

The financial impact of HIV/AIDS on poor households in South Africa

Daryl L. Collins^{a,b} and Murray Leibbrandt^b

Background: Rising mortality rates caused by HIV/AIDS in South Africa have substantial and lingering impacts on poor households.

Methods: This is a descriptive paper using a new dataset of daily income, expenditure and financial transactions collected over a year from a total of 181 poor households in South African rural and urban areas. One of the key pathways through which HIV/AIDS impacts on household wellbeing is through the socioeconomic impacts of death, which this dataset is especially useful in quantifying.

Results: The key impacts of death on households are funerals and the loss of income. Funerals often cost up to 7 months of income. Nearly all households in the sample attempt to cover such costs by holding a portfolio of funeral insurance. Despite these efforts to insure against funeral costs, 61% of households are underinsured against the cost of a funeral. Nearly half the sample households are dependent on a regular wage earner, and another quarter are dependent on a grant recipient. Eighty per cent of these households would lose over half of their monthly income should the highest income recipient in the household die. Even by selling liquid assets, only one third of the sample households would be able to maintain their pre-death living standards for a year or more.

Conclusion: Death poses substantial and lingering burdens from the funerals that surviving household members need to finance and the ongoing loss of income once brought into the household by the deceased. These costs pose so great a threat to households that they dominate household saving and insurance behavior.

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Introduction

The severe impact of HIV/AIDS has led to a dramatic increase in the probability of death in South Africa's population. The latest forecasts from the Actuarial Society of South Africa show the likelihood of death among adult men jumping from 36% in 1990 to a forecasted 61% in 2008, whereas the likelihood of death among adult women increases from 21% in 1990 to a forecasted 53% in 2008 [1]. Given high unemployment rates in South Africa, macroeconomic estimates of the impact of this increasing death rate are somewhat benign [2], but far

greater destitution is revealed in household-level studies [3–7].

This paper focuses on the financial impact of death at the household level, using a new dataset called the Financial Diaries, which tracks household-level cash flows over one year. The dataset used in this paper is not geared specifically towards capturing information about HIV/AIDS. As households were observed over an entire year, however, the impact of illness and death revealed more details about the impacts of death on finances than other survey data. These are underappreciated factors in

From the ^aNew York University, New York, New York, USA, and the ^bSouthern Africa Labour and Development Research Unit, University of Cape Town, Cape Town, South Africa.

Correspondence and requests for reprints to Daryl Collins, Wagner School of Public Policy, New York University, 295 Lafayette Street, New York, NY 10012, USA.

Tel: +1 914 433 9014; e-mail: dlc300@nyu.edu

understanding the impacts of HIV/AIDS on household wellbeing. Although the Financial Diaries did record situations revealing the burdens of caretaking and medical expense, a key finding of our research is that these costs were dwarfed by the overwhelming financial impacts of death [9]. The impact of death was felt the strongest with the high cost of funerals and with the loss of income from a breadwinner. These impacts are known to households, and to a large extent they dominate the saving and insurance decision-making of households. This paper provides a descriptive analysis that substantiates these points and details the extent to which sample households were prepared for these financial burdens.

Methods

This paper investigates the financial impact of HIV/AIDS on vulnerable households living in three urban and rural areas of South Africa. The Financial Diaries dataset was collected to examine a variety of questions about financial management in poor South African households. The data can be accessed at http://www.datafirst.uct.ac.za/data_f-diaries.html. A sample of 181 black households was selected in three of South Africa's low income areas: Langa, Cape Town (urban); Diepsloot, Johannesburg (peri-urban); and Lugangeni, Eastern Cape (rural). A stratified selection criteria based on relative household wealth was used to select households from each neighborhood in these areas. Between July 2003 and December 2004, the households were interviewed on a fortnightly basis by a team of six field researchers. Detailed daily income, expenditure and financial transactions, as well as open-ended qualitative data, were captured during this period using a specially built and conceived database. An attrition rate of 19% was experienced over the course of data collection, primarily in relatively higher income households. The analysis presented in this paper is based on the 152 households for which there is continuous data for the entire year. Full details regarding the dataset, including survey instruments, can be found on www.financialdiaries.com and in a preliminary descriptive overview [8].

