

Examining the impact of HIV&AIDS on South African educators

Julia Louw, Olive Shisana, Karl Peltzer and Nompumelelo Zungu

louwjuli@msu.edu; oshisana@hsr.ac.za; kpeltzer@hsr.ac.za; mzdirwayi@hsr.ac.za

Our aim in this study was to examine the impact of HIV&AIDS on South African educators. A cross-sectional survey was conducted in public schools combining HIV testing and a face-to-face interview with participants from a nationally representative sample of public educators. The results show that HIV is highly prevalent among South African public educators (12.7%) and the educators who are absent from school for longer periods (20 days or more) compared with those who are absent for less than four days have higher HIV prevalence (16.8% vs 11.95%). Educators also spend time away from teaching while they attend funerals for colleagues who have died (6.7%), for family members (13.4%) and for members of their communities (47.6%). This makes them feel depressed (71%). These results suggest that HIV&AIDS has an impact on the quality of education. There is a need to prevent new HIV infections and reduce morbidity through the implementation of comprehensive integrated prevention and treatment programmes targeted at educators. There is also a need to support educators in coping with the problem of HIV&AIDS at work and in the community.

Keywords: education; educators; HIV&AIDS; vulnerable children

Background

Sub-Saharan Africa has been seriously affected by the HIV&AIDS epidemic (UNAIDS, 2008; WHO, 2008). As a result AIDS is increasingly threatening the effectiveness and functioning of the public education system (Shisana, Peltzer, Zungu-Dirwayi & Louw, 2005). The education sector is believed to be more vulnerable to the disruptive impacts of HIV&AIDS because it is person-intensive by nature (Kelly, 2000). Studies suggest that sub-Saharan Africa appears to be experiencing a sharp increase in the mortality rates of educators (Badcock-Walters & Wilson, 2006; Bennell, 2005; Bennell, 2006). This undoubtedly has severe implications for both the supply of and demand for educators (Crouch & Lewin, 2003).

In South Africa, the education system has been undergoing a dramatic transformation. The turbulent changes in the last few years have been as a result of a variety of factors. These include the merger of the apartheid era departments of education, the differing approaches adopted by provincial governments to retrenchment and recruitment of educators, changes in the framework for educators' qualifications, introduction of outcomes-based curriculum, and the reorganization of teacher education provision (Peltzer, Shisana, Udjo, Wilson, Rehle, Connolly, Zuma, Letlape, Louw, Simbayi, Zungu-Dirwayi, Ramlagan, Magome, Hall & Phurutse, 2005). Other changes include the mergers and closures of training colleges which led to a decrease in the number of institutions providing teacher education. The merging of

institutions has led to a greater centralization of teacher education operations. Despite all these changes the quality has not improved, as shown by South Africa's performance on the Trends in Mathematics and Science (National Center for Education Statistics, 2008), as well as poor Grade 12 pass rates. Therefore, there is still a need to identify obstacles to better education and to improve the quality of education (Ministerial Committee on Teacher Education, 2005).

A significant increase in education sector costs is also expected owing to the impact of HIV&AIDS. According to the World Bank (2002), for instance, on the supply side, budgets will have to accommodate hiring more educators and higher training costs, as well as payment of full salaries to educators who are officially absent, with additional training and salary costs for substitute educators where absence is official. These high rates of absenteeism may lead to lower teaching quality, extensive disruption of school activities and a negative influence on the morale of colleagues (Cohen, 2002). Even where educators are present, they may be sick and ineffective, or poorly qualified, as schools are likely to make use of whoever is available (Boler, 2003; World Bank, 2002).

