

TEACHER MORTALITY IN SUB-SAHARAN AFRICA: AN UPDATE

Paul Bennell

Senior Partner, Knowledge and Skills for Development, Brighton, UK

The HIV/AIDS epidemic is expected to have a catastrophic impact on teachers in sub-Saharan Africa. It is also widely asserted that teachers themselves are a relatively high-risk group with respect to HIV infection. This note presents the most recent information that is available on HIV prevalence and mortality rates among teachers in ten countries, which are among the most seriously affected by the epidemic, namely South Africa, Botswana, Kenya, Lesotho, Malawi, Namibia, Swaziland, Tanzania, Uganda, and Zambia. Unfortunately, it has not been possible to obtain data for countries such as Mozambique and Zimbabwe, which also have high HIV prevalence rates¹.

The first part of this note focuses on the situation in South Africa where there is now quite a lot of good quality information on HIV prevalence and mortality among teachers. The second part of the note briefly reviews the available evidence for the remaining countries.

There are three main conclusions of this review:

- Teacher mortality rates (from all causes) did not exceed one percent in Southern African countries (Botswana, Lesotho, South Africa, and Swaziland) during 2003-2004, which have the highest adult HIV prevalence rates of over 20 percent. Elsewhere, mortality rates are below one percent in Tanzania and Uganda and are around two percent in Malawi and Zambia. Actual mortality rates for teachers are generally much lower than the estimated mortality rates for teachers generated by standard AIDS-adjusted demographic projections.
- Teacher deaths account for less than 20 percent of total teacher attrition in most countries and less than 10 percent of total teacher turnover (attrition and transfers). Overall teacher attrition rates are considerably higher in some developed countries. In the United Kingdom, for example, the attrition (wastage) rates for primary and secondary school teachers were 10.0 percent and 7.2 percent respectively in 2004.²

¹ I last reviewed this data some two years ago. See P.S. Bennell, 2003, The AIDS epidemic and teacher mortality in sub-Saharan Africa, KSD, July.

² See A. Smithers and P. Robinson, 2005, Teacher turnover, wastage and movements between schools. DfES Research Brief RB649.

- Teacher mortality rates appear to be falling or are reasonably stable in a significant number of countries. Both behaviour change and increasing access to life-prolonging anti-retroviral drug therapies (ARTs) are the principal reasons for these mortality trends.

SOUTH AFRICA

In 2000, the Ministry of Education in South Africa commissioned the health and population consultancy firm, AbT Associates, to undertake an assessment of 'HIV/AIDS impacts on the ability to deliver education'. The Ministry has never released the main report, but the main findings of the study were presented and recorded. The exact reasons why the Ministry has kept the study under wraps have not been formally disclosed, but, unofficially, it appears that Ministry officials had major concerns about the robustness of the report's very high estimates of projected levels of teacher HIV infection and mortality. With no information available on teacher HIV infection and mortality, the consultants assumed that HIV prevalence among teachers was the same as the adult population as a whole and then used the available data on HIV prevalence among pregnant women to make projections of current and future prevalence and mortality among teachers up to 2015. The projected levels of HIV infection and AIDS-related death are very high. Teacher HIV prevalence is projected to increase from 12.5 percent in 2000 to 30 percent by 2015 and annual mortality rates are projected to increase eightfold - from 0.5 percent to 4.0 percent during the same period. Cumulative teacher deaths between 2000 and 2015 are estimated to be around 120,000, which is one-third of the total number of teachers employed in 2000.³

While it was obvious that a more thorough and comprehensive risk assessment was urgently needed as a basis for properly informed education policy and practice with respect to the epidemic, this was only initiated in 2004. The Human Sciences Research Council, the Medical Research Council, and the Mobile Task Team on the Impact of HIV/AIDS on Education were commissioned to produce a study on 'the demand and supply of educators in South Africa'. Seven reports have just been posted on the HSRC website.

The study looks in some detail at the impact of the AIDS epidemic on teachers. For the first time, a relatively large and representative group of teachers was tested for HIV and detailed information retrieved from teacher personnel records on teacher mortality and other types of attrition. The results reveal just how seriously the AbT report over-estimated levels of HIV infection and mortality among teachers and largely vindicate the Ministry decision not to release the report.

³ Surprisingly, the report was silent about the possible use of anti-retroviral therapies (ARTs) to reduce morbidity and mortality among teachers.