The General Household Survey, a national South African sample survey, reports national mean household expenditure and national mean per capita expenditure to be US\$3287 and US\$2060, respectively. The comparable figures for the black population group are US\$1288 and US\$814. Even allowing for comparability issues between these datasets, it is clear that the sample households used in this paper are poor compared with average South African households, with a mean household income of US\$432 and mean per capita income of US\$155. All dollar amounts are converted from South African Rands at a market rate of ZAR6.5 per US\$, the average rate during the period of the Financial Diaries data collection

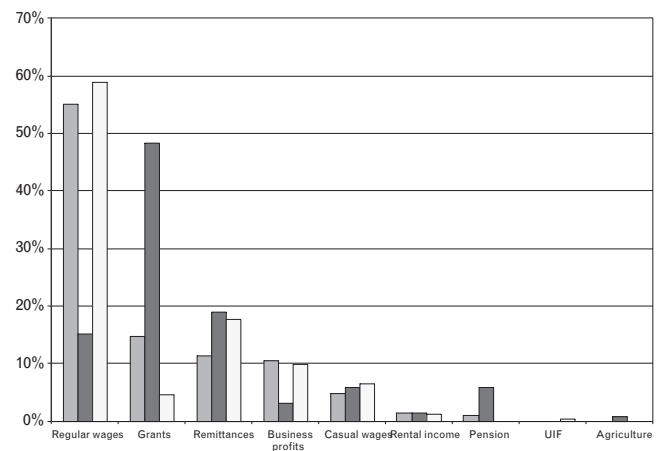


Fig. 1. Source of income, by percentage of average monthly household income. ■ Langa; ■ Lugangeni; □ Diepsloot.

period. Households earn their income from a number of different sources. Figure 1 demonstrates this by reflecting the average household income in each of the three areas of the study, and the percentage of average income earned from different activities. In the urban areas, most income comes from regular wages, from one or more people in the household. Government grant income is, however, also important. There are several types of monthly government grants in South Africa. At the time of the study, old age grants for older people above the age of 65 years were US\$114 per month, disability grants were US\$114 per month, child support grants for children below the age of 7 years were US\$26 per month and foster care grants were US\$83 per month. In the entire sample, 27% of households depend on a grant for the majority of their income and in rural Lugangeni, grants account for close to 50% of average monthly household income. Other sources of income were recorded but were less important.

There is a fairly strong literature looking at the impact of the death of a working age individual on a variety of household outcomes, and even some research on the burden of caring for those who become ill as a result of HIV/AIDS [5–7]. This literature has not, however, explored the large costs of the funerals associated with these deaths. Given that these funerals are frequent occurrences within poor communities, they represent daunting claims on household resources. This paper takes a close descriptive look at the extent of the financial burden that these funerals impose on households as well the behavior of households in response to these burdens. The adequacy of funeral expense coverage is established by measuring the costs and sources of funding for funerals and the sufficiency of funeral insurance against these costs. Although funeral insurance does dampen the financial shock of death, the results show that 61% of sample households are inadequately insured for potential funeral

costs. Within the poorest of the sample, 84% are inadequately insured for potential funerals in their households.

The financial impact after the funeral is assessed by estimating the amount by which these households would see a decline in income per capita with the loss of the main income earner. The results show that 80% of the sample would lose more than half their per capita income with the death of the highest income earner, suggesting a lingering and debilitating shock of death. This analysis is extended by assessing the amount of time households would be able to maintain their living standards after a death, given current liquid asset levels. With the sale of liquid assets, only one third of the sample households would be able to maintain their pre-death living standards for a year or more.

Results

Data from the Financial Diaries [9] recorded five funerals of household family members within 152 sample households over the study year. Although five funerals are too few to generalize about how households manage their finances to pay for funerals, they do provide a very strong basis for understanding the financial impact of these funerals.

An example of the expenses and funding sources demonstrates how much funerals cost and how households pay for them. Thembi (names of respondents have been changed to protect their identity) is one of the urban respondents, a 50-year-old woman who lives with her 47-year-old brother. The major source of income for the household was the disability grants of US\$114 per month that each received, plus a part-time job that Thembi held. Thembi belonged to a burial society but when her brother died, reportedly of tuberculosis, in June 2004, she was left scrambling for resources to pay for his funeral. A set of consolidated accounts for the funeral is shown in Table 1. Of the sources of funds, only 11% came from Thembi's burial society. The majority of the costs (54%) were paid for through relative's contributions. Thembi was able to scrap together a bit more by borrowing, both

with interest and without, and by using money remaining from the two grants. She managed to pay for the funeral, but was left with a significant debt that she struggled to repay for the remainder of the year.