With the introduction of in-service site-based upgrading qualification programmes by the Department of Education, the number of unqualified educators has been significantly reduced from 36% in 1994 to 18% in 2004 (Department of Education, 2005; Peltzer *et al.*, 2005). Despite this, the Deputy Minister of Education has reported that there were still 12 000 unqualified educators in the system for 2006 alone (Education Portfolio Committee, 2007). There is a critical shortage of qualified educators in rural areas, particularly those experienced in scarce skills areas (Department of Education, 2006). The situation is further exacerbated by the loss of qualified educators due to the high HIV&AIDS prevalence in rural areas (Shisana *et al.*, 2005). Furthermore, an increase in the mortality rate due to AIDS will impact on the demand for educators, meaning that educators who die have to be replaced (Bennell, 2005). Attrition will also be affected by the fact that HIV prevalence is high amongst the newly trained educators who are expected to add to the teaching pool. Evidently, HIV&AIDS negatively impacts on the supply of educators through increased morbidity and mortality (Peltzer *et al.*, 2005). Thus, the relationship between AIDS and the education sector is circular: as the epidemic worsens, the education sector is damaged, which in turn is likely to increase the incidence of HIV transmission (Peltzer, Ramlagan, Shisana, Connolly & Zuma, 2008).

Our hypothesis is that HIV&AIDS is expected to affect the education system in a number of ways. Firstly, educators infected with HIV will eventually become sick and die from AIDS, leading to a negative impact on education as the system loses experienced educators. The disease progression will be determined by a number of factors, including access to treatment and willingness to seek treatment. In view of the fact that HIV is stigmatized, many may not seek treatment, fearing that their HIV positive status may be known, and

therefore they may prefer to die without anyone ever finding out that they were HIV positive. Secondly, prior to death, educators may be absent from work for an extended period because of HIV&AIDS-related illness. During this time they would be unable to fulfill their teaching responsibilities, thus requiring other educators to carry their load. In a community with a high HIV prevalence and where a school has several educators infected and affected, this can represent a huge burden on the education system.

Thirdly, educators who take on the workload of other educators may be unable to give sufficient attention to the learners, due to the larger numbers that result from combining classes, suggesting that many learners are unlikely to get individual attention and this will be more of a challenge where there are learners with special needs in a class. Fourthly, the stress associated with heavy workload may contribute to poor health status of the educators, leading to increased absenteeism even among educators who are not HIV positive. This vicious cycle of absenteeism of educators due to the workload caused by those educators who are either infected or affected has a detrimental impact on the quality of education. Hence, it is imperative to examine the impact of HIV&AIDS on educators and, more importantly, investigate how it affects the quality of education our learners receive. Our study provides new insights in terms of providing information on actual impact on absenteeism of educators due to HIV&AIDS of colleagues, the family, the community and educators' own perceived impacts.

Objective

In the study we aimed to examine the impact of HIV&AIDS on public school educators and on the quality of education. We further aimed to provide insight into and understanding of the factors affecting educators in public schools and the communities where they teach.

Method

The target population was identified as teachers at public schools, i.e. a total of 356,749 state-paid educators as potential respondents (Shisana *et al.*, 2005). A cross-sectional study design involving a national probability sample of 1,766 schools was used. In carrying out the study, 1,714 schools (97%) were found in the field and agreed to participate. On the days of our visits, 2,085 educators were absent for a variety of reasons, including being sick (8%). Of the target number of educators, 20,626 agreed to participate voluntarily.

The questionnaire contained questions relating to the factors that determine the demand for and supply of South African educators, what their teaching responsibilities and workload are, the impact of HIV&AIDS on educators and absenteeism, and training and support. Ethical approval for conducting the study was obtained from the Human Sciences Research Council's Ethics Committee (Application No. REC2/20/08/030). Informed consent was obtained separately for agreeing to participate in the interview and for provi-

ding a specimen for HIV testing. In addition, the result of the HIV test for each participant was linked anonymously to questionnaire data using bar codes. Registered professional nurses were trained to conduct face-to-face interviews with educators, and collect blood and oral fluid specimens. The Abbott AXSYM third generation HIV Ø g0 blood testing system and the Vironostika HIV Uni-Form II Oral fluid testing system were used to test blood and oral fluid, respectively. For the purposes of this article, the following specific sections of the questionnaire were analysed: the impact of HIV&AIDS on educators, and questions relating to absenteeism for those educators who were HIV positive.

