatility, depending on the prior employment status of these persons and whether they were recipients of social grants prior to their death.

The loss of labour supply resulting from HIV/AIDS-related morbidity and mortality is likely to cause household income to decline (Topouzis, 2000). Consequently, affected households (and in particular ones affected by morbidity or mortality) are likely to be poorer than non-affected households. Table 81 reports real average adult equivalent per capita income by affected status and by incidence of morbidity and/or mortality for affected households. These averages were calculated across the four waves of the study.

Table 77: Average real adult equivalent per capita income (2000=100)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean	437	369	364	528	850	682	564
Median	290	290	289	440	420	399	357
Sample (n)	<i>147</i>	<i>43</i>	<i>66</i>	<i>25</i>	<i>13</i>	<i>168</i>	<i>315</i>

Note: Estimates of household income were here adjusted for differences in household size by dividing total monthly income by n^α , where n represents the number of household members and α an adjustment for household economies of scale (Filmer and Pritchett, 1998: 13). These figures were calculated for the 315 households for which income estimates were available for each period.

The results show that affected households on average are poorer than non-affected households, with real adult equivalent per capita income amounting to R437 (median=R290) and R682 (median=R399) respectively (Table 77). The comparison across the four clusters of affected households presents even clearer evidence of the likely impact of HIV/AIDS on household welfare. The real average adult equivalent income of affected households that had experienced illness or death in two or more periods was substantially lower than was the case in affected households that had experienced illness or death less frequently or not at all. In fact, the median income of the latter households exceeded that of non-affected households and was on par with the median income of non-affected households.

Evidence from other household impact studies supports the above findings, i.e. that households affected by HIV/AIDS generally are poorer than non-affected households. Households in rural Chanyanya in the Kafue district in Zambia that were affected by chronic illness for example had an annual income 46% lower than households in the same area that were not affected by chronic illness (Mutangadura and Webb, 1999, as quoted in Topouzis, 2000: 18). Zambian households in turn that have suffered a paternal death experienced a drop in monthly disposable income in excess of 80% (Nampanya-Serpell, 2000), whereas households in rural Thailand affected by an adult death saw total household income and per capital income respectively drop by 70.7 and 68.4% (Kongsin *et al.*, 2000, as quoted in Parker *et al.*, 2000: 44). A study in the Ivory Coast, which fails to indicate whether the focus is on AIDS morbidity or mortality, reported the income of affected households to be half of the population average (Bechu, 1998, as quoted in Desmond *et al.*, 2000: 5). The above studies, however, are all based on cross-sectional data, which as explained elsewhere cannot necessarily elucidate the complex links between HIV/AIDS and poverty, as an issue we return to later in these pages.

(i) Morbidity, mortality and standard of living

This section focuses on relationships between morbidity and mortality and standard of living. Table 78 shows that morbidity and mortality did not independently predict differences in real household income. Income was lower at waves 2 and 3 than at baseline, was higher if more household members were employed but did not differ between affected and unaffected households.

Table 78: Predictors of real household income: linear regression model

Explanatory variable	Relative income	(95% CI)	P
Affected vs unaffected	0.87	(0.74 - 1.04)	0.13
Wave 2 vs wave 1	0.91	(0.82 - 1.01)	0.068
Wave 3 vs wave 1	0.83	(0.75 - 0.93)	0.001
Wave 4 vs wave 1	0.93	(0.83 - 1.03)	0.14
Rural vs. urban	0.77	(0.66 - 0.91)	0.002
Anyone ill	0.94	(0.79 - 1.10)	0.43
Anyone died	0.85	(0.69 - 1.06)	0.15
No. employed	1.79	(1.56 - 2.05)	<0.001
Mean age	1.00	(1.00 - 1.01)	0.33
Proportion male	1.23	(0.89 - 1.69)	0.21

The trends in real income did however differ between affected and unaffected households (Table 79 and Figure 18). Real income decreased more in unaffected than in affected households. Adjustment for the variables listed in Table 78 (including morbidity and mortality) reduced the difference in trends between affected and unaffected households, mainly by reducing the relative decline in unaffected households.

Table 79: Time trends for real income – affected and unaffected households

Wave	Affected Relative income unadjusted	Unaffected Relative income unadjusted	Affected Relative income adjusted*	Unaffected Relative income adjusted*
2 vs. 1	0.93	0.90	0.90	0.94
3 vs. 1	0.90	0.74	0.90	0.80
4 vs. 1	1.03	0.80	1.05	0.85

* Adjusted for variables in Table 78; P value for time*affected status interaction term=0.055.

Figure 18: Trends in real income (from Table 79)

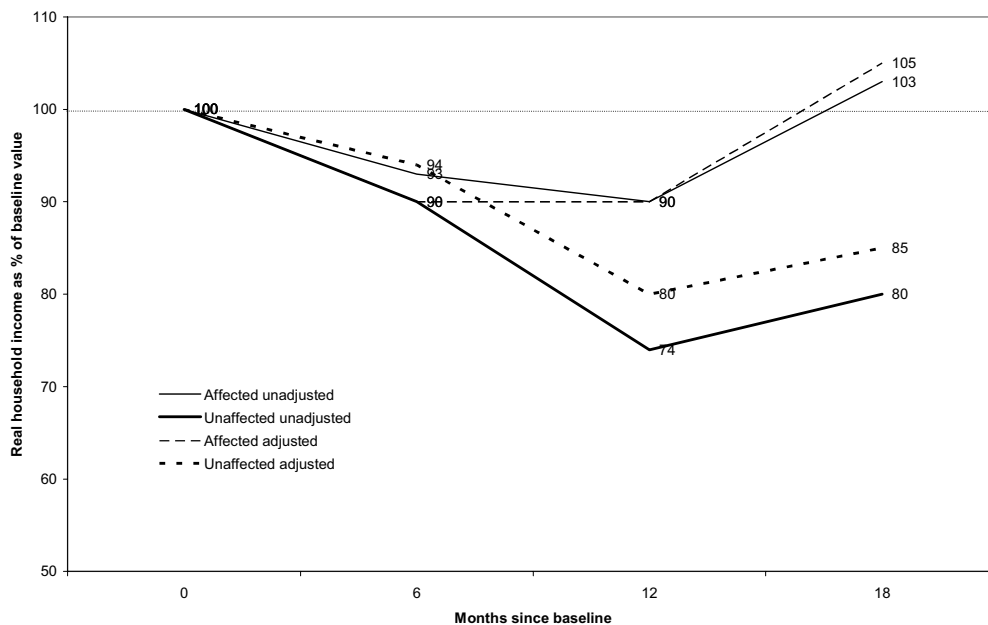


Table 80 shows that affected households had significantly lower real expenditure, Expenditure decreased over time, was lower in rural households and higher if more household members were employed. Morbidity and mortality were not independently associated with household expenditure.

Table 80: Predictors of real household expenditure: linear regression model

Explanatory variable	Relative expenditure	(95% CI)	P
Affected vs unaffected	0.83	(0.70 - 0.97)	0.022
Wave 2 vs wave 1	0.83	(0.76 - 0.91)	<0.001
Wave 3 vs wave 1	0.75	(0.69 - 0.82)	<0.001
Wave 4 vs wave 1	0.78	(0.71 - 0.86)	<0.001
Rural vs. urban	0.70	(0.60 - 0.82)	<0.001
Anyone ill	0.89	(0.78 - 1.03)	0.12
Anyone died	0.90	(0.75 - 1.08)	0.24
No. employed	1.47	(1.33 - 1.63)	<0.001
Mean age	1.00	(0.99 - 1.00)	0.16
Proportion male	1.29	(0.96 - 1.73)	0.092

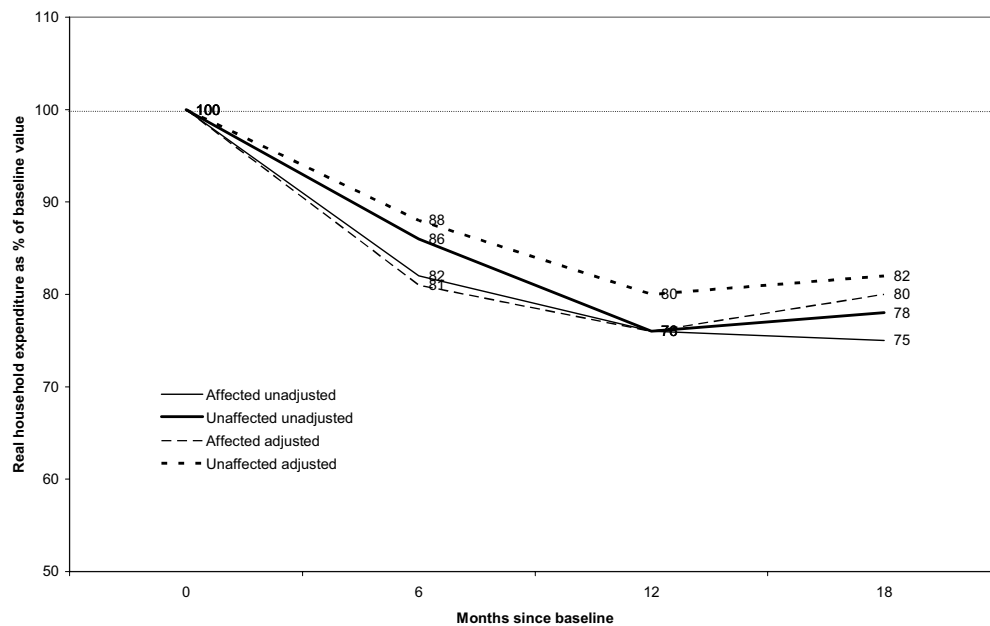
The rate of decrease in real income did not however differ between affected and unaffected households (Table 81 and Figure 19).

Table 81: Time trends for real expenditure – affected and unaffected households

Wave	Affected	Unaffected	Affected	Unaffected
	Relative expenditure unadjusted	Relative expenditure unadjusted	Relative expenditure adjusted*	Relative expenditure adjusted*
2 vs. 1	0.82	0.86	0.81	0.88
3 vs. 1	0.76	0.76	0.76	0.80
4 vs. 1	0.75	0.78	0.80	0.82

* Adjusted for variables in Table 80; P value for time*affected status interaction term=0.79.

Figure 19: Trends in real expenditure (from Table 81)



The ratio of household expenditure to income did not differ between affected and unaffected households, but did decrease over time, was lower in rural than urban households, if more household members were employed and if mean ages of household members were older (Table 82). It was not independently associated with morbidity or mortality. Repetition of the above analyses using real income and expenditure per person or per adult equivalent person provided similar results.

Table 82: Predictors of real expenditure: income ratio: linear regression model

Explanatory variable	Relative expenditure: income ratio	(95% CI)	P
Affected vs unaffected	0.96	(0.87 - 1.06)	0.48
Wave 2 vs wave 1	0.93	(0.84 - 1.03)	0.14
Wave 3 vs wave 1	0.87	(0.79 - 0.97)	0.013
Wave 4 vs wave 1	0.85	(0.77 - 0.93)	0.001
Rural vs. urban	0.91	(0.84 - 1.00)	0.047
Anyone ill	1.05	(0.87 - 1.27)	0.62
Anyone died	0.94	(0.85 - 1.04)	0.23
No. employed	0.81	(0.76 - 0.86)	<0.001
Mean age	0.99	(0.99 - 1.00)	0.001
Proportion male	0.99	(0.83 - 1.17)	0.89

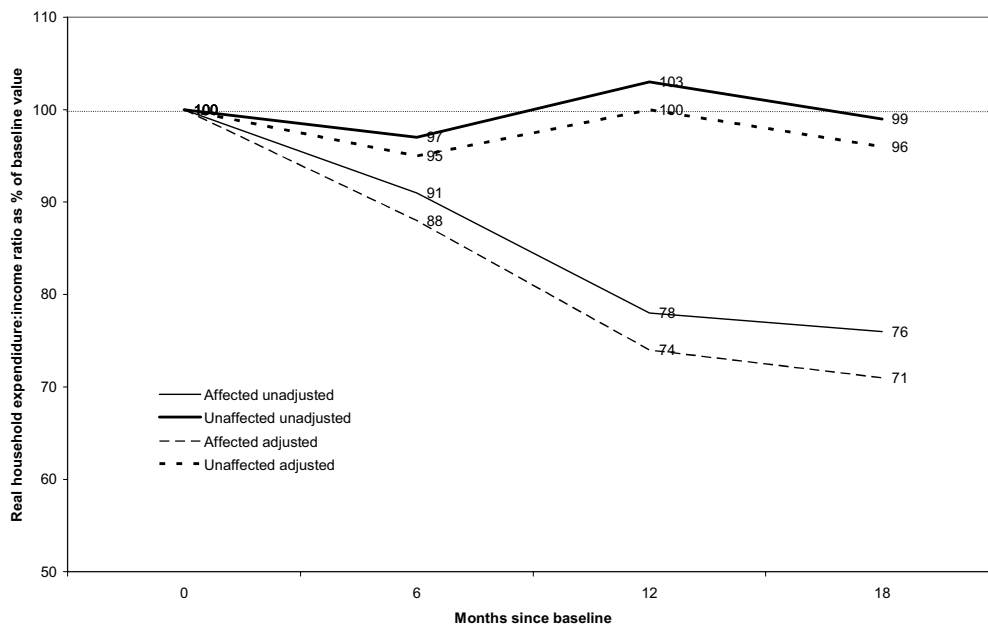
Trends over time did however differ dramatically between affected and unaffected households (Table 83 and Figure 20). These show that the expenditure:income ratio decreased markedly in affected households, but did not change in unaffected households.

Table 83: Time trends for real expenditure:income ratio – affected and unaffected households

Wave	Affected Relative expenditure: income ratio unadjusted	Unaffected Relative expenditure: income ratio unadjusted	Affected Relative expenditure: income ratio adjusted*	Unaffected Relative expenditure: income ratio adjusted*
2 vs. 1	0.91	0.97	0.88	0.95
3 vs. 1	0.78	1.03	0.74	1.00
4 vs. 1	0.76	0.99	0.71	0.96

* Adjusted for variables in Table 82; P value for time*affected status interaction term=0.0066.

Figure 20: Trends in real expenditure: income ratio (from Table 83)



(ii) Depth, incidence and severity of poverty

Apart from describing differences between affected and non-affected households in terms of general levels of welfare (or household income in this case), one would also want to know how poverty differs between affected and non-affected households. To estimate poverty one requires a poverty line, i.e. a level of income below which people are considered poor. Poverty lines provide a yardstick with which to compare the circumstances of individual households. Aggregate measures of poverty cannot be estimated without a poverty line. Armed with the estimate of household income and the poverty line estimate, one can aggregate this information into a variety of descriptive measures of poverty and inequality (Grootaert, 1983: 3-10). The following specific measures of poverty and inequality were employed in this analysis.⁴

The *Gini coefficient* (G) represents the average ratio between the proportion of total income actually earned by a specific household and the proportion of income the household would have earned had income been distributed equally. $G = 0$ denotes total equality and $G = 1$ total inequality (Paukert, 1973). Because inequality is an important determinant of poverty, an analysis of the extent of income inequality can provide an important pointer to determining whether poverty is more severe amongst affected than non-affected households. If inequality is more pronounced amongst affected households, one would expect that more affected households fall below the poverty line. This in turn will mean that poverty is more prevalent amongst affected households, which can be determined by comparing the estimates of the following poverty indices across affected and non-affected households.