HIV prevalence

The population-based testing shows that the HIV prevalence among teachers was 12.7 percent in 2004. This is an appallingly high level of infection, but is much lower than the UNAIDS estimate of national adult HIV prevalence (21.5 percent at the end of 2003) and considerably lower than the national, population-based HIV estimates for most age cohorts in 2002 (see Table 1)⁴. Although it is widely reported that women are bearing the brunt of the AIDS epidemic in Africa, prevalence rates among female and male teachers in South Africa are almost identical. Nor is there any difference in overall prevalence rates among primary and secondary school teachers.

Projected HIV prevalence rates for teachers are now also dramatically lower. The teacher HIV prevalence rate was projected to be 22.5 percent in 2004 by the AbT consultants. However, using more recent trend data on HIV prevalence, Rehle and Shisana estimate that HIV prevalence rate among teachers will decline very gradually to 11.5 percent by 2015 from a peak of 13.5 percent in 2004 and 2005⁵. Even so, this implies very little behaviour change among teachers, which is questionable.

Table 1: HIV prevalence rates among teachers (2004) and all adult population (2002) by sex and age cohort (percentages)

AGE	FEMALES			MALES		
	Teachers	Population	Difference	Teachers	Population	Difference
25-29	21.5	32	-10.5	12.3	22	-9.7
30-34	24.2	24.1	0.1	19	24.1	-5.1
35-39	14.1	13.8	0.3	16.6	18.4	-1.8
40-44	10.1	19	-8.9	10.5	12.4	-1.9
45-49	6.3	11.2	-4.9	7.6	11.9	-4.3
50-54	3.8	8.5	-4.7	5.8	5.4	0.4
55+	3.7	6.6	-2.9	1.6	7	-5.4

Mortality

The USAID-funded Mobile Task Team on the Impact of HIV/AIDS on Education has undertaken a detailed analysis of teacher attrition using computerised personnel and salary records. The overall teacher mortality rate (from all causes) was 0.6 percent in 2003⁶. This should be compared with the AbT and the Rehle and Shisana projections for AIDS-related mortality among teachers for 2004 of 1.4 percent and 1.1 percent respectively⁷. Assuming that

⁴ The age distribution of teachers is reported to be similar to the 15-50 adult population as a whole.

⁵ See T. Rehle and O. Shisana, 2005, The impact of anti-retroviral therapies on AIDS mortality among educators in South Africa, HSRC. They use the upper confidence interval of the HIV estimates for these projections. In marked contrast, in 2001, the United States Bureau of Census projected that adult HIV prevalence would be nearly 40 percent in 2010.

⁶ This is based on in-service mortality only. The MTT report also includes post-service mortality for one year after teachers leave public service, but since only a small proportion of this mortality is likely to be directly attributable to HIV/AIDS, its inclusion in the overall mortality estimates is questionable.

⁷ Both sets of projection are based on non-ART scenarios.

two-thirds of teacher's deaths are AIDS-related⁸, the projected rates of AIDS-related mortality are therefore 3-4 times higher than the actual rate. Similar very large divergences between projected and actual teacher mortality have been found in other high-prevalence countries in Africa.⁹ There are at least three possible reasons for this. First, the projected adult HIV prevalence rates are far higher than actual rates among teachers, which is a key factor in the AbT study. Secondly, mortality is lower because, even with accurate HIV prevalence data, the standard demographic models are overestimating mortality rates, both in overall terms and at specific stages of the epidemic. And thirdly, mortality is considerably lower than projected because teachers are taking anti-retroviral drug therapies. Unfortunately, data on the numbers of teachers in South Africa who are already accessing these drugs has still not been collected. But, with over two-thirds of teachers enrolled on medical aid schemes, the overall proportion is likely to be high¹⁰. The fact also that teacher mortality rates have remained virtually unchanged at much lower than expected levels since 1999 also strongly suggests that the numbers of teachers taking ARTs has grown rapidly.

Not only is teacher mortality much lower than expected, but it also accounts for less than 20 percent of all attrition among teachers on long-term contracts¹¹. Again, this serves to highlight the importance of properly contextualising the impact of the epidemic on teachers and teacher supply. Without doubt, the epidemic poses a serious threat to the teaching profession. However, 55 percent of all teachers in South Africa say that they intend to leave the profession because of low morale and job satisfaction, which is mainly due to issues of pay, student behaviour, and work loads rather than HIV/AIDS¹² per se.

Attrition rates among teachers in African countries are expected to increase rapidly as a result of the AIDS epidemic. And yet, in South Africa, they have fallen since 1998 because of lower rates of wastage due to resignations, retirements, etc.