The funerals observed in the Financial Diaries agree with similar estimates of funeral costs from a less detailed but broader survey on funerals [10]. Most funerals appear to cost approximately US\$1500. Compared with an average household income of between US\$155 and US\$308 per month, households can easily spend an amount comparable to approximately 7 months of income on one funeral. Roth [10] found evidence that funerals in the Grahamstown township cost approximately 15 times the average monthly household income. It is no surprise, then, that the funeral industry in South Africa is substantial. An estimated US\$770 million is spent on funerals each year, with 3000–5000 funeral parlors to facilitate them [11].

Such a large one-off cost cannot be managed out of monthly income, and some sort of financial instrument must be used to manage the costs. Savings instruments, although helpful, are not feasible in meeting the entire cost of the funeral, as it would take many years for most households to save this amount. Borrowing would put households in severe debt, even if they were able to find someone willing to lend them such a large amount of money.

It is therefore easy to understand why funeral insurance dominates the financial portfolios of the poor in South Africa. It is also, however, a strategy chosen to insure against a worst case scenario rather than an optimal use of scarce savings to facilitate a movement out of poverty. There is no doubt that this behavior is driven by the fact that, in the age of HIV/AIDS, working-age deaths are an immediate reality in the households and communities of the poor [1]. Ten million people in South Africa have funeral insurance [12]. Of these 10 million, 8 million people belong to an informal burial society. There are an estimated 80 000–100 000 burial societies in South Africa [11].

This paper distinguishes between three different forms of funeral insurance: formal funeral plans with an insurance

Table 1. Sources and uses of funds for Thembi's brother's funeral.

Sources of funds	US\$	Uses of funds	US\$
Cash contribution from relatives	538	Undertaker	538
In-kind contribution from relatives	225	Tent	91
Burial insurance payout	154	Pots	35
Borrowed from aunt's burial society (no interest)	154	Food	750
Borrowed from cousin's savings club (30% per month)	92		
Borrowed from cousin (no interest)	108		
Leftover money from grant	92		
Leftover money from brother's grant	50		
Total	1413	Total	1414

company; burial societies, which are informal funeral plans administered through a group of friends, relatives or neighbors; and funeral parlor funeral plans. Within the Financial Diaries sample, funeral instruments make up between 10 and 20% of the total number of instruments in the average household portfolio [10]. Most households have more than one burial society or formal funeral plan, a feature that is also observed in other South African research [11,13], as well as in Ethiopia and Tanzania [14].

Despite the prioritization of funeral insurance in household portfolios, however, this funeral cover rarely covers the entire cost of a funeral. The example above showed that the bulk of funds for the funeral come from contributions from extended family members. This is a consistent theme in the Financial Diaries data. Over the study year, 81% of sample households contributed to the funeral of a relative outside the immediate household at least once [9]. These contributions are substantial, often costing up to 20% of the monthly income in some cases, requiring households to borrow or dip into savings. In a situation in which the rate of death is increasing, as in the AIDS epidemic in South Africa, relatives may become less motivated or able to continue to contribute at the same rate they have in the past.

How much insurance would it take for households to insure themselves against the death of a household member, without requiring help from relatives? A funeral adequacy ratio is calculated from information in the Financial Diaries dataset. This calculation uses an estimated cost of a funeral of US\$1500 for an adult and US\$770 for a child, as well as several other estimates based on funerals observed in the dataset. There are further assumptions that needed to be made for this estimate and we based these assumptions on what was recorded in the Financial Diaries data and reported in other papers [15]. Often benefits from burial societies or funeral parlors will be in kind. As burial society costs are usually food, the value of this in-kind benefit is assumed to be US\$308. Funeral parlor benefits are usually a coffin, transport and burial fees, the cost of which is estimated at US\$770. The variable *INSURE* is calculated as the sum of funeral costs insured over the sum of funeral costs

required should every person in the household need a funeral.

$$INSURE_i = \frac{\sum FUNERAL COSTS INSURED_i}{\sum FUNERAL COSTS REQUIRED_i} \quad (1)$$

An example of *INSURE* is calculated below for a rural household. This household is headed by Mzwamadoda (names of respondents have been changed to protect their identity), an older man who lives in Lugangeni with his wife, Tembisa, one child and six grandchildren. Despite a modest income (US\$228 per month at the time of the study), this household had recently joined five out of their seven plans in the past 4 years alone. All of the plans cover Mzwamadoda, Tembisa and their two daughters. A third daughter is covered in all but three of the plans. If either Mzwamadoda or his wife were to die, US\$7708 would be paid out for the funeral from all of the plans. By any standards, this is a lot of money for a funeral. In total, the sum of benefits insured for their family under all their plans is US\$23 614, whereas the amount they would require to have adequate funerals for the family is only US\$9230. Therefore, the value for the *INSURE* variable for this household would be 2.558 (Table 2).