⁴ The estimates of the measures of poverty and inequality that are presented in these pages were calculated with the aid of the POVCAL program developed by the World Bank. POVCAL is an easy to use and reliable tool for routine poverty assessment work. It uses sound and accurate methods for calculating poverty and inequality measures with only a basic PC and any of the various types of grouped distribution data typically available, often in published form. POVCAL estimates a General Quadratic Lorenz curve and Beta Lorenz curve for each data set and then performs a range of tests to assess the validity of each of the Lorenz curves. The measures of poverty and inequality reported in these pages are based on the General Quadratic Lorenz curves (and in one instance on the Beta Lorenz curves) estimated from the tabulated data. The General Quadratic Lorenz curves were invalid at the upper extremes of the income distribution only, whereas the Beta curves were valid (and the General Quadratic curve invalid) in one case only. The sum of the squared standard errors over these Lorenz curve were generally extremely small.

The *headcount poverty index* (H) is a measure of the prevalence or incidence of poverty, i.e. the percentage of the population with a level of income below the poverty line (z). $H = q/n$, where q represents the number of poor persons falling below the poverty line z and n the total population (Ravallion, 1992/94a/94b; Lipton and Ravallion, 1995). The *poverty gap index* (PG) is a measure of the intensity or depth of poverty that allows for how far the poor fall below the poverty line. The index is calculated as each individual's shortfall below the poverty line (z) summed over the total population. It considers the non-poor to have a zero poverty gap. $PG = 1/n \sum [(z-y_i)/z] = H (1-\mu/z)$, where H represents the headcount poverty index, μ mean expenditure or income, and z the poverty line (Ravallion, 1992/94a/94b; Ravallion and Bidani, 1994; Lipton; 1997). The *squared poverty gap index* (SPG) represents a measure of the severity of poverty that allows for the extent of inequality amongst the poor. The SPG attaches more weight to those gains furthest from the poverty line. The index is calculated as the mean of the squared proportional poverty gaps over the entire population with the non-poor again counted as having a zero poverty gap. $SPG = 1/n \sum [(z-y_i)/z]^2 = PG^2/H + (H-PG)^2 / H * CV_p^2$, where H and PG respectively represent the headcount and poverty gap indexes, while CV_p^2 is the squared coefficient of variation of income or consumption amongst the poor (Ravallion, 1994a/94b; Ravallion and Bidani, 1994; Lipton and Ravallion, 1995; Lipton, 1997).⁵

⁵ The headcount, poverty gap and squared poverty gap indices are special cases of the Foster-Greer-Thorbecke (FGT) class of poverty measures. $P_\alpha = 1/n \sum [z-y_i/z]^\alpha$, where z represents the poverty line and y_i the actual income or consumption level of each person or household. The three FGT measures each focus on a different conventional poverty measure. P_0 , P_1 and P_2 respectively are derivatives of the headcount (H), poverty gap (PG) and squared poverty gap (SPG) indices (Greer and Thorbecke, 1986). As explained above, these poverty measures become more sensitive to the well-being of the poorest person as the value of α increases (Woolard and Leibbrandt, 1999: 28).

Table 84: Estimates of the Headcount Poverty Index (H), Poverty Gap Measure (PG), Squared Poverty Gap Index (SPG) and Gini-coefficient (waves I-IV)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
H	32.5	34.4	36.5	17.4	21.9	23.3	27.7
PG	8.9	11.8	8.6	5.6	8.5	6.5	7.6
SPG	3.3	6.1	2.8	2.4	4.5	2.4	2.8
Gini	41.0	33.3	33.4	35.3	61.2	48.5	47.3
<i>Sample (n)</i>	<i>147</i>	<i>43</i>	<i>66</i>	<i>25</i>	<i>13</i>	<i>168</i>	<i>315</i>

The Gini coefficients and poverty indices calculated for each of the clusters of affected and non-affected households are reported in Table 84. The results are here reported only for the poverty line of R250 adult equivalent per capita income, which was employed in the most recent poverty estimates published by Statistics South Africa (2000: 11), albeit not in adult equivalent form. Evident from the results in Table 84 is that the degree of inequality was higher amongst non-affected households than amongst affected households, especially affected households that had experienced morbidity or mortality. This may be the result of households experiencing illness or death being more likely to have a lower income, which translates into relatively lower levels of income and relatively less variation in income (at least across the higher ranges), which in turn means that the extent of income inequality is likely to be less pronounced. In the case of non-affected households, variation in household income is more pronounced, translating into higher levels of income inequality. These claims are substantiated by the evidence on income mobility presented in the subsequent pages of this report.

Poverty is relatively pronounced in both these communities, with a relatively high proportion of both affected and non-affected households being classified as poor. The average headcount index for the total sample amounted to 27.7. According to the results presented in Table 84, the incidence, depth and severity of poverty was relatively worse amongst affected households compared to non-affected households, especially in the case of affected households that had experienced morbidity or mortality in each wave. In fact,

the depth and severity of poverty was most pronounced amongst the latter households. The estimates of the depth and severity of poverty reported for affected households that to date had not experienced morbidity or mortality were also relatively high, but is based on a relatively small sample size (n=13), which makes it difficult to read too much into these particular figures. Thus, the incidence, depth and severity of poverty were significantly worse amongst affected households that over time faced a persistent burden of morbidity and mortality.

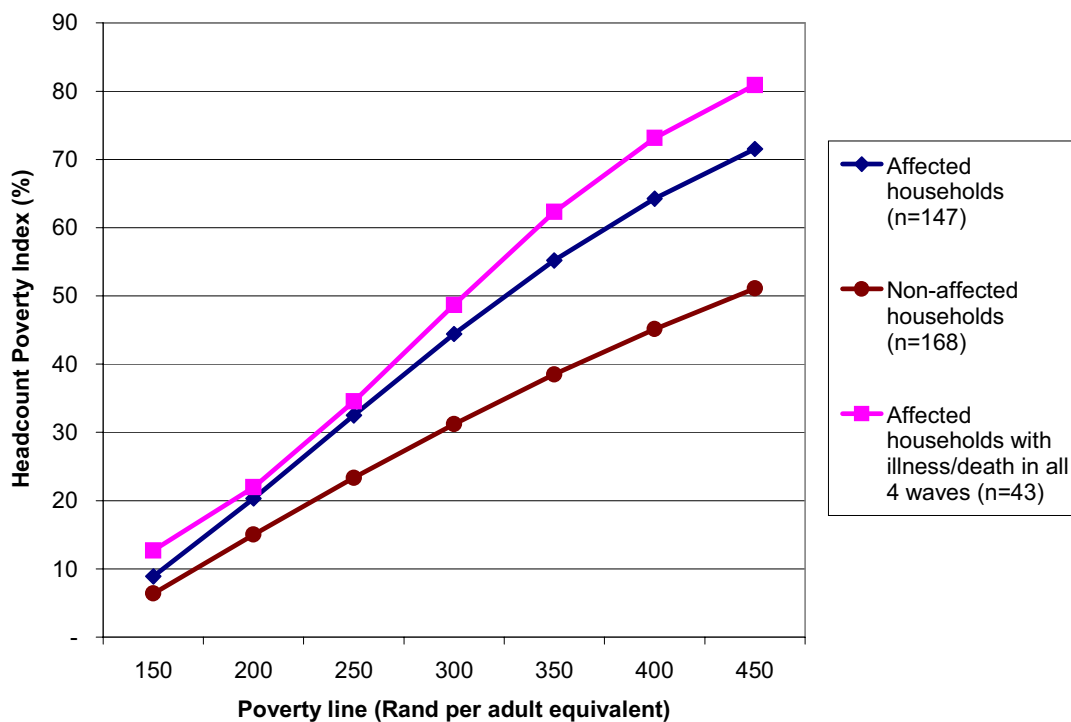
In order to further substantiate such argument, one needs to perform a number of poverty comparisons. The main purpose with a poverty comparison is to determine whether the results of such comparison are robust and consistent. The conclusion drawn from a poverty comparison, i.e. whether affected households are poorer than non-affected households or not, should not be dependent on the choice of a particular standard of living indicator, poverty line, or poverty measure (Ravallion and Bidani, 1994: 76; Ravallion, 1994b: 44-51). The robustness of a poverty comparison is determined by comparing the headcount, poverty gap and squared poverty gap index across a critical range of poverty lines. Arbitrariness is practically unavoidable in setting poverty lines, primarily because of the multitude of methods that are employed for this purpose (Kgarimetsa, 1992: 9; Alcock, 1993: 60-62; Johnson, 1996: 110-112). Hence, the standard practice has become one of testing the robustness of poverty lines by simultaneously employing more than one such estimate in poverty analysis. Ravallion (1994b: 43) refers to this as the use of dual poverty lines. Results are compared across poverty line estimates based on different methodologies and/or alternative assumptions made using similar methods (Lipton and Ravallion, 1995: 2577; Lipton, 1997: 1003). A similar approach is followed here. The range of poverty lines used for this purpose varies from R150 to R450 in adult equivalent, which covers a range of poverty line estimates employed in poverty studies on South Africa (Klasen, 1997: 56; Woolard and Leibbrandt, 1999: 14; Booysen, 2001: 680).

Partial poverty orderings or poverty value curves were used for the purpose of presenting the results (Ravallion, 1994b: 1-3; Woolard and Leibbrandt, 1999: 12). To obtain these

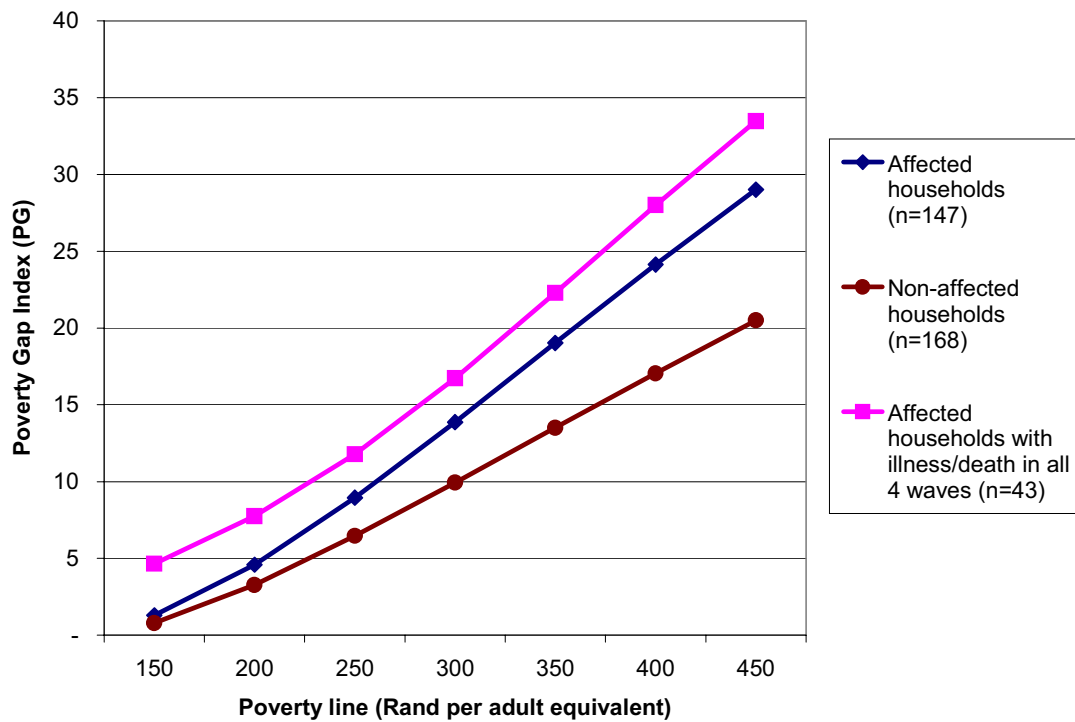
curves, estimates of the headcount, poverty gap and squared poverty gap indices for the subgroups of households are plotted for the critical range of poverty lines. The values of the poverty measure are plotted on the vertical axis and the cumulative values of the poverty line are plotted on the horizontal axis. A comparison is robust and consistent if the poverty value curve for one subgroup dominates and/or matches that of another subgroup across the entire range of poverty line estimates. This means that one subgroup is poorer than another subgroup regardless of the poverty line used for comparative purposes. The poverty incidence, poverty depth and poverty severity dominance curves for the affected and non-affected clusters of households and for affected households that have experienced morbidity or mortality in each period are reported in Figure 21.

Figure 21: Poverty dominance curves for affected and non-affected households

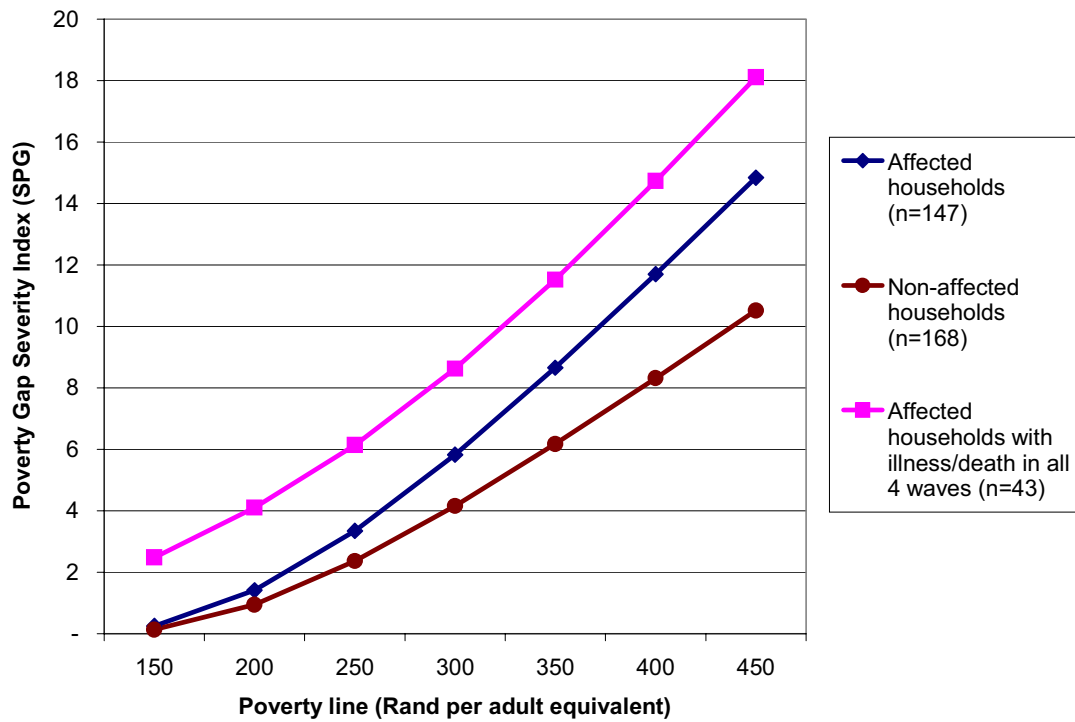
(a) Poverty incidence dominance curve



(b) Poverty gap dominance curve



(c) Poverty severity gap dominance curve



Evident from Figure 21, is that the incidence, depth and severity of poverty generally was higher amongst affected households regardless of the choice of poverty line or poverty measure. The poverty incidence curves for affected households dominate that for non-affected households across the entire range of poverty lines. Poverty, therefore, does seem to be worse amongst affected households. Moreover, the poverty incidence curves for affected households that had experienced morbidity or mortality in each wave dominate both the other two sets of dominances curves, illustrating how high burdens of morbidity and mortality are associated with deeper poverty. The fact that the socio-economic impact of AIDS is indeed worse in poorer households has been confirmed by Nampanya-Serpell (2000), while much of the analysis following from the Kagera household study has argued that household wealth and access to public services are very important in protecting households from the impact of HIV/AIDS. Impact was found to only be significantly worse in households affected by adult deaths compared to ones with no adult deaths when controlling for differences in socio-economic status (Ainsworth *et al.*, 2000; Ainsworth and Dayton, 2000; Lundberg and Over, 2000).