The key investigations undertaken aimed to answer, *inter alia*, the following questions:

- What percentage of educators was HIV positive?
- Did educators know of HIV-positive educators at their institution?
- Did they know educators who had died of HIV&AIDS?
- Did they have family member(s) who were living with HIV&AIDS or had died of AIDS?
- Did they know community members who were living with HIV&AIDS or had died of AIDS?
- How often had they attended the funerals of their deceased colleagues, family members, and community members.

Results

The response rate for questionnaires was 97%, and 83% for specimen tested for HIV. Of the 17,088 educators who agreed to submit a specimen for HIV testing, 12.7% (95% confidence interval: 12.0, 13.5) were HIV positive. The prevalence was higher among young female educators, 21%, (95% CI: 17.2, 25.9) when compared with male educators, 12.3%, (95% CI: 9.0, 16). Since the majority of educators are female (67.8%) the impact of HIV on the education system will be significant.

Absenteeism by HIV positive colleagues

Most striking about these data is that during analysis of the relationship between HIV status and absenteeism, a trend starts to emerge in that the greater the number of days the educators spent absent from school, the greater the likelihood that they were HIV positive. It appears that those who were absent from school were doing so because of illness associated with HIV (see Table 1).

Impact of HIV&AIDS in the community on educators

More than half of the sample (54.6%) mentioned that they were aware of community members who were living with or had died from AIDS-related illnesses, and that they have attended funerals of these people in the past. More than 38% of educators had attended funerals of AIDS victims in the past two years, and more than 10% had attended such a funeral more than once

a month. Besides the emotional impact of this situation on educators, it seems that the frequency at which funerals take place may impact on their teaching time, especially if the duration of funerals in black communities and the time spent on travel are taken into account (see Table 2).

Table 1 Days absent by HIV positive educators

Number of days absent	Positive (%)	Confidence interval
0 to 4 days	11.95	11.13, 12.83
5 to 9 days	13.16	11.90, 14.54
10 to 19	15.00	13.12, 17.10
20 +	16.82	13.55, 20.69

Table 2 Attendance of funerals of HIV&AIDS victims in the past 2 years
(*N* = 21,358)

Attendance of funerals in past 2 years	%
Did not attend	61.5
More than once a month	11.2
Once a month	7.2
Every two months	4.0
Every three months	3.2
Every four months	2.3
Every five or more months	10.5
Total	100.0

Knowledge of colleagues, learners, family members and members of the community infected/affected by HIV

A small number of educators knew about colleagues at school who were living with or had died of HIV&AIDS. More educators indicated that they knew learners who were living with or had died of HIV&AIDS, or who had been orphaned due to the epidemic. Educators also had members of their own family living with the disease. The impact was felt more in the family and the community than in the school setting (see Table 3). Educators lived in communities where people were dying of HIV&AIDS, and it affected them because they frequently had to take time off to attend funerals.

Impact of AIDS on educators

The impact of infected colleagues on educators included increased workload, low status of the teaching profession, and reduced ability to teach effectively. The last instance was because the class sizes increased due to the shortage of educators (see Table 4).