INSURE is calculated household by household for the entire sample of 152 households. The results show that 61% of households are inadequately insured (with *INSURE* below 1) versus 39% that are adequately insured (with *INSURE* above 1). The ratio of inadequately insured households to adequately insured households is particularly high in rural Lugangeni, which also has much poorer households than the two urban areas. Is this a choice within households, or are households too cash-constrained to insure themselves adequately?

This question is investigated by splitting the sample in each area into three tiers based on income per capita per month, taking into account not only the number of individuals supported in the household but also income relative to others in the area. As Figure 2 below shows, only 16% of relatively low income households are adequately insured, compared with 38% in medium income households and 62% in high income households.

Table 2. Mzwamadoda's portfolio of funeral cover.

Type	Member	Description	Monthly premium (US\$)	Benefits (US\$)
Burial society	Tembisa	Pay in cash when someone dies	9.25 each time	2000
Burial society	Tembisa	Pay in kind when someone dies	7.70 each time	923
Burial society	Mzwamadoda	Pay monthly	15.40	1538
Burial society	Tembisa	Pay monthly	9.25	2230
Funeral plan	Tembisa	Pay monthly; well-known retail bank	4.60	3692
Funeral plan	Tembisa	Pay monthly; well-known retail bank	5.85	7385
Funeral plan	Tembisa	Pay monthly; unknown company	15.40	5846
				Total benefits insured US\$23 614
				Total benefits required US\$9230
				<i>INSURE</i> 2.558

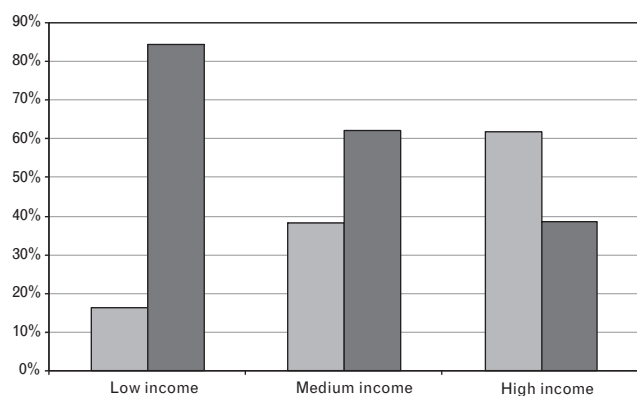


Fig. 2. Percentage of adequately and inadequately insured households in each relative income group. Relative income is calculated in each area by dividing the sample into three groups on the basis of per capita income. In Langa, low income is defined as less than R577 per month, medium income is defined as between R577 and R981, and high income is greater than R981. In Lugangeni, low income is defined as less than R233, medium income is between R233 and R639, and high income is greater than R639. In Diepsloot, low income is defined as less than R534, medium income is between R534 and R1152, and high income is greater than R1152. ■ Adequately insured; ■ inadequately insured.

The average level of *INSURE* is 2.26 in the high income tier, 1.03 in the medium income tier and only 0.71 in the low income tier. Therefore, households in the high or medium income levels in this sample are adequately insured or even overinsured, whereas households in the low income tier are underinsured. Moreover, within the low income tier, only 24% have no insurance at all, so the majority (76%) of them does have insurance of some kind, but just not enough.

The financial impact of death does not end with the costs of the funeral. A crucial component of understanding the impact of death is measuring the forgone income associated with the cessation of income activity as a result of death. As Figure 1 earlier in the paper showed, this income activity is not only wage earning, but also grant receiving. In some situations, the household left behind is cash-flow neutral after the death. For example, in Thembi's household, discussed earlier, after her brother died, she was left without his income, but there was also only one in the household now rather than two. In another household, the main income before the death was a monthly grant of US\$114 per month, split among five people. After the death of this grant recipient, there was one less person to feed, but there was also the loss of a main source of income. The remaining family of four had to get by on casual work done by the oldest daughter. Their living standard deteriorated steadily through the remainder of the year, from an income per capita of US\$70 to US\$23.

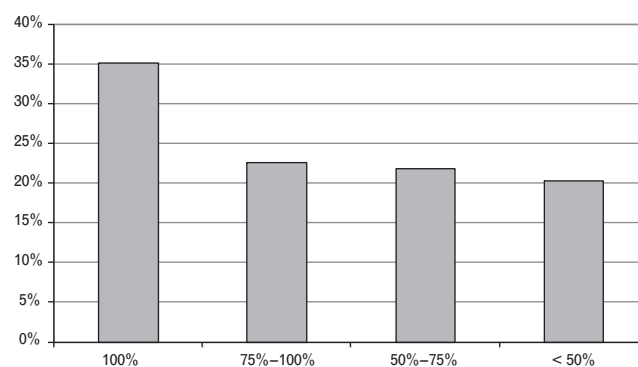


Fig. 3. Percentage of households^a that would lose income from the death of the highest income earner, arranged by proportion of income per capita lost. ^aDoes not include households that are alone or are entirely dependent on remittances.