The above analysis does not take into account how many affected households there are in comparison to non-affected households. Hence, the analysis fails to highlight the extent to which affected and non-affected households share the burden of poverty. Such analysis requires poverty measures that are additively decomposable. Additive decomposability means that overall inequality can be portioned into inequality between subgroups and within subgroups. Decomposition across space requires measures of the type $P_{\alpha} = n_A P_{\alpha A} + n_B P_{\alpha B}$, where A and B represent two subgroups and n_A and n_B the population shares of the two groups that the poverty estimate P_{α} for each group is weighted by (Lipton and Ravallion, 1995: 2580-2581). The FGT class of poverty measures is additively decomposable. This feature of the three measures of poverty employed in this analysis makes it possible to determine the share of affected and non-affected households in the poverty burden. Poverty shares were calculated separately for affected and non-affected households, as well as for affected households that have and have not experienced illness

or death in the recent past. Poverty shares were calculated with reference to the R250 adult equivalent poverty line.

The evidence suggests that affected households have borne a relatively greater share of the burden of poverty. Affected households faced 54.9% of the incidence of poverty, compared to the 45.1% borne by non-affected households. When the poverty shares are calculated across the sub-samples of affected households, the results further underscore the extent to which affected households that have experienced illness or death more frequently have borne the brunt of poverty compared to non-affected households and affected households that as yet had not been affected by illness or death. Households that have experienced illness or death in two or more periods have borne 44.7% of the total burden of poverty. Affected households that have not as yet experienced illness or death have borne 3.2% only of the total burden of poverty. The share of affected households in the severity of poverty was slightly more pronounced. In this case, affected households faced 55.4% of the severity of poverty, compared to the 44.7% borne by non-affected households. Households that have experienced illness or death in two or more periods faced 50.6% of the total burden of the severity of poverty, while affected households that to date had not as yet experienced illness or death faced 6.5% only. As a result, policies aimed at poverty alleviation can be argued to be particularly crucial in sustaining the livelihoods of affected households that have experienced high burdens of morbidity and mortality.

(iii) Income dynamics and chronic and transitory poverty

The above analysis and comparisons, however, largely fail to exhibit the dynamic nature of poverty. Given the longitudinal design of this study, it is also possible to consider the extent to that affected and non-affected households move into and out of poverty over time, or alternatively remain in poverty. According to May and Roberts (2001: 100), this is one of the main advantages of panel studies, namely to distinguish between transitory and persistent poverty. The subsequent discussion presents evidence on trends in the incidence of poverty, income mobility and the nature of experiences of affected and non-

affected households with regard to chronic and transitory poverty using a variety of alternative measures of income mobility.

Table 85: Trends in the incidence of poverty (%)

Variable	Affected households	Non-Affected Households
Wave I	35.1	26.3
Wave II	37.1	29.3
Wave III	37.8	29.9
Wave IV	42.5	28.1
<i>Sample (n)</i>	<i>170</i>	<i>181</i>

Note: A household was classified as poor if real adult equivalent household income fell below R250 per month in the particular period.

In terms of general trends, the percentage of affected households classified as poor in each wave exceeded the percentage of non-affected households classified as poor (Table 85). However, there is no evidence in Table 85 of any clear trend in the incidence of poverty, probably (as explained elsewhere) because of the volatile nature of income recorded at such relatively frequent intervals. The incidence of poverty in affected households varied within a range of 35.1% (wave I) to 42.5% (wave IV), while that in non-affected households in turn varied within a narrower range of 26.3% (wave I) to 29.9% (wave III). Hence, even these trends hide much of the dynamic nature of poverty.

Income mobility matrices are particularly useful in exploring the extent of transitory and persistent poverty. Similar to Leibbrandt and Woolard (2001: 678), which also assessed income mobility in a relatively small sample, this paper employs quintiles to assess income mobility⁶. A mobility matrix represents the proportion of households classified in different income quintiles in each of the two periods (i.e. wave I and IV), distinguishing between the mobile (i.e. households moving between quintiles over time) and immobile (i.e. households falling in the same quintile on the income distribution in each period). The main question, therefore, is whether affected households and affected households that have experienced illness or death more frequently were more likely to be mobile compared to other households.

⁶ Poverty transition matrices are similar tools, but assess mobility relative to poverty line estimates rather than to income quintiles or deciles (May and Roberts, 2001).

Table 86: Quintile mobility matrix, waves I to IV

A. Total affected households (n=147)						
Wave I quintile	Wave IV quintile					Total
	1	2	3	4	5	
1	25.0	30.6	33.3	11.1	0.0	100
2	28.6	28.6	17.1	17.1	8.6	100
3	12.9	29.0	29.0	22.6	6.5	100
4	13.3	13.3	23.3	20.0	30.0	100
5	0.0	20.0	6.7	13.3	60.0	100
B. Affected households experiencing illness or death in each wave (n=43)						
Wave I quintile	Wave IV quintile					Total
	1	2	3	4	5	
1	36.4	36.4	27.3	0.0	0.0	100
2	27.3	27.3	9.1	18.2	18.2	100
3	9.1	45.5	9.1	36.4	0.0	100
4	22.2	0.0	22.2	33.3	22.2	100
5	0.0	100.0	0.0	0.0	0.0	100
C. Affected households experiencing illness or death in two or three waves (n=66)						
Wave I quintile	Wave IV quintile					Total
	1	2	3	4	5	
1	23.5	23.5	35.3	17.6	0.0	100
2	35.0	30.0	15.0	20.0	0.0	100
3	15.4	15.4	46.2	15.4	7.7	100
4	9.1	27.3	27.3	27.3	9.1	100
5	0.0	40.0	0.0	20.0	40.0	100
D. Affected households experiencing illness or death in one wave only (n=25)						
Wave I quintile	Wave IV quintile					Total
	1	2	3	4	5	
1	20.0	20.0	40.0	20.0	0.0	100
2	0.0	0.0	66.7	0.0	33.3	100
3	33.3	66.7	0.0	0.0	0.0	100
4	12.5	0.0	25.0	0.0	62.5	100
5	0.0	0.0	16.7	16.7	66.7	100
E. Total non-affected households (n=168)						
Wave I quintile	Wave IV quintile					Total
	1	2	3	4	5	
1	36.0	36.0	16.0	12.0	0.0	100
2	14.3	28.6	21.4	32.1	3.6	100
3	15.2	18.2	27.3	33.3	6.1	100
4	8.8	17.6	14.7	32.4	26.5	100
5	10.4	2.1	8.3	16.7	62.5	100
F. Total all households (n=315)						
Wave I quintile	Wave IV quintile					Total
	1	2	3	4	5	
1	29.5	32.8	26.2	11.5	0.0	100.0
2	22.2	28.6	19.0	23.8	6.3	100.0
3	14.1	23.4	28.1	28.1	6.3	100.0
4	10.9	15.6	18.8	26.6	28.1	100.0
5	7.9	6.3	7.9	15.9	61.9	100.0

Note: The matrix for affected households that had not experienced morbidity or mortality to date were excluded insofar as a meaningful comparison was impossible, given the small sample size (n=13).

One would expect affected households (due for example to the changes in income caused by illness and/or death) to move between quintiles to a larger extent than non-affected households. Yet, affected households may in the longer term also be immobile, particularly at the lower end of the income distribution, because of the cumulative impact of the loss of economically active household members and the effects of increased stigmatisation on these households, which may further alienate them from existing community support structures and exclude their members from labour markets.

According to the evidence presented in Table 86, income mobility is relatively more pronounced at the upper end of the income distribution in the case of affected households and in particular in the case of households that have experienced illness or death in two or more periods. Generally, a smaller proportion of households in quintiles 4 and 5 in these clusters have remained on the diagonal compared to non-affected households. At the lower end, in quintiles 1 and 2, the comparison exhibited no significant trends. This suggests that HIV/AIDS may be associated with relatively greater variation in income at the upper end of the income distribution (where illness and/or death can cause income to vary substantially), but with relatively less variation at the lower end of the distribution (where illness or death may make little difference where households already have a low income and face high unemployment).

Table 87 presents further evidence of how the intensity of income mobility increased as the probability of households being affected by illness or death increased. Less than a third of affected households and of affected households that experienced illness or death in at least one period remained immobile on the ranking. In comparison, almost half of affected households that experienced no illness or death and almost 40% of non-affected households were immobile on the ranking. In addition, there are relatively more losers in affected households that have experienced illness or death, with a relatively larger percentage of households having dropped down the income distribution. In affected households that had experienced morbidity or mortality in each period, 45% dropped down the income distribution, compared to 28% only of non-affected households.

Table 87: Intensity of income mobility between waves I and IV (%)

Number of quintiles moved between waves III and I	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
-4	0.0	0.0	0.0	0.0	0.0	3.0	1.6
-3	4.8	7.0	4.5	4.0	0.0	2.4	3.5
-2	6.1	2.3	7.6	8.0	7.7	8.9	7.6
-1	19.0	35.7	19.7	20.0	0.0	13.7	16.2
0	29.3	25.6	31.8	20.0	46.2	39.9	34.9
1	22.4	25.6	15.2	32.0	30.8	20.8	21.6
2	13.6	11.6	16.7	8.0	15.4	8.9	11.1
3	4.8	4.7	4.5	8.0	0.0	2.4	3.5
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00
<i>Sample (n)</i>	<i>147</i>	<i>43</i>	<i>66</i>	<i>25</i>	<i>13</i>	<i>168</i>	<i>315</i>

Therefore, the evidence substantiates the results presented elsewhere in this report that showed how morbidity and mortality result in relatively high loss of earnings. Yet, the evidence also suggests that there are relatively more winners amongst affected households compared to non-affected households. A relatively larger proportion of affected households (more than 40%) moved up the income distribution compared to 32% of non-affected households (Table 87). This probably reflects the extent to which affected households recuperated from earlier income shocks associated with morbidity and mortality, due for example to changes in household composition resulting from migration, an issue discussed in previous pages.

Table 88 presents evidence on the mean absolute and algebraic change in quintile rankings. There is no consistent evidence that poorer households on average moved a greater distance across the income distribution. The average absolute change in rankings in the lower income quintiles did not consistently exceed average changes in higher quintiles across the different clusters of households. As explained elsewhere, this may be the result of the volatile nature of income recorded at such relatively frequent intervals. However, the evidence did exhibit the classical pattern of regression to the mean (Fields,

1988, as quoted in Leibbrandt and Woolard, 2001: 681). The mean algebraic changes in rankings declined as one moved up the income distribution.

Table 88: Mean absolute and algebraic change in quintile ranking, wave I to IV

Wave I quintile	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Mean absolute change:							
1	1.31	0.91	1.47	1.60	1.33	1.04	1.20
2	1.06	1.27	0.90	1.67	0.00	1.11	1.08
3	0.90	1.00	0.77	1.33	0.75	0.94	0.92
4	1.20	1.11	1.18	1.25	1.50	1.03	1.11
5	0.87	3.00	1.40	0.50	0.00	0.81	0.83
Average	1.10	1.12	1.11	1.20	0.77	0.96	1.03
Mean algebraic change:							
1	1.31	0.91	1.47	1.60	1.33	1.04	1.20
2	0.49	0.73	0.20	1.67	0.00	0.82	0.63
3	-0.19	-0.27	-0.15	-1.33	0.75	-0.03	-0.11
4	-0.60	-0.67	-1.00	0.00	-0.50	-0.50	-0.55
5	-0.87	-3.00	-1.40	-0.50	0.00	-0.81	-0.83
Average	0.18	0.14	0.14	0.24	0.46	-0.05	0.06
<i>Sample (n)</i>	147	43	66	25	13	168	315

There was no consistent evidence that income differentiation increased over the period of the study (Table 89), except in the case of affected households in general. In these households, the extent of income differentiation declined over the period, with the ratio consistently declining from 17.25 (wave I) to 10.25 (wave IV). There were no clear patterns in the ratios when compared across the other clusters of households, as was the case in some of the other evidence on income mobility presented in these pages.

Table 89: Ratio between quintile mean income and mean income of first quintile

Quintile	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
A. Wave I							
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	2.22	2.06	2.41	1.70	2.92	1.94	2.10
3	3.42	3.01	3.72	2.60	5.39	3.15	3.30
4	6.16	5.52	6.45	5.18	9.54	6.03	6.14
5	17.25	14.91	20.23	9.38	35.40	19.43	19.41
<i>Average</i>	4.51	3.05	4.33	4.62	11.75	7.86	6.41
B. Wave II							
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	2.68	2.47	2.45	4.14	5.84	2.15	2.40
3	3.97	3.80	3.48	6.01	8.05	3.35	3.63
4	6.62	6.20	6.17	9.16	13.39	5.22	5.83
5	15.67	12.49	11.37	18.83	48.98	14.96	15.79
<i>Average</i>	4.81	3.64	3.44	9.07	20.62	6.39	5.77
C. Wave III							
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	2.33	3.14	2.23	1.65	2.56	2.34	2.33
3	3.37	4.64	3.10	2.78	3.16	3.38	3.38
4	4.99	6.80	4.96	3.43	4.27	5.29	5.15
5	13.79	24.07	10.10	8.99	18.33	17.07	15.83
<i>Average</i>	4.69	5.48	3.60	4.43	8.66	6.28	5.55
D. Wave IV							
1	1.00	1.00	1.00	1.00	N/a	1.00	1.00
2	1.83	1.88	1.87	1.50	N/a	2.03	1.92
3	2.73	2.65	2.81	2.29	N/a	3.27	2.97
4	4.19	4.28	4.37	3.23	N/a	5.09	4.60
5	10.25	7.35	10.92	6.85	N/a	13.76	12.01
<i>Average</i>	3.61	2.81	2.98	3.94	N/a	5.77	4.63
E. Average waves I to IV							
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	1.69	1.80	1.55	1.88	2.74	1.71	1.70
3	2.36	2.49	2.18	2.25	4.05	2.41	2.39
4	3.47	3.39	3.15	3.91	6.29	3.92	3.70
5	9.60	7.73	8.84	7.91	26.18	10.72	10.41
<i>Average</i>	3.09	2.48	2.36	4.26	11.01	4.76	3.98
<i>Sample (n)</i>	147	43	66	25	13	168	315

As explained elsewhere, this lack of clear-cut evidence may be the result of the volatile nature of income recorded at such relatively frequent intervals. However, this also reflects the fact that changes over time in the level of welfare, amongst others, result from household members moving into and out of employment. In fact, there are various factors that may explain the changes in household income reported in the previous pages.

