

Discussion

It cannot be emphasised enough that *timeous and accurate cause of death statistics are an essential component of the information needed for planning and monitoring health services and responding to the health needs of the population*. Such information is needed for the process of prioritisation of not only health services, programmes and research, but also for guiding the priorities in other sectors. In particular, sub-population data are needed to identify and monitor inequalities in health outcomes.

Efforts to improve cause of death statistics in South Africa have been under way since 1994, and have resulted in better coverage of death registration. However, the system does not yet routinely provide cause of death statistics that can be used by provinces. This study makes use of the burden of disease approach developed by the WHO, using available information and presenting it in a format that can be useful for planning health and other services. It builds on the initial NBD study which estimated the mortality nationally, and makes use of more recent data (the 12% sample for 1997-2001). Due to inadequacies of the data, it was necessary to estimate the total number of deaths and number of AIDS deaths using a demographic and epidemiological model. Due to inadequacies in the medical certification of the cause of death as a result of both insufficient detail provided by medical doctors and the certification by traditional headmen in some rural areas, it was necessary to make adjustments for misclassification of underlying causes.

This study estimated mortality rates, the numbers of deaths and the YLLs for each of the nine provinces. The age-standardised mortality rates are particularly important from an epidemiological perspective, and enable a comparison of the levels of mortality experienced in each province. The numbers of deaths and the profiles of the causes are useful for health service planning since they are reflective of the demands for services. The YLLs and the profiles of the causes of premature mortality are particularly important for public health planning. However, when using these estimates it must be noted that conditions that have a high morbidity and low mortality are under-represented in the burden of disease profile based on mortality alone. The number of deaths and the YLLs are presented for each province against the demographic and socio-economic determinants of health.

Compared with the initial NBD estimates that were extrapolated from the 1996 cause of death data, the more recent data have produced very similar overall results. However, subtle differences are found in the exact ranking of some conditions, although the proportion of deaths due to the conditions are very similar. Following HIV/AIDS, the initial NBD estimates ranked ischaemic heart disease, stroke and homicide as the top causes, accounting for 5.8% each. Using the more recent data, the same causes are ranked top with, stroke, ischaemic heart disease and homicide accounting for 5.3% - 5.8% each.

Overall mortality rate was highest in KwaZulu-Natal and Mpumalanga, where it was 1.5 times higher than in the Western Cape, which had the lowest mortality rate (Figure 21). Figure 21 shows the age-standardised mortality rates by broad cause groups, with the provinces ranked according to level of mortality. The differences are largely a result of the variations in the HIV/AIDS mortality and the variation in the burden due to other pre-transitional causes related to underdevelopment. The differences in mortality translated into wider variations in premature mortality (Figure 21), once the age that the deaths occurred was taken into account. The premature mortality burden of the province with the highest YLLs per 100 000 population, KwaZulu-Natal, was double that of the province with the lowest, Western Cape.

This study shows that all provinces are experiencing a quadruple burden of disease. HIV/AIDS, homicide and road traffic accidents, stroke, ischaemic heart disease, hypertensive heart disease, tuberculosis, diarrhoea and lower respiratory infections generally featured in the top causes of death of all provinces. While it was possible to discern some trends in the epidemiological transition, each province had a unique profile. HIV/AIDS was the leading cause of death in all provinces excepting the Western Cape. The lead was mostly by a large margin. The geographic variations in the prevalence of HIV are reflected in the levels of HIV/AIDS mortality. The pre-transitional causes of death were

more pronounced in the poorer and more rural provinces. For example, diarrhoea mortality rates were closely correlated with levels of income. In contrast, the overall level of non-communicable disease mortality was similar across all provinces, but the causes differed. For example, ischaemic heart disease and lung cancer had high death rates in the more developed province of Western Cape, while hypertensive heart disease and inflammatory heart disease had high rates in Limpopo. The injury mortality rates were particularly high in some provinces, including those with large metropolitan areas as well as Mpumalanga.