These observations can be generalized to quantify the loss of income that might happen should the main income recipient die. Within the Financial Diaries sample, there are 128 income-generating families, 22 households that consist of one person living alone, and five households that are entirely dependent on outside remittances. Only the 128 income-generating families would need to sustain themselves should the main income earner die. Following Bernheim *et al.* [16], the percentage difference between per capita income with and without the main income earner is calculated. Figure 3 separates these households into different tiers based on the percentage of income lost from the death.

The result is sobering. Over one third of these households would lose 100% of their per capita household income. In other words, the person who died was the sole income provider for the household and they would be left with no income if this person died. Twenty-three per cent more households would lose between 75 and 100% of their per capita household income, and another 22% would lose between 50 and 75% of their per capita household income. Therefore, 80% of the households in this sample would lose more than half of their per capita income with the death of their highest income earner.

In addition to this direct impact on household members, the Financial Diaries data show that many households support relatives who live outside their immediate household. Nearly all wage earners in the sample give an average of 15% of their monthly income to someone outside the household. This amounts to contributions of between US\$19 and US\$35 worth of remittances every month. To outside households that are dependent on these remittances, this can be a substantial loss of income.

How would a stock of assets or savings change this picture? Only 10 households in the entire sample have life insurance. More common are provident or pension funds,

a quarter of households have these, so the household might receive the benefit of the deceased's savings, less his or her liabilities. More generally, households do have some amount of financial savings and assets to support surviving household members. A net assets figure for each household can be calculated by adding financial assets to physical assets and subtracting financial liabilities. The majority of household net worth is, however, tied up in the value of the home in which they live. In this exercise, the value of the house is excluded, not only because it is often a highly illiquid asset, but also because selling the family home would leave the family homeless. Other physical assets, particularly livestock, do not have the same restrictions. Households would commonly report selling livestock for emergencies but rarely any other movable assets.

The amount of net assets (excluding housing) divided by pre-death per capita household income provides the number of months that the household could use the sale of assets to maintain pre-death living standards. We find that only one third of the sample households would be able to use assets to maintain living standards for one year or more, but the other two thirds would be left in a more dire condition. Twenty-two per cent of the households would be left with negative net assets, owing more than they own. Forty-five per cent have positive net assets, but only enough to sustain themselves for a year or less. A deeper problem is that selling assets would ultimately set households back by the number of years that it took to obtain the asset, and potentially the income it can provide.

Discussion

The contribution of this paper has been to show that death represents serious negative income shocks to poor households and poor communities. Households try to cope with this through a sustained commitment to funeral insurance. Despite this, households are inadequately insured and funerals impose huge costs on the household, the extended family and the community. In contrast, health insurance is conspicuous by its absence. It is disconcerting that financial provisioning for medical treatment and care seem to take second place to coping with the costs of death. This funeral insurance seems to crowd out other savings and insurance provisions.

There is also a strong dependency on a single income provider in most of the households. The relevance of this finding to a discussion of the impact of HIV in particular turns on the vulnerability of such providers to illness and death. It is beyond dispute that HIV-related deaths have changed the shape of the distribution of South Africa's prime age working population. Most studies of the impact of HIV on household wellbeing have used the

death of a prime age working adult as the key proxy variable for an HIV death.

There are detailed implications from our study for understanding whether forms of insurance could provide better support for poor households than they currently do. This analysis suggests that households are, on the whole, inadequately insured or resourced for the funeral and ongoing costs attendant on the death of a household member. It further suggests that innovative financial instruments could be useful in addressing this inadequacy, but we know very little about how a household would behave if new financial instruments were brought to the market. Would people drop some of their funeral insurance products? Would they worry less about paying for a funeral, or spend less time in making those payments? Testing behavioral change as insurance increases and uncertainty decreases would require more information than the Financial Diaries dataset can provide. Understanding the existing levels of under and overinsurance in poor households is helpful to begin to think about how needed innovative insurance and long-term savings products are. To capture the entire complexity of decision-making and insurance, however, a new field experiment would be the most robust method of inquiry.

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Conflicts of interest: None.

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