Households, for example, will also experience changes in income received from remittances, social grants and other sources of non-employment income, due largely to changes in household composition driven by migration and mortality. Access to social grants, moreover, stand to influence a number of other individual decisions by those household members that are likely to benefit from such grant, including decisions about saving, labour market participation, retirement, education, migration and fertility (Marchand and Pestieau, 1991). Furthermore, members of households affected by HIV/AIDS will fall ill or die as the epidemic progresses, resulting in inter-temporal changes in the burden of morbidity and mortality on households, which in turn translates into income volatility, depending on the prior employment status of these persons and whether they were recipients of social grants prior to their death.

Hence, evidence on the mobility of income, although crucial to understanding changes in household welfare over time, cannot completely elucidate inter-temporal trends in poverty, nor can it aid one in identifying the most important determinants of changes in income and therefore poverty status. To fully exhaust the benefit of the panel design of this study, therefore, one needs to consider the extent of poverty transitions and the nature of chronic and transitory poverty in this sample of households. In the final part of this section, the focus shifts to the identification of determinants of changes in poverty status.

Table 90: Poverty transitions (%)

Variable	Affected households	Non-Affected Households
Transitions INTO poverty	21.9	13.8
Transitions OUT of poverty	39.4	33.5
<i>Sample (n)</i>	<i>170</i>	<i>181</i>

Note: A household was classified as poor if real adult equivalent household income fell below R250 per month in the particular period.

Table 90 distinguishes between the percentage of households classified as poor in any one wave and that was again classified as poor in the subsequent round of interviews, compared to the percentage of households that were not classified as poor but were classified as poor in a subsequent period. Affected households were more likely than non-affected households to have slipped into poverty. Of those affected households that were

not classified as poor in any one point in time, 21.9% slipped into poverty by the follow-up round of interviews, compared to 13.8% of non-affected households that had not previously been classified as poor. In addition, affected households were slightly more likely to have escaped poverty than non-affected households, although transitions out of poverty were relatively common in both groups. A relatively large proportion of households classified as poor in any one period were again classified as poor in the subsequent period. Just more than 60% of affected households that were classified as poor in any one period were also classified as poor in the subsequent period, compared to almost 65% of non-affected households. Thus, the evidence on poverty transitions presented here substantiates findings presented elsewhere in these pages that shows that affected households were relatively more likely to have experienced higher levels of income mobility and to have experienced higher levels of chronic as well as transient poverty compared to non-affected households.

Two other studies have explored poverty or income dynamics in HIV/AIDS-affected households with the aid of panel data or with a longer-term perspective using either expenditure and/or income data. Yamano and Jane (2002) report how the death of a prime age adult has caused non-farm income of Kenyan households to decline. Cogneau and Grimm (2003) employ a demo-economic micro-simulation model to simulate the impact of AIDS on the income distribution and levels of poverty in the Côte d'Ivoire over a fifteen-year period. They estimate that the labour supply effects of the HIV/AIDS epidemic (their model does not account for the effect of other impacts on income distribution and poverty) will leave average income per capita, income inequality and income poverty relatively unchanged, although they do emphasize that 'AIDS kills more the poor, but rather the richest of the poor'. This evidence also mirrors work by May *et al.* (2000) and Carter and May (2001) that report high levels of income mobility and persistent poverty amongst African households in Kwazulu-Natal, one of the provinces of South Africa worst affected by the HIV/AIDS epidemic. This evidence suggests that the greater vulnerability of poor people to HIV/AIDS may act to lock many African households into a vicious cycle of poverty or poverty trap.

Hence, the question is whether households affected by HIV/AIDS were more likely to experience chronic poverty compared to non-affected households. Table 91 reports on the percentage of households in each of the clusters that can be classified as chronically poor, transient poor, and non-poor. The *chronic poor* represent those households for which real adult equivalent income fell below R250 in each period or on average were below R250 across the four waves, although the household did not experience poverty in each period. The *transient poor* are those households that had an average real adult equivalent income around or above the poverty line, but were classified as poor in at least one period. Lastly, the *non-poor* represents those households for which real adult equivalent income exceeded R250 in each period (Hulme and Shepherd, 2003).⁷

Table 91: Incidence of chronic and transient poverty (%)

	Affected households	Affected households suffering illness or death in each of four waves	Affected households suffering illness or death in two or three waves	Affected households suffering illness or death in one wave only	Affected households suffering no illness or death	Non-affected households	Total all households
Chronic poor	32.0	34.9	37.9	12.0	30.8	21.4	26.3
Transitory poor	32.7	30.2	34.8	44.0	7.7	29.8	31.1
Non-poor	35.4	34.9	27.3	44.0	61.5	48.8	42.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	147	43	66	25	13	168	315

Evident from Table 91, is that a relatively larger proportion of affected households, and in particular affected households that faced a greater burden of illness or death, were classified as chronically poor. Almost a third of affected households were classified as chronically poor, compared to 21.4% only of non-affected households. In the two clusters of affected households that had experienced morbidity or mortality in two or more periods, more than a third of households were classified as chronically poor. Chronic poverty was also relatively high amongst affected households that to date had not experienced morbidity or mortality (30%), but this estimate is based on a relatively small

⁷ Chronic and transitory poverty is here defined with reference to a much shorter period of time (i.e. almost two years) compared to that employed in the standard definition of Hulme and Shepherd (2003), i.e. a five-year period, primarily because of the nature of the survey.

sample (n=13), which makes it difficult to read too much into this figure. Transient poverty was also more evident amongst affected households that have experienced illness or death, while there was no significant difference between affected and non-affected households in terms of the proportion of households classified as transitory poor. Interestingly, however, transient poverty was more prominent amongst households that had experienced shorter spells of morbidity and mortality, i.e. that have been affected by illness or death in one to three periods. This, as argued elsewhere, may hint at the extent to which cumulative burdens of morbidity and mortality may push households deeper into poverty, thus resulting in chronic poverty.

(iv) Factors associated with changes in poverty status

To explore the impact of the burden of morbidity and mortality and other factors on inter-temporal changes in poverty status, we followed an approach similar to that employed by Leibbrandt and Woolard (2001: 681-684). They distinguished between welfare changes resulting from so-called income and demographic events. Leibbrandt and Woolard (2001) focused on 'main' events and therefore attributed changes in household income to either an income or a demographic event, but not to both. They analyzed determinants of welfare changes for a five-year interval.⁸ However, households in reality simultaneously experience both these types of events, adding to the complexity of income and poverty dynamics. To explore this complexity, our analysis allows for the same household to experience more than one event over time. Demographic events include changes between consecutive waves in the number of children, adults and elderly in the household, as well as changes in the identity of the household head. Income events in turn refer to any changes between consecutive periods in the real value of household income by type, with a distinction being drawn between employment income, non-employment income, and remittances. Caution is required insofar as the relative volatility of income over the short-term (our analysis focuses on a two-year period) and the simultaneous analysis of events associated with changes in income perhaps do not allow a clear exposition of the relative

⁸ This approach, as was the case with the analysis of income mobility in the preceding pages, employs the data for waves I and IV only. Future work will focus on the type of panel regression analysis required to elucidate the importance of these factors in explaining changes in income and poverty.

importance of different events. Interestingly, however, many of the key findings presented in the subsequent pages mirror the conclusions drawn by Leibbrandt and Woolard (2001) regarding the major determinants of changes in welfare. Tables 92 and 93 report on the events associated with the movements of households *into* or *out* of poverty. Households were classified as having moved into poverty if real adult equivalent income exceeded R250 in wave I, but in wave IV was lower than R250. Households that moved out of poverty in turn represent those households that had an adult equivalent income above R250 in wave I, but for whom income fell below R250 in wave IV.

Table 92: Events associated with the movement of a household INTO poverty between waves I and IV (%)

	Affected households	Non-affected households	Total all households
Experienced a demographic event:			
▪ Not in any wave (no event)	18.2	21.1	19.7
▪ Between any two waves (1 event)	6.1	13.2	9.9
▪ Between any three waves (2 events)	12.1	31.6	22.5
▪ Between all four waves (3 events)	63.6	34.2	47.9
Total	100.0	100.0	100.0
Experienced an income event in any wave:			
▪ Employment income decreased	78.8	63.2	70.4
▪ Non-employment income decreased	57.6	55.3	56.3
▪ Remittance income decreased	45.5	55.3	50.7
<i>Sample (n)</i>	33	38	71

A considerably higher proportion of affected households that moved into poverty had experienced a demographic event between each consecutive period (63.6% compared to 34.2% of non-affected households)(Table 92). This makes sense insofar as findings reported elsewhere in these pages highlighted the relatively greater incidence of changes in household composition, morbidity, mortality and of migration in affected households compared to non-affected households, which translate into a greater likelihood of demographic changes. Only a slightly larger proportion of non-affected households had never experienced a demographic event compared to affected households. Therefore, the evidence, as argued elsewhere in this report, underscores the importance of further analysis aimed at exploring the complex link between changes in household structure and composition and the impact of the HIV/AIDS epidemic.

In terms of income events, affected households were relatively more likely than non-affected households to have experienced a decline in employment income (Table 92), as was highlighted in the discussion of differences between affected and non-affected households in unemployment and labor force participation rates. Non-affected households in turn were relatively more likely to have experienced a decline in remittance income compared to affected households. There was no significant difference between affected and non-affected households in terms of the proportion of households that had experienced a decline in non-employment income between consecutive waves. However, non-employment income consists of a wide range of sources of income, including social grants and private pensions. Hence, one cannot based on this evidence alone argue that changes in specific types of non-employment income are not important in explaining poverty transitions. In fact, the subsequent discussion highlights the importance of changes in access to grants in explaining changes in poverty status.

Table 93: Events associated with the movement of a household OUT of poverty between waves I and IV (%)

	Affected households	Non-affected households	Total all households
Experienced a demographic event:			
▪ Not in any wave (no event)	11.4	27.3	18.2
▪ Between any two waves (1 event)	15.9	9.1	13.0
▪ Between any three waves (2 events)	31.8	33.3	32.5
▪ Between all four waves (3 events)	40.9	30.3	36.4
Total	100.0	100.0	100.0
Experienced an income event in any wave:			
▪ Employment income increased	65.9	78.8	70.1
▪ Non-employment income increased	79.5	69.7	75.3
▪ Remittance income increased	54.5	57.6	55.8
<i>Sample (n)</i>	44	33	77

As in the case of transition into poverty, a higher proportion of affected households that escaped poverty had experienced a demographic event between each consecutive period compared to non-affected households (40.9% versus 30.3%)(Table 93). As was mentioned, findings reported elsewhere in these pages highlighted the relatively greater

incidence of changes in household composition, morbidity, mortality and of migration in affected households compared to non-affected households, which translate into a greater likelihood of demographic changes. Yet, in this case a considerably larger proportion of non-affected households also had never experienced a demographic event compared to affected households (27.3% versus 11.4%). Therefore, demographic events again appear to be of great importance in explaining poverty transitions in the context of the HIV/AIDS epidemic.

In terms of income events, the evidence paints a similar picture to that presented in Table 92. Affected households that had moved out of poverty again were relatively more likely than non-affected households to have experienced a change (in this case an increase) in employment income (Table 93). Affected households, however, were also relatively more likely than non-affected households to have experienced an increase in non-employment income. This hints at the likely importance of social grants in allowing affected households to escape poverty, an issue discussed in more detail elsewhere. There was no significant difference between affected and non-affected households in terms of the proportion of households that had experienced an increase in remittance income.

In order to explore the relative importance of specific types of demographic and other events associated with changes in household welfare, the subsequent analysis focuses on absolute income mobility by different types of events. Households were considered to have 'gotten ahead' ('fallen behind') if average adult equivalent household income calculated across waves II to IV had increased (decreased) by at least 10% since baseline, an approach that according to Leibbrandt and Woolard (2001: 683) reduce errors resulting from errors in the measurement of income. The analysis focuses on absolute income mobility by changes in household size, age of household head, and changes in the number of employed and unemployed household members, as did Leibbrandt and Woolard (2001). In addition, we focus on a number of events associated directly with the household impact of HIV/AIDS, i.e. changes in the number of chronically ill persons per household, the number of periods elapsed since the last death in the household, changes in the number of orphaned children in the household. Finally, the report focuses on

absolute income mobility by changes in access to social grant. Results are reported for three clusters of households, namely the sub-samples of affected and non-affected households, as well as the sub-sample of affected households that had experienced morbidity or mortality in any one period.

Table 94: Absolute change in adult equivalent income between waves I and IV by net change in household size (%)

	Net change in household size				
	Lost 2 or more persons	Lost 1 person	No change	Gained 1 person	Gained 2 or more persons
A. Affected households					
Got ahead	40.9	41.7	43.4	43.5	23.1
No change	22.7	38.9	22.6	13.0	46.2
Fell behind	36.4	19.4	34.0	43.5	30.8
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	22	36	53	23	13
B. Affected households that have experienced illness or death in any one wave					
Got ahead	47.1	48.1	39.0	42.9	10.0
No change	23.5	33.3	22.0	21.4	50.0
Fell behind	29.4	18.5	39.0	35.7	40.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	17	27	41	14	10
C. Non-affected households					
Got ahead	50.0	43.3	38.9	29.2	37.5
No change	12.5	20.0	21.1	8.3	0.0
Fell behind	37.5	36.7	40.0	62.5	62.5
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	8	30	90	24	16

As expected, households that gained members were relatively more likely to have fallen behind (per capita income declined), whereas households that lost members were relatively more likely to have got ahead (per capita increased)(Table 94). However, the results are not clear-cut in terms of exhibiting significant differences between affected and non-affected households. This suggests that it is not necessarily a change in household size *per se* that explains poverty transitions, but the specific nature of a demographic impact that. In other words, it depends on who left or joined the household. The subsequent discussion focuses on absolute income mobility by more specific types of

demographic events, e.g. changes in the number of employed and unemployed household members and the changes in the number of orphaned children in the household.

Table 95: Absolute change in adult equivalent income between waves I and IV by age of household head at baseline (%)

	Age of household head at baseline (wave I)					
	< 30	30-39	40-49	50-59	60-69	70+
A. Affected households						
Got ahead	38.5	41.4	51.7	41.4	32.0	36.4
No change	30.8	13.8	20.7	31.0	36.0	36.4
Fell behind	30.8	44.8	27.6	27.6	32.0	27.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	13	29	29	29	25	22
B. Affected households that have experienced illness or death in at least one wave						
Got ahead	30.0	46.7	52.2	40.0	35.3	31.6
No change	30.0	13.3	21.7	32.0	29.4	36.8
Fell behind	40.0	40.0	26.1	28.0	35.3	31.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	8	38	50	30	23	18
C. Non-affected households						
Got ahead	62.5	26.3	52.0	40.0	30.4	22.2
No change	0.0	13.2	8.0	16.7	26.1	44.4
Fell behind	37.5	60.5	40.0	43.3	43.5	33.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	10	15	23	25	17	19

Affected households headed by persons aged 60 years or over were relatively more likely than non-affected households to have gotten ahead (Table 95). This makes sense, given that affected households have been shown to be relatively poorer than non-affected households and therefore are relatively more likely to be dependent on old age pensions, as was argued in the section on access to social grants. There were no significant differences between affected and non-affected households in terms of the proportion of households that got ahead that were headed by persons aged 40-59 years. However, affected households headed by persons aged 40-59 years were relatively less likely to have fallen behind compared to non-affected households. This may also hint at the role of social grants in alleviating poverty, given that many of these elderly persons head households that sheltered orphaned children and therefore may qualify for the child

support, foster care or care dependency grants. A more in-depth analysis of the poverty impacts of social grants, which will follow, will be crucial in validating these preliminary findings that point to the relative important role of social grants in mitigating the impact of HIV/AIDS. While affected households headed by persons aged 30-39 years were relatively more likely to have gotten ahead, non-affected households headed by persons in this age group were relatively more likely to have fallen behind. Affected households headed by younger persons (i.e. <30 years) were relatively less likely to non-affected households to have gotten ahead (<40% versus 62.5%), which may hint at the impact of morbidity in this age group and/or the relatively higher levels of unemployment and lower labor force participation rates in affected households. Regression analysis aimed at identifying the determinants of changes in poverty status is required to elucidate the relative importance of these factors in explaining income dynamics.