Table 3 Educators' knowledge of people infected/affected by HIV in affirmative responses (N = 20,554)

Knowledge of infected colleagues, learners, family and community members	N	Yes (%)
Educators		
Knowledge of educators at school who are living with HIV&AIDS	714	3.7
Knowledge of educators at school who have died because of HIV&AIDS during the past 2 years	1 362	6.7
Learners		
Knowledge of learners at school who are living with HIV&AIDS	2 036	9.1
Knowledge of learners at school who have died because of HIV&AIDS during the past 2 years	1 915	9.0
Knowledge of learners who have been orphaned due to HIV&AIDS	4 157	19.7
Members of family		
Knowledge of family members who are living with HIV&AIDS	3 695	18.0
Currently taking care of a family member who is living with HIV&AIDS	1 848	9.2
Taken care of a family member who has died in the past 2 years due to HIV&AIDS	2 718	13.4
Community		
Knowledge of members of the community who are living with HIV&AIDS	6 383	29.2
Knowledge of members of the community who have died because of HIV&AIDS	9 706	45.0
Attended a funeral of a member of the community who has died because of HIV&AIDS	9 839	47.6

Table 4 Impact of infected colleagues on educators as percentage (N = 1,763)

Type of impact	Agree (%)
The number of learners per class increased	39.5
There is a shortage of educators	57.8
Educators' ability to teach effectively decreased	46.4
Educators have less time for preparation and marking	47.4
The status of the profession has decreased	58.7
Educators have to teach subjects for which they were not trained, on behalf of ill colleagues	59.1
Educators feel depressed	71.0

Educators' support to learners infected/affected by HIV&AIDS

The presence of affected learners increased educators' workload, resulting in their not having enough time to attend to the academic needs of their learners, thus affecting the quality of education. Educators indicated that they supported these learners financially, physically and emotionally, which left them feeling depressed (49%) (see Table 5).

Table 5 Impact of HIV&AIDS infected/affected learners on educators as percentage ($N = 5,503$)

Impact of infected/affected learners	Agree (%)
It increases my workload	44.5
I find it difficult to teach learners	28.4
I do not have enough time to attend to the educational needs of all learners in class	45.9
I get depressed	49.3
I provide support (financial, physical and emotional) to affected learners/students	66.4

Educators' response to family members infected/affected by HIV&AIDS

Educators were seriously affected when members of their family were infected or affected by HIV&AIDS. They found it difficult to cope with the workload, they were stressed, could not concentrate on their work, and a significant proportion were absent from work (see Table 6).

Table 6 Impact of infected/affected family members on educators ($N = 4,831$)

Type of impact	Agree (%)
I find it hard to cope with my workload	34.5
I am often absent from work	10.3
I am stressed	43.5
I find it hard to focus on my work	24.8
I feel sad and depressed	45.4

Discussion

The results from this study suggest that educators feel the impact of HIV and AIDS in schools at different levels. The results also support the hypothesis that HIV will impact schools at different levels resulting in poor quality of education. The first significant level is that HIV and AIDS will impact the schools as educators are infected and become sick and are unable to work. On the next level, the school will be affected through the infection of pupils in the school, and indirectly by the impact of AIDS in the community and within families of learners and educators.

While educators did not report knowing large numbers of educators who were living with HIV or had died of AIDS, available statistics suggest that this number is significant enough to be a cause for concern and will have a negative impact on this sector (Zungu-Dirwayi, Shisana, Louw, & Dana, 2007). It can be expected that many educators would not know the HIV status of other educators at their school, as many do not disclose their HIV status. It is possible that the numbers of educators living with HIV&AIDS in one particular school may not be so large, explaining the low figures reported in this study. However available data suggest there is high HIV and AIDS prevalence among educators. An HIV prevalence of 12.7% was found among educators, and approximately 4,000 educators had died in 2004 of AIDS-related complications (Shisana *et al.*, 2005). These statistics show that the impact is disproportionate, with some provinces in South Africa harder hit than others, suggesting that the impact of the epidemic will also be experienced differently in the different provinces (Shisana *et al.*, 2005).