Finally, mortality rates (from all causes) among male teachers are almost double for those than among female teachers despite the fact overall HIV prevalence rates are currently about the same for each group. The reasons for this very large gender mortality differential are not explored in the MTT report, but possible explanations include higher mortality among male

⁸ This could be an over-estimate. For example, detailed mortality survey studies in Tanzania since the early 1990s find that only around one-third of adult deaths in some rural areas are AIDS-related compared to 50-60 percent in the capital Dar Es Salaam (see AMMP, 2004).

⁹ See P.S. Bennell, 2005, The impact of the AIDS epidemic on teachers in sub-Saharan Africa, *Journal of Development Studies*, 41, 3, April.

¹⁰ Nearly 22 percent of teachers in South Africa who were HIV positive in 2004 had CD4 counts of less than 200 (compared to around 10 percent for the population as a whole). Again, this suggests relatively large proportions of teachers are taking ARTs.

¹¹ The percentage of total permanent teacher attrition accounted for by deaths increased from 10.4 percent in 1998 to 17.6 percent in 2003.

¹² Perhaps not surprisingly, teachers who are HIV positive have lower intention rates to leave the profession than HIV negative teachers (49 percent compared to 55 percent respectively).

teachers due to non-AIDS related illnesses as well as accidents and lower uptake of ARTs among male teachers who are HIV positive.

Morbidity

The survey findings show that teachers who are HIV positive are slightly less likely to be absent as a result of 'unhealthy days' than teachers who are HIV negative¹³, which is the opposite of what would be expected with high levels of AIDS-related sickness. As the HSRC points out, 'the burden of absenteeism among the teaching labour force was due mainly to high blood pressure, followed by smoking, being HIV positive, stomach ulcers, arthritis and rheumatism, and high-risk drinking' (HSRC, Media Releases 2005). It is also important to note that the total number of teachers permanently leaving the public service for medical reasons only increased from 1057 in 1998 to 1200 in 2003.

OTHER COUNTRIES

Botswana

The mortality rate for primary school teachers increased slightly from 0.71 percent in 1999 to 0.88 percent in 2002. The corresponding figures for secondary school teachers are 0.37 percent and 0.46 percent. Teacher deaths accounted for around 20 percent of total attrition and five percent of total turnover (transfers plus attrition¹⁴) in both years.

Kenya

The Permanent Secretary of the Ministry of Education reported in 2004 that between four and six teachers a day were dying of AIDS-related illnesses, which means the AIDS-related mortality rate was in the region of 0.7-1.0 percent¹⁵.

Lesotho

MoE data indicate that teacher attrition in Lesotho was 1.5 percent in 2004. Payroll data from the Ministry of Finance put this figure at 0.8 percent. Total attrition was low at only 3.8 percent. A small survey of 10 primary schools reports that the annual teacher mortality rate was 1.6 percent and total attrition and turnover were 4.8 percent and 6.4 percent respectively in 2004¹⁶.

¹³ The percentages of teachers who had been absent for reasons of ill health more than five days during the last month were 12.2 percent and 13.6 percent for HIV negative and positive teachers respectively.

¹⁴ Attrition comprises resignations, retirements, dismissals, and deaths.

¹⁵ See M. Muto, K. Hyde and G. Muto, 2005, Teacher motivation and incentives in Kenya, KSD, Brighton.

¹⁶ See P. Mapuru, M. Nkhoboti and J. Urwick et al, 2005, Teacher motivation and incentives in Lesotho, KSD, Brighton,

Voluntary testing and counselling of teachers has been encouraged during the last few years. Among teachers who have been tested, the overall prevalence rate is around four percentage points lower than the national HIV rate (of 29 percent) for all adults aged 15-49.

Malawi

The total number of primary school teacher deaths increased sharply from 411 (0.9 percent mortality rate) in 1999 to 1297 (2.4 percent) in 2002, but fell to 787 (1.8 percent) in 2004. A small survey of 30 randomly selected primary schools in Blantyre and the contiguous district of Chiradzulu found that mortality rates remained fairly constant at around 3.0 percent at primary schools in Blantyre between 1999 and 2002, but appear to have peaked in Chiradzulu in 1999 at 4.4 percent¹⁷. A more recent survey of teacher attrition by Moleni and Ndalama indicates that the primary school teacher mortality rate in Blantyre was 1.8 percent in 2004, almost half the rate in 2002¹⁸. They conclude that the much lower mortality rate among teachers in Blantyre is almost entirely due to the lower incidence of malaria deaths in this district. No data are available, but better nutrition and access to health care are also likely to be important factors. The most likely explanation for falling mortality rates is the growing availability of ARVs during the last two years.