Table 96: Absolute change in adult equivalent income between waves I and IV by net change in number of employed household members (%)

	Net change in number of employed persons				
	Lost 2 or more persons	Lost 1 person	No change	Gained 1 person	Gained 2 or more persons
A. Affected households					
Got ahead	0.0	12.5	39.1	67.7	66.7
No change	0.0	20.8	33.3	19.4	0.0
Fell behind	100.0	66.7	27.6	12.9	33.3
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	2	24	87	31	3
B. Affected households that have experienced illness or death in any one wave					
Got ahead	0.0	11.1	42.2	59.1	66.7
No change	0.0	27.8	31.3	22.7	0.0
Fell behind	100.0	61.1	26.6	18.2	33.3
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	2	18	64	22	3
C. Non-affected households					
Got ahead	0.0	21.1	31.8	76.7	75.0
No change	40.0	10.5	21.8	0.0	0.0
Fell behind	60.0	68.4	46.4	23.3	25.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	5	19	110	30	4

Not surprisingly, households in which the number of employed members declined were relatively more likely to have fallen behind (Table 96). Households in which the number of employed members increased in turn were relatively more likely to have gotten ahead. This underlines the importance of access to labor markets and to job opportunities in improving the general living standard of South Africans. Interestingly, affected households that had gained employed persons were slightly less likely to have gotten ahead compared to non-affected households (<67% compared to >75%). Although it is not possible to deduce this from the results presented in Table 95, this may suggest that persons in affected households that find employment, due perhaps to discrimination and stigmatization, their lower educational levels, or to their responsibility to care for the ill, have to settle for lower paying or casual jobs. As argued elsewhere, regression analysis is required to elucidate the relative importance of the age, gender, education and employment status of household members in explaining income dynamics. Finally, access to employment appears to be relatively more important in explaining poverty dynamics in affected households. Affected households in which the number of employed persons had declined by two or more were relatively more likely to have fallen behind compared to non-affected households. This may be the result of affected households being dependent on a single employed person for its survival, whereas non-affected households may actually include a number of employed persons. However, caution is required in terms of such interpretation, given that the number of households in these clusters is relatively small ($n < 6$). Hence, this issue will be explored in more detail in the final report with the aid of the full panel of six waves.

Although slightly less clear-cut, the evidence on absolute income mobility by changes in the number of unemployed persons in the household presents a mirror image of the results presented in Table 96. Households in which the number of unemployed members declined were relatively more likely to have gotten behind, while households in which the number of unemployed members increased in turn were relatively more likely to have fallen behind (Table 97). In terms of the comparison between affected and non-affected households, affected households that had gained unemployed persons were relatively less likely to have fallen behind compared to non-affected households.

Table 97: Absolute change in adult equivalent income between waves I and IV by net change in number of unemployed household members (%)

	Net change in number of unemployed persons				
	Lost 2 or more persons	Lost 1 person	No change	Gained 1 person	Gained 2 or more persons
A. Affected households					
Got ahead	61.1	48.6	41.4	20.0	27.3
No change	22.2	28.6	27.6	24.0	36.4
Fell behind	16.7	22.9	31.0	56.0	36.4
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	18	35	58	25	11
B. Affected households that have experienced illness or death in any one wave					
Got ahead	66.7	46.2	38.5	20.0	33.3
No change	20.0	26.9	28.2	30.0	33.3
Fell behind	13.3	26.9	33.3	50.0	33.3
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	15	26	39	20	9
C. Non-affected households					
Got ahead	63.6	52.9	38.0	20.7	26.7
No change	9.1	8.8	22.8	13.8	13.3
Fell behind	27.3	38.2	39.2	65.5	60.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	11	34	79	29	15

On the other hand, affected households in which the number of unemployed persons had declined were slightly less likely to have gotten ahead compared to non-affected households (Table 97). Further analysis is required to determine whether, as argued elsewhere, this is due to the fact that the persons that left (joined) affected households respectively contributed relatively more to the household compared to persons that left (joined) non-affected households, thus translating into a potentially large loss (gain) in earnings to their respective households.

The HIV/AIDS epidemic primarily affects the adult, economically active members of households and therefore is likely to be closely associated with income dynamics. Table 98 underscores the importance of morbidity in explaining poverty dynamics in affected households. Affected households in which the number of ill persons declined were

relatively more likely to have gotten ahead, whereas affected households in which the number of ill persons had increased were relatively more likely to have fallen behind.

Table 98: Absolute change in adult equivalent income between waves I and IV by net change in burden of illness on affected households (%)

	Net change in number of chronically ill persons over time				
	Declined by 2 or more persons	Declined by 1 person	No change	Increased by 1 person	Increased by 2 or more persons
Got ahead	43.5	40.4	42.6	30.0	0.0
No change	34.8	26.9	29.5	0.0	0.0
Fell behind	21.7	32.7	27.9	70.0	100.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	23	52	61	10	1

Yet, a relatively large proportion of households that had experienced an increase (decline) in the burden of morbidity actually fell behind (got ahead)(Table 98), which highlights the complexity of poverty transitions and the fact that a variety of factors simultaneously interact to explain these changes. Therefore, regression analysis is required to elucidate the relative importance of these different determinants of changes in poverty status to arrive at final conclusions regarding those interventions that will make the biggest difference in terms of alleviating poverty in HIV/AIDS-affected households.

Table 99: Absolute change in adult equivalent income by time elapsed since last death in affected households (%)

	Number of waves elapsed since last death			
	Three waves	Two waves	One wave	None
Got ahead	31.6	36.8	56.3	0.0
No change	52.6	21.1	31.3	50.0
Fell behind	15.8	42.1	12.5	50.0
Total	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	19	19	16	4

The epidemic also stands to push households deeper into poverty as economically active persons die. However, absolute income mobility by time elapsed since the last death does not exhibit as clear-cut results as in the case of morbidity (Table 99). One would expect household circumstances to improve as the duration of time that has elapsed since the last

death increases, given that household formation may change and that the economic shock of this death. Yet, only in the case of households in which one period had elapsed since the last death have a relatively larger proportion of households gotten ahead (56.3%), which may be the result of the receipt of lump-sums, inheritances and other support following this death. This may also be the result of most deceased persons being unemployed at the time of their death, thus not resulting in a substantial loss in earnings and therefore in a change in poverty status. However, evidence presented elsewhere in these pages have also hinted at the relatively high incidence of chronic poverty in affected households, which means that these households may in fact not recuperate from these shocks and will remain in poverty or slip deeper into poverty. In fact, Table 99 shows that a sizeable proportion (>60%) of affected households where two or three periods have elapsed since the death had fallen behind or experienced no change in their standard of living. Before we turn to the role of access to social grants in explaining changes in poverty status, let us explore the nature of absolute income mobility by changes in the number of orphaned children sheltered by the household.

The results presented in the section on the impact of HIV/AIDS on children provided stark evidence of the severity of the orphan crisis in the two study sites. The results presented in Table 100 further underscore this and shows that affected households that had gained two or more orphaned children were relatively more likely to have fallen behind compared to non-affected households. The differences were not that pronounced or consistently clear in the case of households that had gained one orphaned child, although non-affected households that had gained one orphaned child were relatively more likely to have fallen behind. Evident again, is the fact the communities at large have to deal with the orphan crisis and that more than half of non-affected households that had experienced an increased in the number of orphans had also fallen behind.

Furthermore, relatively larger proportions of households that had witnessed a decline in the number of orphaned children over time have gotten ahead (Table 100), regardless of affected status, although the results are not consistent with this picture in the case of non-affected households that had witnessed a decline of two or more orphaned children. As

argued elsewhere, this highlights the complexity of poverty transitions and the need to employ panel regression techniques to identify the most important determinants of changes in poverty status.

Table 100: Absolute change in adult equivalent income between waves I and IV by net change in number of orphaned children (%)

	Net change in number of orphaned children				
	Lost 2 or more orphans	Lost 1 orphan	No change	Gained 1 orphan	Gained 2 or more orphans
A. Affected households					
Got ahead	100.0	37.5	45.4	31.8	10.0
No change	0.0	43.8	22.7	40.9	20.0
Fell behind	0.0	18.8	32.0	27.3	70.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	2	16	97	22	10
B. Affected households that have experienced illness or death in any one wave					
Got ahead	100.0	46.2	43.7	33.3	11.1
No change	0.0	38.5	23.9	40.0	22.2
Fell behind	0.0	15.4	32.4	26.7	66.7
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	1	13	71	15	9
C. Non-affected households					
Got ahead	33.3	80.0	37.8	40.0	33.3
No change	16.7	0.0	18.5	10.0	8.3
Fell behind	50.0	20.0	43.7	50.0	58.3
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	6	5	135	10	12

Finally, we explore poverty dynamics in relation to changes in access to social grants. We distinguished between cases where access to grants was discontinued in subsequent periods as opposed to cases where access to grants was gained in subsequent periods. We included only those cases where a once-off break (gain) in access to grants occurred over the study period. We excluded cases where the grant recipient status (recorded at the household level) changed more than once and in more than one direction over the study period (e.g. received a grant at baseline and in wave IV, but not in waves II and III). Results are not reported by affected status due to the sub-samples per cluster being too small to allow a meaningful analysis. Future analysis of the complete panel will employ regression techniques to study the importance of the latter, more complex types of

transitions in access to social grants in explaining income and poverty dynamics. However, even the relatively simple approach followed here highlights the relative important role of social grants in alleviating poverty, as was argued in the section on access to social grants elsewhere in this report.

Table 101: Absolute change in adult equivalent income between waves I and IV by change in access to social welfare grants (%)

	Old age pension [R700/month]	Child support grant [R160/month]	Disability grant [R700/month]	Foster care grant [R500/month]	Care dependency grant [R700/month]
A. Access discontinued in subsequent waves					
Got ahead	18.8	18.2	10.0	50.0	66.7
No change	31.3	54.5	60.0	0.0	0.0
Fell behind	50.0	27.3	30.0	50.0	33.3
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	16	11	10	2	3
B. Access gained in subsequent waves					
Got ahead	72.7	41.5	65.2	42.9	100.0
No change	27.3	19.5	17.4	28.6	0.0
Fell behind	0.0	39.0	17.4	28.6	0.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Sample (n)</i>	11	41	23	7	1

As expected, households that had gained access to social grants, especially the relatively larger grants, were relatively more likely to have gotten ahead (Table 101). Almost three quarters of those households that gained access to an old age pension got ahead, while 65.2% of households that gained access to the disability grant got ahead. Just more than 40% of households that gained access to the foster care and child support grants got ahead. The one household that gained access to a care dependency grant also got ahead. Not surprisingly, the child support grant, the smallest of these grants, did not consistently aid household in escaping poverty and almost 40% of household that gained access to a child support grant over the study period still ended up falling behind. However, even in the case of the foster care grant, 28.6% of households that gained access to this grant over the study period actually fell behind, compared to 17.4% of those that gained access to the disability grant and none of those that gained access to the other social grants.

The results were not that clear-cut in terms of the association between changes in poverty status and a discontinuation in access to social grants (Table 101). Only in the case of the foster care grant and old age pension did a relatively larger proportion of households that lost access to such grant actually fall behind (50%). Yet, a discontinuation in access to grants at least ensured that households maintained their absolute standard of living, with less than 20% of households that lost access to an old pension or a child support or disability grant falling behind. Yet, more than half of household that in subsequent periods lost access to a foster care or care dependency grant had actually gotten ahead. Although these results need to be interpreted with caution due to the small sample size ($n < 5$), this may hint at the success of targeting social grants at the poor, i.e. households that get ahead not qualifying for a grant anymore (the same argument applies to the findings that show that a relatively large proportion of households that gained access to a grant have fallen behind in certain cases). As argued elsewhere, this highlights the complexity of poverty transitions and the need to employ panel regression techniques to identify the most important determinants of changes in poverty status, including changes in household composition, which as explained elsewhere are closely linked to access to social grants.

5. CONCLUSION

Limitations of the study

The sample differs distinctly from the general South African population, which can largely be attributed to the particular sampling design. Given that affected households were sampled from networks and/or organizations involved in counseling, home-based care and public health care and mainly in poorer communities, the sample does not include affected households that mainly utilize private health care services. Moreover, the study was conducted in one specific province (Free State) and in two selected sites only (Welkom and Qwaqwa). However, the fact that South Africa's poor, predominantly African population face relatively high HIV prevalence rates and are particularly vulnerable to the epidemic and therefore dependent on support from the public service sphere, means that the findings and recommendations put forward in this report are especially relevant to informing government's responses to HIV/AIDS.

Another limitation of the study is that the HIV status of each household member was not known for certain, and the index cases were not identified for reasons of confidentiality. HIV/AIDS status was clearest for those reported to have received a diagnosis of HIV/AIDS, and probably comprised a large proportion of those diagnosed with tuberculosis and pneumonia. Given the high prevalence of HIV infection in these populations, it is likely that at least 10% members of "non-affected" households were HIV-positive but had not to our knowledge had been tested or reported. The various comparisons between "affected" and non-affected households therefore probably underestimate the true differences attributable to HIV/AIDS.

A cause for concern is that with deaths having recently occurred in a relatively large number of affected households, some of these households may no longer contain anyone infected with HIV. However the effects of their deaths are likely to persist in many cases. On the other hand, infections in so-called non-affected households may later start manifesting in the form of an increased incidence of HIV/AIDS-related disease and

death. This underlines the importance of implementing mechanisms to fight attrition of the original sample and to devise ways in which to be able to reassign households to the affected and non-affected groups over time, which will be investigated once the study is completed (two more waves of data collection will be conducted in the third year of the project).

Morbidity and mortality

The incidence of morbidity and mortality are considerably higher in affected than in non-affected households. Morbidity and mortality have jointly over time exacted a more severe burden on affected households, with a large proportion of households experiencing illness or death in each of the four waves of the study or at least in one wave. The morbidity and mortality experienced by affected as opposed to non-affected households exhibit a classic HIV/AIDS pattern, with larger numbers and a greater proportion of adults (i.e. those aged 15-49 years) in affected households having experienced illness or having died. Between 70 and 80% of morbidity and mortality in affected households can be attributed to HIV/AIDS or related infectious diseases and opportunistic infections (Bachmann and Booysen, 2003). These analyses based on comparisons between affected and non-affected households, albeit based on data from a relatively small, purposive sample, does therefore present some indication of the socio-economic impact of HIV/AIDS on households.