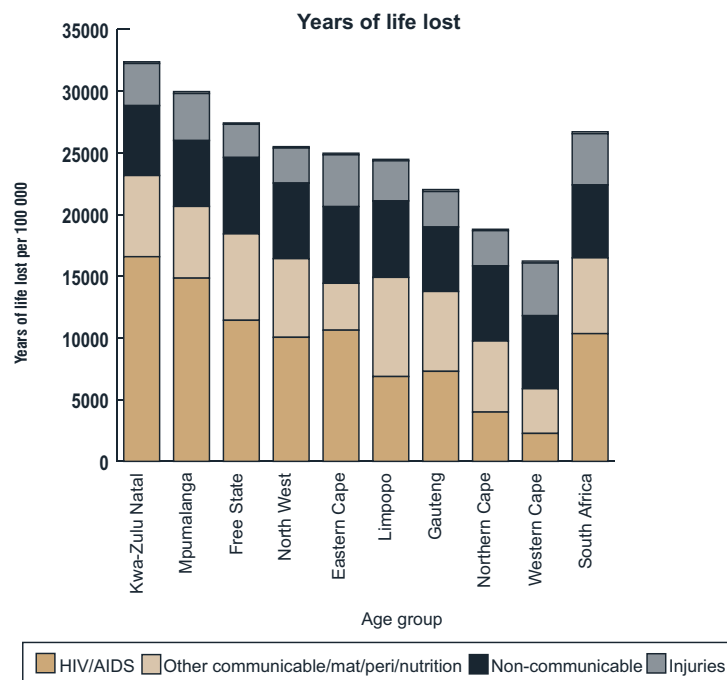
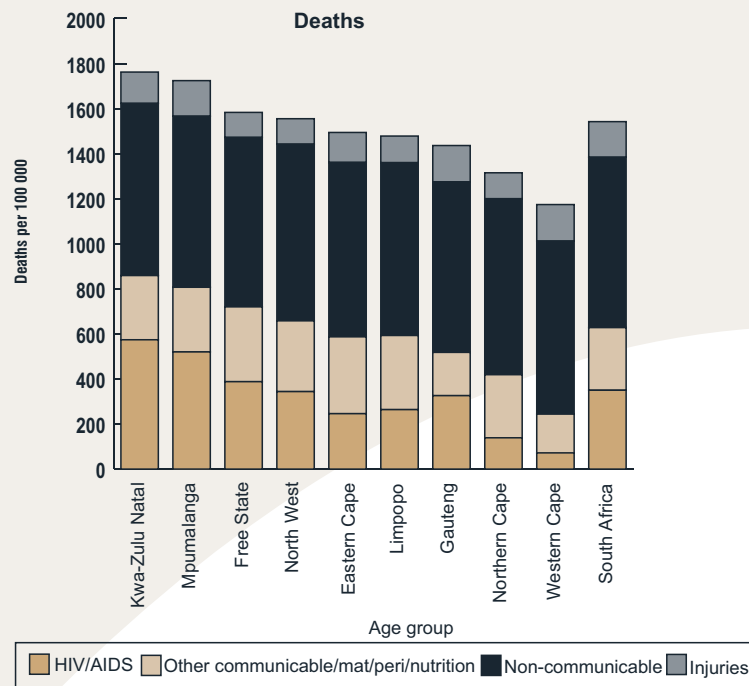


Figure 21. Provincial estimates of age-standardised death rates and years of life lost per 100 000 population by broad cause group, 2000

The variations between the provinces in levels and causes of mortality highlight extensive scope for epidemiological studies. Such differences may be related to levels of wealth and development, to population group differences and demographic features of the province, to geographical differences and environmental exposures or to access to health services or other basic services. Considering the levels of extrapolation required to derive the estimates for this study, it is important to validate the findings against other epidemiological data. The average profile of a province, furthermore, obscures the variability within a province. Studies comparing the mortality experienced by the different population groups, social classes and ethnic groups and for small areas would provide useful insight into the determinants of the variations. The findings of this study allude to a depth of variation in health outcomes that warrants much more investigation.