Data on mortality among educators suggested an increase in the number of deaths, especially among young educators (25–45 years) (Shisana *et al.*, 2005). The statistics suggest that the problem is greater than the number of educators being aware of their colleagues' HIV positive status. There are various reasons for these differences: for example, self disclosure of HIV positive status, particularly in public or the work place, is low compared to disclosure within the family; fear of stigma discourages living openly with one's positive status; lack of knowledge of HIV status; and lastly an educator with AIDS-related infections and symptoms may resign before becoming seriously sick to avoid stigmatization by others. It is therefore difficult for educators to know who eventually died of HIV&AIDS related illnesses.

The second significant impact of HIV and AIDS was at a learner, family, and community level. Educators reported knowing learners who were living with and had died of AIDS, and others who had been orphaned. A qualitative component found that educators with learners who were vulnerable to and affected by HIV and AIDS were giving emotional, psychological and material support to their learners, further increasing the burden of care on the educators (Peltzer *et al.*, 2005). This finding is supported by the results from the quantitative component that suggests that 66.4% of educators, who knew a learner who was affected or infected, reported assisting them financially, physically and emotionally. With the high prevalence of HIV (Rehle, Shisana, Pillay, Zuma, Puren, & Parker, 2007) and AIDS related mortality (Centre for Actuarial Research, 2006) in South Africa, one can expect an increase in the number of orphans (UNICEF, 2006), and by implication an increased burden of care for educators. This burden cannot be left to the educator to carry: it is suggested that there should be a co-ordinated effort from other government agencies to reach vulnerable and orphaned children in the school system.

In addition, there are factors that may lead to an increase in the number of learners living with HIV in schools. The country-wide roll out of anti-retroviral therapy (ART) is expected to impact on life expectancy of children infected with HIV. On the other hand available data still suggest early sexual

debut that leads to early HIV infection, especially among young girls. If these factors hold true, it may be expected that educators will increasingly have children living with HIV in their classrooms who may require specialised support and care, thereby increasing the burden for the educators, not only to teach but also to meet other needs. In this study, 45% of educators with a learner who was affected or infected reported that they did not have time to attend to educational needs of all learners in class, and 28% reported finding it difficult to teach the learners. More research may need to be undertaken in order to understand the needs of such learners.

The pressure of being affected by someone living with HIV and AIDS outside the school will also have an impact on educators. In this study, 47.6% of educators indicated that they had attended a funeral of a community member who had died because of HIV&AIDS. This also impacted on their work, in that they reported not being able to cope with the workload (34.5%), feeling stressed (43.5%) and depressed (45.4%). This suggests a need to provide emotional and psychological support for educators, to assist them in dealing with stress and depression.

However, the impact seems to be greater in the case of an infected colleague both at the school level and personal level. In this study we found that having an infected colleague led to increased learners per class, shortage of educators, educators teaching subjects they were not trained in, and finally, many feeling depressed. Depression may have negative impacts on productivity and physical well-being (Demyttenaere, Bonnewyn, Bruffaerts, Brugha, De Graaf & Alonso, 2006; Donohue & Pincus, 2007), and when left untreated can lead to other complications such as general painful physical symptoms, high absenteeism (Demyttenaere *et al.*, 2006), substance use and abuse, suicide, etc. (Galaif, Sussman, Newcomb & Locke, 2007; Sher, Sperling, Stanley, Carballo, Shorval, Zalsman, Burke, Mann & Oquendo, 2007). All the above factors are likely to impact on the teaching quality and morale at school. While studies of poor morale point to other concerns, such as salaries and poor working conditions at school as more prominent in determining morale among educators (Bennell, 2003; Hall, Altman, Nkomo, Peltzer & Zuma, 2005), the increased exposure to the impact of HIV&AIDS will be likely to add to poor morale and poor conditions at schools that are highly affected by HIV and AIDS.