Ill members of affected household were more than twice as likely to have attended a government hospital, were less likely to have attended private hospitals, and were slightly less likely to have visited a government clinic. Being cared for at home was slightly more likely among those ill persons from affected households than from non-affected households. Ill members of affected households required significantly more care at home, with care being provided mainly by family members of the ill person. People who died were most likely to have visited a government hospital, followed by a government clinic. Eighty percent of deceased persons were cared for at home prior to their death, mainly be

relations of the deceased, and household members spent an average of 7 hours (median = 5 hours) per day providing care to this person.

However, there has been a relatively steep decline in the incidence of morbidity and mortality over time. The incidence of morbidity has almost been halved over the 2-year period, while declines in mortality levels have been even more pronounced. In fact, the incidence of mortality in affected and non-affected households by wave IV was almost on par. There are a number of feasible explanations for this trend. For starters this can be attributed in large part to the purposive design of the study, with households that at the time had experienced a recent death or that included members in home-based care programmes being targeted for inclusion in the study. Mortality, moreover, will see the percentage of households that have experienced morbidity fall as ill members die in subsequent waves of the study. In addition, the nature of the HIV/AIDS epidemic will mean that infected persons need not remain chronically ill and can experience cycles of good and poor health over the course of the disease. Finally, migration means that ill persons may have left their respective households, a fact born out by initial evidence on the nature of out-migration from affected households. However, one can of course not discount the possibility of respondents becoming used to interviewers and the survey process and therefore being less likely to report illness sufficiently severe in nature to be recorded in the interview schedule.

Socioeconomic impact of HIV/AIDS

The HIV/AIDS epidemic and the associated, growing orphan crisis significantly impacts on family life and household composition. The extended family plays a crucial role in coping with these crises. The evidence, furthermore, shows that the epidemic impacts entire communities rather than affected households per se, particularly in the context of the orphan crisis.

Affected households in general and affected households that had experienced a greater burden of morbidity and mortality when compared to non-affected households include a

relatively larger proportion of members belonging to the extended family. The relatively important role of the extended family in African communities is also evident from the relation of migrating persons to the head of the household, both those who had left their respective households as well those persons that had joined these households (i.e. many are parents, grandchildren, siblings or other relatives).

The extent of out-migration was slightly higher in affected than in non-affected households. This is understandable insofar as the pressures exerted on affected households (e.g. not being able to cope financially or having to cope with illness and/or death) are more likely to result in the out-migration of household members than may be the case in non-affected households. The extent of in-migration was also higher in affected than in non-affected households, given that the pressures exerted on affected households (e.g. having to cope with illness and/or death) may also result in the in-migration of persons to help care for the ill or to fulfill other duties or assist in other tasks. The relatively important role of the extended family in African communities is also evident from the relation of migrating persons to the head of the household, both those who had left their respective households as well those persons that had joined these households (i.e. many are parents, grandchildren, siblings or other relatives). Moreover, the persons that had left affected households are specifically those persons that have been shown to care for the ill and/or fulfill other household duties that the ill cannot perform, i.e. older children and the elderly and female household members. This poses the question as to whether households will find it increasingly difficult to cope with the epidemic and as to whom will in future take on these responsibilities.

In affected households in general and in affected households that have experienced morbidity or mortality in particular a relatively larger share of persons left because of reasons related to social support, i.e. the adoption or fostering of children, to escape from conflict in the household, or to relocate with their parents. In terms of in-migration, the most prominent reason for joining included the adoption or fostering of children. Other reasons for in-migrating related specifically to the HIV/AIDS epidemic (i.e. a duty of having to care for the ill) were only cited by persons that had joined affected households

that had experienced morbidity or mortality in each period. However, this proportion was relatively small, thus suggesting that care for the ill is the responsibility of current rather than new members of these households.

The evidence suggests that younger children may be taken from school for relative short periods rather than not attending school for a longer period of time, whereas older children may be taken from school for longer periods. The relatively higher non-attendance amongst older children makes sense insofar as these children are more suitable to be employed to do household chores, work or to care for the ill than are younger children. Children from affected households were relatively more likely to not be attending school compared to children from non-affected households, often due to the inability of households to pay school fees, especially in the case of affected households that have experienced morbidity or mortality in two or more periods. Evidence on differences in expenditure patterns, moreover, highlighted the crowding out of household expenditure on education, personal items and durables in affected households in favor of expenditure on health care, food and other basic necessities. The fact that it is primarily female children in affected households that are not attending school for relatively longer periods supports the argument that female children in particular are often employed in caring for ill persons and/or for doing household chores that other household members cannot perform because they themselves are either ill or have to care for the ill.

The fact that the percentage of households that have sheltered an orphaned child has steadily increased over time presents stark evidence of the mounting orphan crisis in these two communities, as does the steady increase in rates of orphanhood over time. The rate of maternal orphanhood, for example, more than doubled over the period. This implies that some households apart from having to care for older infected members also may have to take responsibility for caring for children displaced by the HIV/AIDS epidemic, thus increasing the pressures on families. The relatively high and increasing incidence of orphanhood amongst children, not only in affected households but also in non-affected households, illustrates the fact that communities in general rather than affected households alone have to cope with the orphan crisis.

In terms of the migration of orphaned children, the majority of which belonged to affected households, the evidence shows that these children in most cases were female and generally were grandchildren, children or other relations of the head of the household. The single most important reason for migration was related to education, while reasons related to the care, adoption or fostering of children by the extended family were equally prominent. In addition, a small proportion of children cited conflict in the home and the death of their mother as the main reason for leaving. The evidence from the focus groups also highlighted this vulnerability of female orphans to abuse. Another problem relating to children whose parents have passed away is that they are vulnerable to abuse. The majority of orphaned children migrated to locations in close proximity to their previous or new place of residence, i.e. the same or a nearby town or village. This suggests that the duty to care for orphaned children is being shared amongst related households in the nearby community, again emphasizing the role of the extended family in coping with the HIV/AIDS epidemic.

Caring for these orphaned children should not be assumed to be a natural part of family life to be done with little or no support. It should not be taken for granted that foster care is a substitute for statutory services, but should rather be seen as a complement. It is important that carers of AIDS orphans are included in overall planning of care for these children. Carers need to work with children and their families before they die (succession planning). However, this may be difficult because many AIDS victims are still reluctant, let alone speaking about life after their death. While the support from NGOs is acknowledged, much more dedication is needed to serving and ministering the physical and spiritual needs of orphaned children. In particular, the elimination of school fees and other school-related costs might also bring these children back to school. Above all, through increased knowledge on the subject, the role of HIV/AIDS orphans could enjoy greater recognition.

This study, albeit based on a relatively small sample, also presents an indication of the migration patterns of HIV/AIDS-infected persons. Of those ill persons that had left their

respective households, almost 80% belonged to affected households. Almost half of the ill persons that migrated were adults aged 20-49 years (median = 44 years). The majority of these persons were female, while a large proportion belonged to the extended family (i.e. parents, grandchildren or other relations of the head of household). The evidence also hints at the disruptive impact of the epidemic on family life, with a relatively large proportion of persons having headed the household or being a husband/wife/partner of the head of the household. The largest single proportion of ill persons that left was single (35.7%) or was divorced, separated or widowed. The majority of persons migrated to locations in close proximity to their original place of residence, i.e. the same or a nearby town/village. This suggests that the duty to care for ill persons is being shared amongst related households in the same community, again emphasizing the role of the extended family in coping with the HIV/AIDS epidemic. Surprisingly, a relatively small proportion of persons left for a rural destination in the Free State or another province. This preference of urban over rural locations suggests that access to health care may be an important reason for migration, given that health care services generally is better developed in urban areas. Most ill persons left to be close to their family and most of these moved with or to be with their parents or grandparents, which fulfills a caring, adoption or fostering role. A tenth of persons left for another reason that can be linked directly to HIV/AIDS, i.e. reasons related to illness, including access to health care. The average value of these monetary contributions amounted to R686 per month, which represents a sizeable 'loss' of earnings and is likely to severely impact on the livelihood of these households in the absence of increased remittances from family or friends or improved access to social grants, which can fill this resource gap.

Such migration also holds budgetary implications. In South Africa, as in many other countries, conditional grants for HIV/AIDS-related programs are allocated based on HIV-prevalence rates based on the province in which the person was diagnosed. For example, the size of the conditional grants allocated to provinces for funding VCT, CHBC and Life Skills programs is determined, amongst others, by HIV/AIDS prevalence rates reported in the annual antenatal survey (Hickey, 2001). The evidence suggests that some infected persons are migrating elsewhere once diagnosed and once they start experiencing AIDS

symptoms (e.g. persons may leave the province where they work for the province where their families reside). As a result, budgetary allocations may be sub-optimal and may discriminate against those provinces that are likely to in future years experience an increasing burden on health care services. This increase in the burden on health care services need not only arise from the increasing influx of HIV/AIDS patients from elsewhere, but may also be caused by the HIV/AIDS epidemic peaking in the local population (Rumley *et al.*, 1991). In fact, evidence on inter-provincial migration patterns, although scarce, suggest that the provinces with the highest HIV prevalence rates (i.e. those provinces favored in the allocation of conditional grants for HIV/AIDS programs) are the largest net recipients of migrants (Haldenwang, 2001). This implies that the increased urban to rural migration of infected persons in later stages of the epidemic may see these allocations being relatively ineffective in matching funding and treatment needs. Therefore, more research into the post-diagnosis migration of HIV-infected persons is required to fully understand the links between HIV/AIDS and migration.

The evidence from this study also highlights the vulnerability of HIV/AIDS-affected households, reporting on a number of ways in which affected households, both socially and economically, are at a disadvantage compared to non-affected households.

Fewer economically active persons in affected households and in particular in affected households that have experienced morbidity and mortality in two or more periods were employed. Economically active persons in affected households that have experienced morbidity or mortality in two or more periods were much less likely to have been employed in all four waves compared to economically active persons in non-affected households and in affected households that have experienced a lower burden of morbidity and mortality. Furthermore, economically active persons in affected households were more likely to not have been employed at any time or to have been employed in one wave only. Consequently, unemployment rates (both in the narrow and broad sense) are generally higher in affected than in non-affected households, especially in affected households that have experienced morbidity and mortality in two or more periods.

Given these lower labor force participation and higher unemployment rates, affected households in general and those affected households that have experienced a greater burden of morbidity and mortality in particular were relatively more dependent on non-employment sources of income, with a relatively smaller share of income being made up by employment income compared to non-affected households. Poorer affected households in particular were relatively more dependent on non-employment income and remittances compared to more affluent affected households, with the share in total income of these sources declining as one moved up the income distribution. The share of employment income in turn declined as one moves down the income distribution.

The above findings raise the question as to whether remittances are crowded out by public transfers or whether affected households are severed from the extended family and kinship system due to stigmatization and therefore received relatively less private transfers. More importantly, these results show that affected households are relatively more vulnerable than non-affected households insofar as more pronounced fluctuations in employment may put more severe constraints on household finances, particularly where households have to also cope with morbidity and/or mortality. These results further illustrate the substantial divide between affected and non-affected households in terms of the supply of labor and the subsequent higher unemployment levels and lower income earning capacity of these households.

Morbidity and mortality represent a considerable economic burden to affected households. Mortality places a particularly severe burden on household finances, given relatively high funeral costs. Households generally have three alternatives in terms of responding to these financial crises, i.e. to borrow money, to utilize their savings, or to sell some of their assets. The most frequent response was borrowing, followed by the utilization of savings, and the sale of assets. This makes sense when considering that the households included in the sample are primarily poorer households with few assets and low income, which explains why a relatively small percentage of households actually utilized savings or sold assets.

Affected households and in particular affected households that have experienced illness or death more frequently were more likely to have borrowed money in two or more periods, in most cases from family or friends, which again hints at the relative important role of not only the extended family but wider social network in helping households cope with the socio-economic impact of HIV/AIDS. More importantly, the purpose for which households borrowed money suggests that the HIV/AIDS epidemic do play a role in causing affected households to take on increasing levels of debt. A relatively large proportion of responses by affected households indicated that the money was used to pay for funerals and medical expenses. A relatively larger percentage of affected households utilized savings or sold assets compared to non-affected households, particularly households that have experienced a greater burden of morbidity and mortality. The relative magnitude of this dissaving is considerable, particularly in the case of affected households that have experienced morbidity or mortality in two or more periods and in most cases were used to pay for funerals or medical expenses. The absolute value of the proceeds from the sale of assets and the relative magnitude of these proceeds were considerably higher in affected households than was the case in non-affected households. This suggests that proceeds from asset sales, although relatively uncommon, represent a substantial source of resources in times of financial crises. Asset holdings, moreover, declined over time in affected households that have experienced morbidity or mortality in each period.

The above evidence illustrates the likely burden that HIV/AIDS exerts on household finances and how the epidemic may push households deeper into poverty by means of rising indebtedness. In the longer run, these financial strategies could potentially force households deeper into poverty as household wealth decline and as more basic needs are crowded out in favor of debt repayments in the absence of improvements in household income.

Affected households on average saved approximately 40% less than non-affected households on a monthly basis. For the most part, affected households that have experienced morbidity or mortality in two or more periods save the least. Furthermore,

the decline in household savings over time has been relatively more pronounced in affected households, especially in affected households that have experienced a greater burden of ill-health. Yet, affected households and in particular those affected households that have experienced morbidity and mortality were relatively more likely to invest in a funeral or burial policy or to save via stokvels or other informal savings associations compared to other households. This may suggest that affected households in fact be acting proactively in terms of precautionary saving that can be employed in mitigating the financial burden of ill-health.

Furthermore, a larger proportion of persons that left affected households had contributed compared to non-affected households. The departure of persons from affected households also represented a relatively greater loss to households in terms of foregone contributions than was the case in non-affected households. Yet, a relatively larger proportion of persons that had joined affected households that have experienced morbidity or mortality were young adults that belong to the economically active population and a slightly larger proportion of persons that joined affected households had contributed to the household compared to non-affected households. The relative magnitude of these monetary contributions was substantial, averaging R967 per month. Caution is required however in interpreting these results, given that these contributions do not necessarily represent a net "loss" or "gain" insofar as these persons may continue to contribute to the household after their departure or may have done so before they joined the household.

Affected households, and in particular affected households that have experienced morbidity or mortality in two or more periods, were relatively worse off than non-affected households and affected households that have experienced illness or death infrequently. This was the case regardless of whether income or expenditure was employed as measure of household welfare. Affected households also spent less on food than non-affected households, with mean adult equivalent per capita expenditure on food on average representing 78% of that in non-affected households. This ratio is as low as 50% for affected households that have experienced morbidity and mortality in two or more periods. In the longer run, therefore, this may contribute to malnutrition amongst

household members. Approximately half of affected households that had experienced morbidity or mortality in two or more periods fell into the lower end of the income distribution, while more than 60% of non-affected households and affected households that faced a relatively lower burden of illness or death fell into the top two quintiles of the income distribution.

The study shows that both affected status and poverty were independent risk factors for both illness and death. Illness and death were not however associated with income, expenditure, or the ratio between them. The latter finding may be because of the relatively high rate of unemployment in this population, which meant that few people lost their jobs because of illness or death. On average over the four waves 41% of households had no members employed (45% of affected and 38% of unaffected households). It may be that affected households were able to recover their earning power once the ill members with HIV died and no longer required care from other members.

