Persistent burden from non-communicable diseases in South Africa needs strong action

The number of deaths from non-communicable diseases (NCDs) has been rising globally, and NCDs are currently among the leading causes of death in many countries.^[1] The mortality profile in the African region is currently dominated by communicable, maternal, nutritional and perinatal conditions. However, changes are taking place and the World Health Organization has projected that by 2030, NCDs will be the biggest cause of death in this region.^[2] The Burden of Disease Research Unit at the South African Medical Research Council recently analysed mortality levels and trends for NCDs over a 14-year period as part of its second National Burden of Disease Study for South Africa (SA).^[3]

Our study shows that NCDs are already among the top causes of death in SA^[3] By 2010, NCDs accounted for 39% of total deaths in the country. More than a third (36%) of these deaths occurred before the age of 60 years. In 2010, the number of deaths due to NCDs was similar to the number from HIV/AIDS and tuberculosis (TB) combined. However, the age-standardised death rates (ASDRs) for NCDs were higher than those of other broad cause categories (namely HIV/AIDS and TB combined; and other communicable diseases, plus maternal, perinatal and nutritional conditions).

We found that the overall NCD mortality rate decreased over time, but that there was a mix of increasing and decreasing trends for specific diseases (Fig. 1). This highlights the changing lifestyle and risk factor profiles of the SA population. The increase in mortality from diabetes mellitus, renal disease and endocrine/nutritional and blood disorders is concerning and is probably a result of lifestyle changes, urbanisation^[4] and more South Africans falling into the overweight and obese category.^[5] Effects of the tobacco control interventions^[6] can be seen in the decrease in mortality rates from ischaemic heart disease, lung cancer, chronic obstructive pulmonary disease and asthma. The substantial decrease in mortality from oesophageal cancer may be due to changing socioeconomic status, urbanisation and resultant dietary changes, including shifts from consuming home-grown to commercial maize.^[7]



Fig. 1. Trends in ASDRs for diabetes mellitus, cardiovascular diseases, cancers and chronic respiratory disease by specific cause by sex, SA 1997 - 2010.^[3] (IHD = ischaemic heart disease; COPD = chronic obstructive pulmonary disease.)

Cardiovascular diseases were the leading category of NCDs. However, population groups are in different stages of the cardiovascular transition,[8,9] as shown in Fig. 2. In 2010, Asians had distinctively high ASDRs for ischaemic heart disease (IHD) and renal disease. The ASDRs for IHD were almost twice as high as in the other population groups. In contrast, black Africans are in the midst of a cardiovascular epidemic with relatively high ASDRs from cerebrovascular disease, hypertensive heart disease, diabetes mellitus, IHD and cardiomyopathy. Marked declines were observed for cardiovascular disease and diabetes mellitus among coloureds and Asians, while there was an increase among black African males. Fig. 2 also reveals population group differences in diabetes and renal diseases, which may be associated with access to medical care.

Our study showed that ASDRs from NCDs declined by 0.4% per annum over the 14-year period. However, this is much lower than the recommended goal of 2% per year.^[10] The SA government has recognised the need to address NCDs and has developed a strategic plan with an ambitious goal to decrease premature mortality from cardiovascular disease, cancer, respiratory conditions and diabetes combined by 25% within a decade.^[11] Our study estimated that in 2010, the premature mortality from these conditions was 26% (i.e. 26% of people who were 30 years old would die before the age of 70 years from these conditions if the 2010 mortality rates were to prevail).

The NCD plan formulated by the National Department of Health balances populationbased strategies alongside individual-level strategies.^[11] It promotes a multistakeholder national health commission that engages other sectors, including trade and industry, agriculture, education, sports, and arts and culture. Preventing and delaying the increase of NCDs is appreciably more effective and considerably less costly than treatment of those who become sick.[12] Policies for tobacco control and salt and fat reduction are in place, but aggressive efforts are needed to ensure their implementation. The government should be commended for the bold move on taxing sugar-sweetened drinks. This is expected to cut the number of obese people by 220 000 in 3 years.^[13] However, policy development on alcohol harm reduction has been slow.