HIV&AIDS impacts negatively on work attendance, and this is especially pronounced in AIDS-related morbidity, which happens over a long period. Longer-term and frequent absenteeism may be very disruptive in the school system. In three surveys conducted in Botswana, Malawi, and Uganda, absenteeism among primary and secondary school educators was found to be low, with the exception of female primary educators in Botswana and secondary educators in Uganda (Bennell, 2003). This author found that only 8–12% of absences were for more than five days in a term (Bennell, 2003). It is important however to note that only a very small percentage of educators surveyed in the three countries had long-term illnesses likely to be AIDS-related. In our study we found a direct association between positive HIV status and increased

absenteeism. Attendance of funerals may also impact negatively on teaching days; this is more so in African communities where preparations for funerals can take anything between a week to two weeks, those affected are expected to take time off from work to receive mourners at home, and lastly may involve travelling to rural areas for burial.

Recommendations

The findings suggest that South African educators need comprehensive support to cope with the challenges of a professional role that has been escalated to encompass HIV prevention, counselling and social work (Shisana *et al.*, 2005; Theron, Geyer, Strydom & Delpont, 2008). The following strategies are proposed as a means to mitigate the impact of HIV&AIDS.

Firstly, to introduce accelerated HIV&AIDS prevention programmes, especially in the areas surrounding schools to reduce new infections. This could be done jointly with the South African National AIDS Council.

Secondly, the burden of HIV&AIDS on the educators at home, school, and community needs to be managed comprehensively through the national AIDS strategic plan as well as a targeted plan directed at educators.

Thirdly, introducing a programme to treat educators who are eligible for antiretroviral therapy would reduce the number of educators who are AIDS sick and those who die from the disease. Schools should retain educators in the school by providing ART to those eligible for HIV and AIDS treatment; this could be done while ensuring confidentiality by using workplace programmes that allow for treatment of all diseases not just AIDS. This may prolong their healthy status and their lives, thus making them available to teach. It will also reduce the workload that is generated by their absence from the school. This should be addressed so as to avoid educators waiting in long public health clinic lines, which are frequented by the general public. Their absence from school while seeking care at public clinics may lead to poor learner performance, because teaching time is curtailed and the syllabus is incomplete. This will have a knock-on effect in the educational life of learners.

The education system would benefit from an accelerated intake of new educators. Teaching should be made an interesting career of choice for students. This would entail advice to encourage students to choose education as a career. The bursary schemes available could be used to encourage entrants to the education profession. Educators who spend time supporting learners need to be assisted. Fourthly, the education departments could provide support for educators who often have to take on different responsibilities apart from teaching, e.g. the role of parent, social worker, or counsellor. It is encouraging that since we conducted this study Treasury has allocated funds to pay for teaching assistants, who will take on such responsibility, which will free educators to teach (Budget Speech, 2007). An initiative such as the interactive, participatory approach programme entitled Resilient Educators (Reds), with its aim of empowering educators to cope more resiliently with the challenges of the pandemic (Theron *et al.*, 2008), should be evaluated and implemented on a broader scale,.

Given so many learners who are HIV positive, it is critical that the programme of prevention of transmission of HIV from mother to child be scaled up sufficiently to make an impact on new infections among children. Should this programme be expanded, it would eventually reduce the number of new learners entering primary school already infected with HIV. It is necessary for schools to create a supportive environment for learners to complete their schooling, while addressing the vulnerabilities of these children, e.g. those who are stigmatised and discriminated against.

Conclusion

In summary, HIV&AIDS has an impact on the quality of education because a significant percentage of educators are infected, therefore they become ill and die prematurely. These are the young educators who do not remain long enough in the profession to gain the necessary teaching experience. Further, the deaths of colleagues, family members, and community members affect educators' ability to teach effectively. As a result of illness and death of their colleagues, teachers find themselves with large class sizes, resulting in an inability to attend to all the learners. When educators teach subjects they are not well-equipped to teach, the quality of education suffers. The increased number of orphans and vulnerable children in the school system also puts more pressure on educators' teaching time, as reported in this study. Educators indicated that at times they are supporting their learners' financial, physical, and emotional well-being, instead of providing learners with the quality education that they need. The situation is further exacerbated by the increased number of learners who are living with the disease and therefore in need of special care and attention. This affects their ability to teach effectively.