The incidence, depth and severity of poverty was relatively worse amongst affected households compared to non-affected households, especially in the case of affected households that had experienced morbidity or mortality in each wave. This was the case regardless of the choice of poverty line or poverty measure. In fact, the depth and severity of poverty was most pronounced amongst the latter households. Households that have experienced illness or death in two or more periods born 44.7% and 50.6% of the total burden of the incidence and severity of poverty, which illustrates that high burdens of morbidity and mortality are associated with greater and deeper poverty. As a result, policies aimed at poverty alleviation can be argued to be particularly crucial in sustaining the livelihoods of affected households that have experienced high burdens of morbidity and mortality.

The intensity of income mobility increased as the probability of households being affected by illness or death increased. HIV/AIDS is associated with a relatively greater variation in income at the upper end of the income distribution (where illness and/or death can cause income to vary substantially, given its impact on labor force

participation), but with relatively less variation at the lower end of the distribution (where illness or death may make little difference where households already have a low income and face high unemployment). In fact, affected households were more likely than non-affected households to have slipped into poverty. Furthermore, a relatively larger proportion of affected households, and in particular affected households that faced a greater burden of illness or death, were classified as chronically poor. Interestingly, however, transient poverty was more prominent amongst households that had experienced shorter spells of morbidity and mortality, i.e. that have been affected by illness or death in one to three periods. This hints at the extent to which cumulative burdens of morbidity and mortality may push households deeper into poverty, thus resulting in chronic poverty.

What then explains these changes in poverty status? A considerably higher proportion of affected households that moved into poverty or that escaped poverty had experienced a demographic event between each consecutive period. Demographic events include changes between consecutive waves in the number of children, adults and elderly in the household, as well as changes in the identity of the household head. This makes sense insofar as findings reported elsewhere in these pages highlighted the relatively greater incidence of changes in household composition, morbidity, mortality and of migration in affected households compared to non-affected households, which translate into a greater likelihood of demographic changes. Therefore, demographic events are of great importance in explaining poverty transitions in the context of the HIV/AIDS epidemic. Income events in turn refer to any changes between consecutive periods in the real value of household income by type, with a distinction being drawn between employment income, non-employment income, and remittances. Affected households that had moved into (escaped) poverty were relatively more likely than non-affected households to have experienced a decline (increase) in employment income, given lower labor force participation and higher unemployment rates. Affected households that had moved out of poverty were also relatively more likely than non-affected households to have experienced an increase in non-employment income, which hints at the likely importance of social grants in allowing affected households to escape poverty.

As expected, households that gained members were relatively more likely to have fallen behind (per capita income declined), whereas households that lost members were relatively more likely to have gotten ahead (per capita increased). However, the results are not clear-cut in terms of exhibiting significant differences between affected and non-affected households. This suggests that it is not necessarily a change in household size *per se* that explains poverty transitions, but the specific nature of a demographic impact that. In other words, it depends on who left or joined the household. Affected households headed by persons aged 60 years or over were relatively more likely than non-affected households to have gotten ahead, hinting at the role of the old age pension in alleviating poverty in HIV/AIDS-affected households. Households in which the number of employed (unemployed) members declined (increased) were relatively more likely to have fallen behind. Households in which the number of employed (unemployed) members increased (declined) in turn were relatively more likely to have gotten ahead. This underlines the importance of access to labor markets and to job opportunities in improving the general living standard of South Africans. Affected households in which the number of ill persons declined were relatively more likely to have gotten ahead, whereas affected households in which the number of ill persons had increased were relatively more likely to have fallen behind. A sizeable proportion (>60%) of affected households where two or three periods have elapsed since the death had fallen behind or experienced no change in their standard of living, reflecting the relatively high incidence of chronic poverty in HIV/AIDS-affected households. Affected households that had gained two or more orphaned children were relatively more likely to have fallen behind compared to non-affected households. As expected, households that had gained access to social grants, especially the relatively larger grants, were relatively more likely to have gotten ahead. Almost three quarters of those households that gained access to an old age pension got ahead, while almost two thirds of households that gained access to the disability grant got ahead. Just more than two fifths of households that gained access to the foster care and child support grants got ahead. The one household that gained access to a care dependency grant also got ahead. Not surprisingly, the child support grant, the smallest of these grants, did not consistently aid household in escaping poverty. Only in the case of

the foster care grant and old age pension did a relatively larger proportion of households that lost access to such grant actually fall behind. Therefore, the evidence again highlights the relatively important role of social grants in mitigating the socio-economic impact of the HIV/AIDS epidemic. Poverty transitions, however, are complex, given that a variety of demographic and income events simultaneously interact to explain these changes. Therefore, regression analysis is required to elucidate the relative importance of these different determinants of changes in poverty status to arrive at final conclusions regarding those interventions that will make the biggest difference in terms of alleviating poverty in HIV/AIDS-affected households.

The findings therefore suggest that the introduction of a broad-based social security system offering minimal benefits or of specifically targeted welfare programs may in the short and medium term be important in mitigating certain aspects of the impact of the epidemic. As an example, ensuring food security, making sure that children attend school and mitigating the burden of funeral costs, particularly in the case of households that have directly experienced illness or death, are social imperatives. In the longer run, however, continued efforts at poverty reduction through improved educational opportunities and job creation are likely to remain important. Efforts aimed at ensuring HIV-infected persons equitable access to the labor market will also be important in keeping these households from slipping deeper into poverty.

The findings also emphasize the important role of social grants in mitigating the socio-economic impact of the HIV/AIDS epidemic. Given the pro-poor bias in the sampling design, relatively large proportions of households had access to social grants. The proportion of households with access to any social grant was slightly higher in the case of affected households. Access to social grants in general has increased over time. Access to old age pensions remained relatively stable over the period and was only slightly higher for affected households, highlighting the high take-up rate of this grant. Access to the child support grant increased markedly in both affected and non-affected households, while access to disability grants and to foster care grants had increased markedly in affected households. Gains in access to foster care grants were small, thus supporting the

evidence of bureaucratic and legal processes constraining expansions in the uptake of foster care grants. The evidence on access to social grants presented here emphasizes the likely importance of the child support, disability and foster care grants in mitigating the impact of HIV/AIDS, given that increased eligibility for these grants (in addition to the required means tests) are driven largely by the increasing burden of chronic illness, the mounting orphan crisis and the impoverishment of households associated with the epidemic. Yet, take-up rates for child support, disability and foster care grants are relatively low, given the relatively high burden of illness and orphanhood in the sample population. Hence, much scope remains to improve take-up rates for these two social grants.

Transitions in access to social grants are driven by changes in household composition resulting from a combination of migration and mortality, as well as by changes in the socio-economic circumstances of households. Transition probabilities differed substantially across the different types of social grants. Transitions in access to old age pensions were the least pronounced. This most likely is indicative of the high take-up rate of this grant on the one hand and the relatively low mobility of the elderly on the other hand. Some 20% of affected and non-affected households reportedly did not benefit from the child support grant despite having received such grant at an earlier stage. This finding reflects the relatively high mobility of young children in the sample, as suggested by the findings on migration. The relatively high transition probabilities in access to child support, disability and care dependency grants suggest that these grants are unlikely to provide a long-term solution to poverty in affected households, thus emphasizing the importance of sustainable development in the form of job creation in addressing the socio-economic impact of the HIV/AIDS epidemic. The small value of the child support grant moreover suggests that it may help in addressing the depth and severity of poverty, but is unlikely to significantly affect the incidence of poverty. The relatively low transition probabilities in turn in access to the old age pension and foster care grant highlight the likely important role of these grants in providing a longer-term social safety net to affected households, especially given the relatively large monetary value of these two grants.

Although a relatively high proportion of households benefited from one or other social grant, a relatively large proportion of poor households had never benefited from social grants. Hence, although the social welfare system in some sense is often seen as the panacea to various socio-economic impacts of the HIV/AIDS epidemic, many poor households remain beyond the grasp of the social safety net, thus emphasizing the importance of sustainable development in the form of job creation in alleviating poverty in the longer term, but also the need to address constraints to the take-up of social grants by those that do qualify to receive such support.

6. BIBLIOGRAPHY

- Abt Associates, 2000. *The Impending Catastrophe: A Resource Book on the Emerging HIV/AIDS Epidemic in South Africa*. Johannesburg: Henry J. Kaiser Family Foundation.
- Ackerman L & Matebesi Z. 1998. Experiences of co-resident carers of elderly persons in Mangaung (Bloemfontein). *Southern African Journal of Gerontology*, 7(1):21-25.
- Adams, A., Hien, M. & Sauerborn, R., 1996. Household strategies to cope with the economic costs of illness. *Social Science & Medicine* 43(3): 291-301.
- AIDS Weekly, 2002. To help AIDS orphans, prolong life of parents, Population Council researcher tells U.S. lawmakers. *AIDS Weekly* (24 June): 20-21.
- Ainsworth, M. & Dayton, J., 2000. *Is the AIDS epidemic having an impact on the coping behaviour and health status of the elderly? Evidence from Northwestern Tanzania*. Washington, DC: World Bank.
- Ainsworth, M., Beegle, K. & Koda, G., 2000. *Impact of adult mortality on primary school enrolment in Northwestern Tanzania*. Washington, DC: World Bank.
- Alcock, P., 1993. *Understanding Poverty*. Hampshire: Macmillan.
- Arango, J., 2000. Explaining Migration: A Critical Review. *International Social Science Journal* 52(165): 283-296.
- Arndt, C. & Lewis, J.D., 2000. Macro Implications of HIV/AIDS in South Africa: A Preliminary Assessment. *South African Journal of Economics* 68(5): 856-887.
- ASSA, 2003. *Actuarial Projections of the Epidemic: Summary Statistics*. Available: <http://www.assa.org.za/downloads/aids/summarystats.htm> [accessed 16 July 2003].
- Bachmann, M. & Booyesen, F. le R., 2003. Health and Socioeconomic Impact of HIV/AIDS on South African Households: Cohort Study. *BMC Public Health* 3:14. Available: www.biomedcentral.com/1471-2458/3/14.
- Barnett, T. & Whiteside, A., 1998. *Guidelines for Preparation and Execution of Studies of the Social and Economic Impact of HIV/AIDS*. Geneva: UNAIDS.
- BBC News, 2001. *Africa 'has 12 million Aids orphans'*. Available: www.news.bbc.co.uk/hi/English/health [accessed 23 May 2003].

- Bertrand, M., Miller, D. & Mullainathan, S., 2000. *Public Policy and Extended Families: Evidence from South Africa*. NBER Working Paper No. 7594. Cambridge: National Bureau of Economic Research.
- Bhorat, H., 2003. *Estimates for Poverty Alleviation in South Africa, with An Application to a Universal Income Grant*. DPRU Working Paper No. 03/75. Development Policy Research Unit: University of Cape Town
- Bonnel, R., 2000. *Economic Analysis of HIV/AIDS*. Paper presented at the African Development Forum, Addis Ababa, 3-7 December.
- Booyesen, F. le R., 2001. Non-Payment of Services: A Problem of Ability to Pay. *South African Journal of Economics* 69(4): 674-697.
- Booyesen, F. le R., 2002a. Children of the Storm: The HIV/AIDS Epidemic in South Africa. *Social Dynamics* 28(1): 170-192.
- Booyesen, F. le R., 2002b. Urban-Rural Inequalities in Health Care Delivery in South Africa. Working Paper No. 2. Department of Economics. University of the Free State. Available: <http://www.uovs.ac.za/faculties/econ/home/default.asp>.
- Booyesen, F. le R., Van Rensburg, H.C.J., Bachmann, M., Engelbrecht, M., Steyn, F. & Meyer, K., 2002c. *The Socio-economic Impact of HIV/AIDS on Households in South Africa: Pilot study in Welkom and QwaQwa, Free State Province*. Report for USAID on Economic Impact of HIV/AIDS in South Africa.
- Booyesen, F. le R., 2003. *Chronic and Transitory poverty in the face of HIV/AIDS-related morbidity and mortality: Evidence from South Africa*. Paper presented at international conference on Chronic Poverty and Development Policy, 7-9 April, Chronic Poverty Centre, University of Manchester.
- Booyesen, F. le R. & Arntz, T., 2003. The Methodology of HIV/AIDS Impact Studies: A Review of Current Practices. *Social Science and Medicine* 56: 2391-2405.
- Buehler, J.W., Frey, R.L., Chu, S.Y. & AIDS Mortality Group, 1995. Migration of Persons with AIDS: Data from 12 States, 1985 to 1992. *American Journal of Public Health* 85(11): 1552-1555.
- Burkhauser, R.V., Frick, J.R. & Schwarze, J., 1997. A Comparison of Alternative Measures of Economic Well-Being for Germany and the United States. *Review of Income and Wealth* 43(2): 153-171.

- Carter, M.R. & May, J., 2001. One Kind of Freedom: Poverty Dynamics in Post-apartheid South Africa. *World Development* 29(12): 1987-2006.
- Case, A., 2001. *Does Money Protect Health Status? Evidence from South African Pensions*. NBER Working Paper No. 8495. Cambridge: National Bureau of Economic Research.
- Case, A. & Deaton, A., 1998. Large cash transfers to the elderly in South Africa. *Economic Journal* 108: 1330-1361.
- Cichello, P., Fields, G.S. & Leibbrandt, M., 2003. *Earnings and Employment Dynamics for Africans in Post-apartheid South Africa: A Panel Study of Kwazulu-Natal*. DPRU Working Paper No. 03/77. Development Policy Research Unit: University of Cape Town
- Cogneau, D. & Grimm, M., 2003. *AIDS and Income Distribution in Africa: A Micro-Simulation Study of Côte d'Ivoire*. Paris: DIAL, IRD and IEP.
- Cohn, S.E. & Klein, J.D., 1994. The Geography of AIDS: Patterns of Urban and Rural Migration. *Southern Medical Journal* 87(6): 599-606.
- Crawley, M., 2001. Cribs and hugs for Africa's aids orphans. *Christian Science Monitor* 93(173): 1.
- Cross, C., 2001. Sinking deeper down: HIV/AIDS as an economic shock to rural households. *Society in Transition* 32(1): 133-147.
- Davis, K. & Stapleton, J., 1991. Migration to Rural Areas by HIV Patients: Impact on HIV-related Healthcare Use. *Infection Control and Hospital Epidemiology* 12(9): 540-543.
- Decosas, J., Kane, F., Anarfi, J.F., Sodji, K.D.R. & Wagner, H.U., 1995. Migration and AIDS. *Lancet* 346: 826-828.
- Desmond, D., 2001. Joint Epidemics: Poverty and AIDS in Sub-Saharan Africa. *Harvard International Review* Fall: 54-58.
- Desmond, C., Michael, K. & Gow, J., 2000. *The Hidden Battle: HIV/AIDS in the Family and Community*. Health Economics & HIV/AIDS Research Division (HEARD), University of Natal, Durban.
- Devereux, S., 2002. Can Social Safety Nets Reduce Chronic Poverty. *Development Policy Review* 20(5): 657-675.