An attempt to assess the mortality profile for the new provinces was previously conducted using the 1990 cause of death statistics (Bradshaw, Laubscher and Schneider, 1995). It is difficult to compare the findings, however, since a different disease list was used for the earlier study and no adjustments were made for the high proportions of ill-defined causes. Also, as a result of better demographic and mortality data, this study was able to estimate death rates which could not be attempted for the 1990 study. The cause of death profiles observed for 1990 were markedly different from the profiles observed in this study since there were very few deaths due to HIV/AIDS (Bradshaw and Buthelezi, 1996). However, similar to the findings in 2000, the 1990 profiles did show variations between the provinces and suggested that they were at different stages of the epidemiological transition.

Conclusion and Recommendations

This study signifies an important milestone in generating burden of disease information at provincial level by providing mortality estimates for the provinces. The results of this study can be utilised in health planning and the setting of research priorities. The quadruple burden requires a broad range of interventions including improved access to health care, promotion of a healthy lifestyle and ensuring that basic needs such as water and sanitation are met. Social cohesion needs to be fostered to ensure safe and caring communities. Provincial and local level planners are urged to make use of the findings of this study to modify the emphasis of national policies to meet the health needs of their communities.

The HIV pandemic has spread very rapidly in South Africa resulting in an epidemic of major proportions. Although there are variations, no province has been exempt from its impact. Since the epidemic does not wait for the compilation of statistics, these estimates, for the year 2000, are likely to underestimate the current death rates due to HIV/AIDS. The ASSA2002 model projects that in 2004, the total number of deaths from all causes will be over 700 000 and that 44% of them will be due to HIV/AIDS. This should be taken into account when making use of these estimates for planning, and highlights the urgency of implementing the treatment programme approved by Cabinet in September 2003. It also highlights the need to strengthen efforts to prevent the spread of the epidemic and to ensure social systems to support individuals infected and affected by HIV/AIDS. The knock-on effect of the HIV/AIDS epidemic on tuberculosis is also in the process of unfolding, and demand for tuberculosis treatment is likely to grow. Provision must be made to bolster the tuberculosis control programmes that are currently not meeting the targeted levels of successful treatment.

The study demonstrates complex differences in health outcomes across the nine provinces. Some of the differences can be accounted for by the variations in wealth highlighting the need for policies to address poverty and reduce the inequalities in South Africa. Other differences between the provinces are likely to be related to variations in the exposure to a range of risk factors such as smoking, obesity, hypertension, high cholesterol and physical inactivity. It will be important to adapt the national strategies to promote a healthy lifestyle to suit local conditions. Some of the differences between the provinces are likely to be related to the access to health services which are not even across the country.

These estimates will be useful to planning at provincial level. They will also provide an important benchmark against which to monitor the impact of efforts to improve health.

However, there is an urgent need for further improvement to the cause of death data system to provide timely and reliable statistics on a routine basis. SSA is currently capturing the full data for 1997-2003. While these data are important and will enable more detailed geographic and population group investigation, the data will need careful interpretation to overcome the problems of inadequate information on underlying cause of death and the problems of incomplete registration.

Based on the experience in analysing cause of death data, it is clear that the following issues need to be addressed:

- The lack of details about the manner of death in the case of fatal injuries needs urgent attention. A mechanism to build the mortuary surveillance system (NIMSS) in all provinces, and link the information to the vital registration system should be put in place.
- The quality of information on the underlying cause of death needs to be improved. In particular, there is a need to reduce the number of deaths certified with insufficient information that result in a high proportion of deaths being classified as 'ill-defined'. There is a need to improve the quality of medical certification as well as to investigate how appropriate information for the deaths certified by traditional headmen can be collected.
- Systems to ensure timely access to information at local level need to be developed. While the model of duplicate capturing of death data has worked well for Cape Town, it is not clear that this is a viable model for all health districts. Government needs to grapple with the issue of ensuring that health districts have a system to produce timely cause of death statistics.
- A rapid surveillance system to produce preliminary information about the number of deaths and changing age pattern that can be released well in advance of the official statistics.

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