According to Ministry of Education data, teacher deaths accounted for 12 percent and 9 percent of all teacher turnover at primary and secondary schools respectively in 2004. In the four relatively high HIV prevalence districts surveyed by Moleni and Ndalama, 29 percent and 12 percent of teachers in rural and urban primary schools respectively were transferred in or transferred out of their schools over a 12-month period in 2003 and 2004. Attrition on medical grounds was 0.4 percent. In the two highest HIV prevalence rural districts (Mulanje and Ntcheu), around five percent of total transfers were in order that teachers could be closer to hospitals and other necessary medical care.¹⁹

Namibia

Recent information on teacher deaths in Namibia could not be obtained. The teacher mortality rate was 0.4 percent in 2000.

Total annual attrition rates among teachers increased from 7.2 percent in 1999/00 to 8.2 percent in 2000/01, but then declined to 6.8 percent in 2001/02. Transfer rates were 5.5 percent in 1999/00 and 6.5 percent in

¹⁷ See Bennell, P.S. and E. Kadzamira, 2003, Teacher mortality among primary and secondary school teachers in Malawi, KSD, Brighton.

¹⁸ See C.M. Moleni and L.C.J. Ndalama, 2004, Teacher absenteeism and attrition in Malawian primary schools: a case study of four districts. Centre for Educational Research and Training and Malawi Institute of Education.

¹⁹ As percentage of total teachers in post, medically-motivated transfers were 0.6 percent of teachers in Mulanje and 0.79 percent in Ntcheu i.e. 1 out of 166 teachers and 1 out of 125 teachers respectively.

2000/01, which is low compared to most other countries in sub-Saharan Africa.

Swaziland

Primary and secondary school teacher deaths increased from 40 in 2001 to 100 in 2004. The overall teacher mortality rate was 1.0 percent in 2004. Probably around 80-85 percent of the 2004 deaths were AIDS-related.

Tanzania

According to official Ministry of Education data, primary school teacher deaths in Tanzania have increased fairly steadily from 345 (mortality rate 0.37 percent) in 1991 to 893 (0.75 percent) in 2003. Male mortality rates have been consistently slightly higher than female rates since 1991. The findings of the AIDS Mortality Monitoring Project suggest that AIDS-related mortality in rural districts is as low as 25 percent of total adult deaths, but increases to 50-60 percent in Dar es Salaam. Overall attrition from resignations, retirements and deaths remained constant at around one percent between 1991 and 2004.

A small survey of 10 primary schools in two districts (one rural, one urban) in late 2004 found that teacher deaths accounted for 4.5 percent of teacher turnover (attrition and transfers) during 2003²⁰.

Uganda

The mortality rate for primary teachers fell from 0.94 percent in 1999 to 0.72 percent in 2003. The decline in mortality was even greater among secondary school teachers – from 0.99 percent in 1999 to 0.5 percent in 2003. Deaths among primary school teachers accounted for slightly less than 20 percent of total attrition in both years. In 2003, deaths amounted to 5.7 percent and 4.0 percent of total turnover for primary and secondary school teachers respectively.

Zambia

A small survey of 15 primary schools in two districts in Lusaka Province (one rural, one urban) in late 2004 found that the teacher mortality rate at Lusaka city schools were 5.5 percent compared with 3.9 percent among the surveyed schools in the rural district for the 2003/04 academic year²¹. This compares with a national mortality rate among primary and secondary teachers of 1.6 percent in 2002 and 2.0 percent in 2001 and 2000. Higher mortality rates in these districts may be because teachers suffering from AIDS-related illnesses

²⁰ See P. S. Bennell and F. Mukyanuzi, 2005, Teacher motivation and incentives in Tanzania, KSD, Brighton

²¹ See M. Musikanga, 2005, Teacher motivation and incentives in Zambia, KSD, Brighton. All but two of the eight urban survey schools had at least one teacher death and one urban survey school had four deaths in 2003/04. In contrast, five of the eight rural schools had no deaths during that year.

transfer to schools in and around Lusaka in order to access specialist medical treatment.

It is not possible to say with any precision what proportion of teacher deaths are AIDS-related. But, given the scale and stage of the epidemic, up to 75 percent of teachers deaths in Lusaka Province could be AIDS-related. However, it is also important to point out that deaths accounted for only 16 percent of teacher turnover during 2004 compared to 33 percent for school transfers and 22 percent for study leave.

October 2005