- Drèze, J. & Srinivasan, P.V., 1997. Widowhood and Poverty in Rural India: Some Inferences from Household Survey Data. *Journal of Development Economics* 54: 217-234.
- Duflo, E., 2000. *Grandmother and Granddaughters: Old Age Pension and Intra-Household Allocation in South Africa*. NBER Working Paper No. 8061. Cambridge: National Bureau of Economic Research.
- Economist, 2003. Cursed, twice over. *The Economist* 366(8311): 43.
- Edmonds, E., Mammen, K. & Miller, D., 2001. *Rearranging the Family? Household Composition Responses to Large Pension Receipts*. Mimeo, Princeton University.
- Ellis, M., 1996. Postdiagnosis Mobility of People with AIDS. *Environment and Planning* 28: 999-1017.
- Ellis, M. & Muschkin, C., 1996. Migration of Persons with AIDS: A Search for Support from Elderly Parent? *Social Science & Medicine* 43(7): 1109-1118.
- Filmer, D. & Pritchett, L., 1998. *Estimating Wealth Effects without Expenditure Data - or Tears: An Application to Educational Enrollments in States of India*. World Bank Policy Research Working Paper No. 1994. Washington, DC: Development Economics Research Group (DECRG), The World Bank.
- Freire, S., 2003. HIV/AIDS Affected Households: Status and Temporal Impacts. In Moatti, J., Coriat, B., Souteyrand, Y., Barnett, T., Dumoulin J. & Flori, Y. (eds.). *Economics of AIDS and Access to HIV/AIDS Care in Developing Countries: Issues and Challenges*. Paris: ANRS.
- Gaffeo, E., 2003. Economics of HIV/AIDS: A Survey. *Development Policy Review* 21(1): 27-49.
- Gibbs, A., 1997. Focus groups. *Social Research Update* (March).
- Gillies, P., Tolley, K. & Wolstenholme, J., 1996. Is AIDS a Disease of Poverty? *AIDS Care* 8(3): 351-363.
- Girdler-Brown, B., 1998. Migration and AIDS: Eastern and Southern Africa. *International Migration* 36(4): 513-549.
- Greer, J. and Thorbecke, E., 1986. A Methodology for Measuring Food Poverty Applied to Kenya. *Journal of Development Economics* 24: 59-73.

- Grootaert, C., 1983. The Conceptual Basis of Measures of Household Welfare and their Implied Survey Data Requirements. *Review of Income and Wealth* 29(1): 1-21.
- Guthrie, T., 2002. Family Social Security Benefits in South Africa. *Social Dynamics* 28(2): 122-146.
- Hagenaars, A.J.M., 1991. The Definition and Measurement of Poverty. In Osberg, L. (ed.). *Economic Inequality and Poverty: International Perspectives*. New York: ME Sharp.
- Haldenwang, B.B., 2001. *A Demographic Profile of South Africa's Provinces, 1996-2031*. Cape Town: Institute for Futures Research.
- Hickey, A., 2001. *Budgets and Funding Flows in the National Integrated Plan for HIV/AIDS*. IDASA Budget Brief 82: 1-7.
- Hogg, R.S., Whitehead, J., Ricketts, M., Heath, K.V., Ng, E., Lalonde, P. & Schechter, M.T., 1997. Patterns of Geographic Mobility of Persons with AIDS in Canada from Time of AIDS Index Diagnosis to Death. *Clinical & Investigative Medicine* 20(2): 77-83.
- HSRC, 2002. *South African National HIV Prevalence, Behavioural Risks and Mass Media: Household Survey 2002*. Pretoria: Human Science Research Council.
- Hulme, D. & Shepherd, A., 2003. Conceptualizing Chronic Poverty. *World Development* 31(3): 403-424.
- International Labour Organisation, 2000. *HIV/AIDS: A Threat to Decent Work, Productivity and Development*. Geneva: International Labour Office.
- Janjaroen, S., 1997. *Impact of AIDS on household composition and consumption in Thailand*. European Union HIV/AIDS Programme in Developing Countries. Brussels: European Commission.
- Jensen, R.T., 2002. Do private transfers 'displace' the benefits of public transfers? Evidence from South Africa. *Journal of Public Economics* (forthcoming).
- Johnson, D., 1996. Poverty Lines and the Measurement of Poverty. *Australian Economic Review* 96(1): 110-126.
- Keller, S., 2002. *Household Formation, Poverty and Unemployment - The Case of Rural Households in South Africa*. Mimeo, University of Stellenbosch.

- Kgarimetsa, M., 1992. The Two Faces of Poverty: Urban and Rural. *Social work-Practice* 3: 8-14.
- Klasen, S., 1997. Poverty, Inequality and Deprivation in South Africa: An Analysis of the 1993 Saldru Survey. *Social Indicators Research* 41: 51-94.
- Klasen, S. & Woolard, I., 2000. *Surviving Unemployment without State Support: Unemployment and Household Formation in South Africa*. IZA Discussion Paper No. 237. Institute for the Study of Labour.
- Landman, C., 2002. The AIDS orphans of South Africa. *Contemporary Review* 281(1642): 268271.
- Lanjouw, P. & Ravallion, M., 1995. Poverty and Household Size. *Economic Journal* 105: 1415-1434.
- Le Roux, P., 2002. Financing a Universal Income Grant in South Africa. *Social Dynamics* 28(2): 99-121.
- Leibbrandt, M. & Woolard, I., 2001. Labour Market and Household Income Inequality in South Africa: Existing Evidence and New Panel Data. *Journal of International Development* 13: 671-689.
- Lipton, M., 1997. Editorial: Poverty - Are there Holes in the Consensus? *World Development* 25(7): 1003-1007.
- Lipton, M. and Ravallion, M., 1995. Poverty and Policy. In Behrman, J. and Srinivasan, T.N. (eds.). *Handbook of Development Economics (Volume III)*. Amsterdam: Elsevier Science.
- Lucas, S.E., 1991. AIDS: Refugees and the Homeless. *AIDS Care* 3(4): 443-446.
- Lund, F., 1999. Understanding South African Social Security through recent household surveys: new opportunities and continuing gaps. *Development Southern Africa* 16(1): 55-69.
- Lundberg, M. & Over, M., 2000. *Transfers and Household Welfare in Kagera*. Washington, DC: World Bank.
- Lurie, M., 2000. Migration and AIDS in Southern Africa: A Review. *South African Journal of Science* 96: 343-347.
- Maitra, P., 1999. *Motives for Inter-Household Transfers in South Africa*. Mimeo, Working Paper, University of Sydney.

- Marchand, M. & Pistieau, P., 1991. Public Pensions: Choices for the Future. *European Economic Review* 35: 441-453.
- May, J., Carter, M.R., Haddad, L. & Maluccio, J.A., 2000. Kwazulu-Natal Income Dynamics Study (KIDS) 1993-98: a longitudinal household database for South African policy analysis. *Development Southern Africa* 17(4): 567-581.
- May, J. & Roberts, B., 2001. Panel Data and Policy Analysis in South Africa: Taking along view. *Social Dynamics* 27(1): 96-119.
- Meier, E., 2003. The growth of AIDS orphans and policy solutions. *Pediatric Nursing* 29(1): 75-77.
- Moore, K., 2001. *Framework for Understanding the Inter-Generational Transmission of Poverty and Well-Being in Developing Countries*. CPRC Working Paper No. 8. Available: <http://www.cprc.org>.
- Mutangadura, G.B., 2000. *Household welfare impacts of mortality of adult females in Zimbabwe: Implications for policy and program development*. Paper presented at the AIDS and Economics Symposium, Durban, 7-8 July.
- Nampanya-Serpell, N., 2000. *Social and Economic Risk Factors for HIV/AIDS-affected Families in Zambia*. Paper presented at the IAEN AIDS and Economics Symposium, Durban, 7-8 July.
- National Treasury, 1999. *Medium Term Expenditure Framework*. Pretoria: Government Press.
- National Treasury, 2003. *Intergovernmental Fiscal Review*. Pretoria: National Treasury.
- Neven, M., 2003. Terra Incognita: Migration of the elderly and the nuclear hardship hypothesis. *History of the Family* 8: 267-295.
- New Internationalist, 2002. AIDS orphans. *New Internationalist* 346: 24-25.
- Nyamathi, R.N., Flaskerud, J., Leake, B. & Chen, S., 1996. Impoverished Women at Risk for AIDS: Social Support Variables. *Journal of Psychosocial Nursing* 34(11): 31-39.
- Parker, W., Kistner, U., Gelb, S., Kelly, K. & O'Donovan, M., 2000. *Economic Impact of HIV/AIDS in South Africa and its Implications for Governance: A Bibliographic Review*. Johannesburg: CADRE & USAID.

- Paukert, F., 1973. Income Distribution at Different Levels of Development: A Survey of Evidence. *International Labour Review* 108: 97-125.
- Pecchenino, R.A. & Utendorf, K.R., 1999. Social security, social welfare and the ageing population. *Journal of Population Economics* 12: 607-623.
- Poku, N.K., 2001. Africa's AIDS Crisis in Context: 'How the Poor are Dying'. *Third World Quarterly* 22(2): 191-204.
- Ravallion, M., 1992. *Poverty Comparisons: A Guide to Concepts and Methods*. LSMS Working Paper No. 88. Washington, DC: World Bank.
- Ravallion, M., 1994a. Measuring Social Welfare with and without Poverty Lines. *American Economic Review* (Papers and Proceedings) 84(2): 359-364.
- Ravallion, M., 1994b. *Poverty Comparisons*. Switzerland: Harwood.
- Ravallion, M., 1996. Issues in Measuring and Modelling Poverty. *Economic Journal* 106: 1328-1343.
- Ravallion, M., 2003. *Targeted Transfers in Poor Countries: Revisiting the Trade-Offs and Policy Options*. Paper presented at international conference on Chronic Poverty and Development Policy, 7-9 April, Chronic Poverty Centre, University of Manchester.
- Ravallion, M. and Bidani, B., 1994. How Robust is a Poverty Profile? *World Bank Economic Review* 8(1): 75-102.
- Ravallion, M. and Sen, B., 1996. When Method Matters: Monitoring Poverty in Bangladesh. *Economic Development and Cultural Change* 44: 761-792.
- Riphahn, R.T. 2001. Rational poverty or poor rationality? The take-up of social assistance benefits. *Review of Income and Wealth* 47(3): 379-397.
- Rosen, S. & Simon, J., 2002. *Shifting the Burden of HIV/AIDS*. Paper presented at IAEN AIDS and Economics Symposium, Barcelona, 6-7 July.
- Rumley, R.L., Shappley, N.C., Waivers, L.E. & Esinhart, J.D., 1991. AIDS in Rural Eastern North Carolina - Patient Migration: A Rural AIDS Burden. *AIDS* 5: 1373-1378.
- Samson, M.J., 2002. The Social, Economic and Fiscal Impact of Comprehensive Social Security 97Reform for South Africa. *Social Dynamics* 28(2): 69-.

- Samson, M.J., Babson, O., Haarmann, C., Haarmann, D., Khati, G., Macquene, K. & Van Niekerk, I., 2002. *Research Review of Social Security Reform and Basic Income Grant for South Africa*. EPRI Policy Report No. 31. Economic Policy Research Institute: Cape Town.
- Seekings, J., 2002. The Broader Importance of Welfare Reform in South Africa. *Social Dynamics* 28(2): 1-38.
- Shepherd, A., Kyegombe, N. & Mulumba, M., 2003. *HIV/AIDS, socio-economic mobility and chronic poverty: Case study results from a small panel in Rakai, Uganda*. Paper presented at international conference on Chronic Poverty and Development Policy, 7-9 April, Chronic Poverty Centre, University of Manchester.
- Soskolne, V. & Shtarkshall, R.A., 2002. Migration and HIV Prevention Programmes: Linking Structural Factors, Culture, and Individual Behaviour-An Israeli Experience. *Social Science & Medicine* 55: 1297-1307.
- Statistics South Africa, 2000. *Measuring poverty*. Pretoria: Statistics South Africa.
- Statistics South Africa, 2003. *Consumer Price Index*. Available: http://www.statssa.gov.za/Products/Releases/CPI_Historical/CPIHistoricalCurrent.pdf [accessed 15 April 2003].
- Stewart, F., 2003. *Everyone Agrees we Need Poverty Reduction, but not what this Means: Does this Matter?* Paper presented at WIDER conference on Inequality, Poverty and Human Well-being, 30-31 May, Helsinki, Finland.
- Topouzis, D., 2000. *Measuring the Impact of HIV/AIDS on the Agricultural Sector in Africa*. Paper presented at the African Development Forum, Addis Ababa, 3-7 December.
- Topouzis, D. & Hemrich, G., 1994. *Socio-Economic Impact of HIV and AIDS on Rural Families in Uganda: An Emphasis on Youth*. Study Paper No. 2 UNDP HIV and Development Programme. New York: UNDP.
- UNAIDS, 2002. *South Africa: Epidemiological Fact Sheets*. Available: <http://unaids.org> [accessed 10 September 2002].
- UNAIDS & IOM, 1998. Migration and AIDS. *International Migration* 36(4): 445-468.

- UNDP, 1998. *Socio-economic Impact of HIV and AIDS on Rural Families in Uganda: An Emphasis on Youth*. Study Paper No. 2 HIV and Development Programme. New York: UNDP.
- UNICEF, 2002. *Children on the brink: A joint report on orphan estimates and program studies*. New York: UNICEF.
- Van der Berg, S. & Bredenkamp, C., 2002. Devising Social Security Interventions for Maximum Poverty Impact. *Social Dynamics* 28(2): 39-68.
- Verghese, A., Berk, S.L. & Sarubbi, F., 1989. Urbs in Rure: Human Immunodeficiency Virus Infection in Rural Tennessee. *Journal of Infectious Diseases* 160(6): 1051-1055.
- Wekesa, E., 2000. Impact of HIV/AIDS on child survival and development in Kenya. *AIDS Analysis Africa* 10(4): 12-14.
- Whiteside, A., 2001. AIDS and Poverty: The Links. *AIDS Analysis Africa* 12(2): 1-5.
- Whiteside, A., 2002. Poverty and HIV/AIDS in Africa. *Third World Quarterly* 23(2): 313-332.
- Wood, E., Yip, B., Gataric, N., Montaner, J.S.G., O'Shaughnessy, V.O., Schechter, M.T. & Hogg, R.S., 2000. Determinants of Geographical Mobility among Participants in a Population-based HIV/AIDS Drug Treatment Program. *Health & Place* 6: 33-40.
- Woolard, I., 2003. *Social Assistance Grants, Poverty and Economic Growth in South Africa*. Paper presented at TIPS/DPRU Annual Forum, 8-10 September, Johannesburg.
- Woolard, I. and Leibbrandt, M., 1999. *Measuring Poverty in South Africa*. Development Policy Research Unit (DPRU) Working Paper No. 99/33. Cape Town: University of Cape Town.
- Woolley, F.R. and Marshall, J., 1994. Measuring Inequality within the Household. *Review of Income and Wealth* 40(4): 415-431.
- World Bank, 1998. *Confronting AIDS*. Washington, DC: World Bank.
- Yamano, T. & Jane, T.S., 2002. *Measuring the Impacts of Prime-age Adult Death on Rural Households in Kenya*. Tegemeo Working Paper 5. Tegemeo Institute of Agricultural Policy and Development: Nairobi.

- Yaquib, S., 2002. *Chronic Poverty: Scrutinizing Estimates, Patterns, Correlates, and Explanations*. CPRC Working Paper No. 21. Available: <http://www.cprc.org>.
- Young, L. & Ansell, N., 2003. Young AIDS migrants in Southern Africa: policy implications for empowering children. *AIDS Care* 15(3): 337-345.