It is imperative that education policy-makers and planners consider different strategies such as suggested in the above recommendations to deal with the effects of HIV&AIDS. The quality of education will only improve if educators can focus on teaching rather than providing social assistance to learners.

References

- Badcock-Walters P & Wilson D 2006. *Education attrition and mortality in KwaZulu-Natal: A study of gross attrition rates and trends in the public school system*. Mimeo.
- Bennell P 2003. The impact of the AIDS epidemic on schooling in sub-Saharan Africa. Paper presented at the *Association for the Development of Education in Africa ADEA Biennial Meeting*, Grand Baie, Mauritius, December 3-6.
- Bennell P 2005. The impact of the AIDS epidemic on teachers in sub-Saharan Africa. *The Journal of Development Studies*, 41:440-466.
- Bennell P 2006. *Anti-retroviral drugs are driving down teacher mortality in sub-Saharan Africa. Knowledge and skills for development*. Brighton, UK.
- Boler T 2003. *HIV/AIDS and education. Approaches to examining the impact of HIV/AIDS on teachers*. UK working group on education and HIV/AIDS: Actionaid International.
- Budget Speech 2007. Minister of Finance. *Communications Directorate, National Treasury*, 21 February. Available at www.treasury.gov.za. Accessed 18 July

- 2007.
- Centre for Actuarial Research 2006. *The Demographic Impact of HIV/AIDS in South Africa — National and Provincial Indicators for 2006*. Centre for Actuarial Research, South African Medical Research Council and Actuarial Society of South Africa. Cape Town.
- Cohen D 2002. *Human capital and the HIV epidemic in sub-Saharan Africa. Working Paper 2*. Geneva: International Labour Organisation.
- Crouch L & Lewin K 2003. Turbulence or orderly change? Educator supply and demand in South Africa: current status, future trends and the impact of HIV/AIDS. In: K Lewin, M Samuel & Y Sayed (eds). *Changing patterns of educator education in South Africa*. Sandown, South Africa: Heinemann.
- Demyttenaere K, Bonnewyn A, Bruffaerts R, Brugha T, De Graaf R & Alonso J 2006. Comorbid painful physical symptoms and depression prevalence, work loss and help seeking. *Journal of Affective Disorders*, 92:185-193.
- Department of Education 2005. *Teachers for the Future: Meeting Teacher Shortages to meet Education for All*. International Labour Organization. Available at <http://www.ilo.org/public/english/dialogue/sector/ap/educat/docs.htm> Accessed 15 May 2007
- Department of Education 2006. *National Policy Framework for Teacher Education and Development: More teachers, Better teachers*. Pretoria, South Africa: Department of Education.
- Donohue JM & Pincus HA 2007. Reducing the societal burden of depression: a review of economic costs, quality of care and effects of treatment. *Pharmacoeconomics*, 25:7-24.
- Education Portfolio Committee 2007. *National Policy Framework for Teacher Education Development: Report-back by Department*. Available at <http://www.pmg.org.za/viewminute.php?id=8709>. Accessed 14 June 2007.
- Galaif ER, Sussman S, Newcomb MD & Locke TF 2007. Suicidality, depression, and alcohol use among adolescents: a review of empirical findings. *International Journal of Adolescent Medicine and Health*, 19:27-35.
- Hall E, Altman M, Nkomo N, Peltzer K & Zuma K 2005. *Potential attrition in education: the impact of job satisfaction, morale, workload and HIV/AIDS*. Cape Town: HSRC Press.
- Kelly MJ 2000. *Planning for education in the next context of HIV/AIDS*. Paris: United Nations Educational, Scientific and Cultural Organization.
- Ministerial Committee on Teacher Education 2005. *A national framework for teacher education in South Africa*. Pretoria: Department of Education.
- National Center for Education Statistics (NCES) 2008. *Highlights from TIMSS 2007: Mathematics and Science Achievement of U.S. Fourth- and Eighth-Grade Students in an International Context*. U.S. Department of Education.
- Peltzer K, Ramlagan S, Shisana O, Connolly C & Zuma K 2008. The public education sector and HIV/AIDS. In: Ndinga-Muvumba A & Pharoah R (eds). *HIV/AIDS and society in South Africa*. Scottsville, South Africa: University of KwaZulu-Natal Press.
- Peltzer K, Shisana O, Udjo E, Wilson D, Rehle T, Connolly C, Zuma K, Letlape L, Louw J, Simbayi L, Zungu-Dirwayi N, Ramlagan S, Magome K, Hall E & Phurutse M 2005. *Educator Supply and Demand in the South African Public Education System. Integrated Report*. Cape Town: HSRC Press
- Rehle T, Shisana O, Pillay V, Zuma K, Puren A & Parker W 2007. National HIV incidence measures — new insights into the South African epidemic. *South African Medical Journal*, 97:194-199.
- Sher L, Sperling D, Stanley H, Carballo JJ, Shorval G, Zalsman G, Burke AK, Mann

- JJ & Oquendo M 2007. Triggers for suicidal behavior in depressed older adolescents and young adults: do alcohol use disorders make a difference? *International Journal of Adolescent and Medical Health*, 9:91-98.
- Shisana O, Peltzer K, Zungu-Dirwayi N & Louw J (eds) 2005. *The health of our educators: A focus on HIV/AIDS in South African schools*. Cape Town: HSRC Press.
- Theron L, Geyer S, Strydom H, Delpont CSL 2008. The Roots of REDS: A Rationale for the support by the HIV and AIDS pandemic. Review. *Health SA Gesondheid*, 13:77-88.
- UNAIDS 2008. *Report on the global AIDS epidemic*. Geneva: UNAIDS.
- UNICEF 2006. *Africa's Orphaned and Vulnerable Generations: Children Affected by AIDS*. Available at http://www.unicef.org/publications/index_35645.html. Accessed 14 June 2007.
- World Bank 2002. *Education and HIV/AIDS: A window of hope*. Washington, DC: World Bank.
- World Health Organization (WHO) 2008. *The World Health Report 2008. Primary Health Care — Now More Than Ever*. Geneva: WHO.
- Zungu-Dirwayi N, Shisana O, Louw J & Dana P 2007. Social determinants for HIV prevalence among South African educators. *AIDS Care*, 19:1296-1303.

Authors

Julia Louw is a doctoral student in the Rehabilitation Counselling programme at Michigan State University, USA. Previously she was Senior Researcher at the HSRC, South Africa, in the Social Aspects of HIV&AIDS and Health unit. Her research interests are sexuality education, the behavioural aspects of HIV&AIDS, and issues related to disabilities.

Olive Shisana is Chief Executive Officer, Human Sciences Research Council, South Africa. Her research focuses on national population-based surveys on HIV prevalence, incidence, behaviour, and social epidemiological issues in HIV&AIDS in South Africa. Previously she served as Executive Director of the Social Aspects of HIV&AIDS and Health in South Africa.

Karl Peltzer is Research Director, Health Promotion Research Unit, in the research programme Social Aspects of HIV&AIDS and Health, HSRC, South Africa, and an extraordinary Professor in Psychology at Free State University. His current research interests include psychology applied to health, chronic diseases of life style, substance use, communicable diseases including HIV, injuries, cultural health practices, programme evaluation in low and middle income countries including Africa.

Nompumelelo Zungu is Research Specialist at the HSRC. Before joining the HSRC, she worked for the Medical Research Council. Her research interests are socio-behavioural aspects of HIV&AIDS. She has published widely and her recent work includes the impact of HIV&AIDS on the supply and demand of educators in South Africa.