NCD surveillance needs to be strengthened to provide reliable and robust information for planning and monitoring health policy. There is a need to improve



Fig. 2. ASDRs for cardiovascular diseases, diabetes mellitus and renal disease by population group, SA 2010.^[3]

the completeness of death registration and the quality of cause-of-death information. Morbidity data and quality-of-care information are not generally collected, and the national cancer register needs support. Importantly, risk factor monitoring through routine population-based surveys needs to be instituted at regular intervals. Monitoring is an essential step in meeting the goals of the NCD strategic plan.

Continued effort and political will must be directed towards preventing, delaying the onset of or treating and managing these conditions.

Acknowledgements. We thank Statistics South Africa for providing cause-of-death data and Ms Elize de Kock for administrative support on the SA National Burden of Disease Study. In addition, critical appraisal and input provided by Eric Bateman, Kirsty Bobrow, Alan Bryer, Krisela Steyn and Naomi Levitt are much appreciated.

Beatrice Nojilana, Debbie Bradshaw, Victoria Pillay-van Wyk,

William Msemburi, Nontuthuzelo

Somdyala, Jané D Joubert,

Pam Groenewald

Burden of Disease Research Unit, South African Medical Research Council, Cape Town, South Africa

Ria Laubscher

Biostatistics Unit, South African Medical Research Council, Cape Town, South Africa

Rob E Dorrington

Centre for Actuarial Research, Faculty of Commerce, University of Cape Town, South Africa

Corresponding author: B Nojilana (beatrice. nojilana@mrc.ac.za)

- Alwan A, MacLean DR, Riley LM, et al. Monitoring and surveillance of chronic non-communicable diseases: Progress and capacity in high-burden countries. Lancet 2010;376(9755):1861-1868. DOI:10.1016/S0140-6736(10)61853-3
- Alwan A. Global Status Report on Non-communicable Diseases 2010. Geneva: World Health Organization, 2011.
- Nojilana B, Bradshaw D, Pillay-van Wyk V, et al. Emerging trends in non-communicable disease mortality in South Africa, 1997-2010. S Afr Med J 2016;106(5):477-484. DOI:10.7196/SAMJ.2016.v106i4.10674
- Reddy KS, Yusuf S. Emerging epidemic of cardiovascular disease in developing countries. Circulation 1998;97(6):596-601. DOI:10.1161/01.CIR.97.6.596
- Peer N, Steyn K, Lombard C, et al. Alarming rise in prevalence of atherogenic dyslipidaemia in the black population of Cape Town: The Cardiovascular Risk in Black South Africans (CRIBSA) study. Eur J Prev Cardiol 2014;21(12):1549-1556. DOI:10.1177/2047487313497865
- Peer N, Bradshaw D, Laubscher R, Steyn K. Trends in adult tobacco use from two South African demographic and health surveys conducted in 1998 and 2003. S Afr Med J 2009;99(10):744-749.
- Somdyala NIM, Parkin MD, Sithole N, et al. Trends in cancer incidence in rural Eastern Cape Province, South Africa, 1998-2012. Int J Cancer 2014;136(5):E470-E474. DOI:10.1002/ijc.29224
- Omran AR. Epidemiological transition: A theory of epidemiology of population change. Millbank Memorial Fund Q 1971;49(4):509-538. DOI:10.2307/3349375
- Yusuf D, Reddy S, Ounpuu S, Anand S. Global burden of cardiovascular diseases Part 1: General considerations, the epidemiologic transition, risk factors and impact of urbanisation. Circulation 2001;104:2746-2753. DOI:10.1161/hc4601.099487
- Strong K, Mathers C, Leeder S, et al. Preventing chronic diseases: How many lives can we save? Lancet 2005;366((9496):1578-1582. DOI:10.1016/s0140-6736(05)67341-2
- National Department of Health. Strategic Plan for the Prevention and Control of Non-communicable Diseases 2013-17. Pretoria. National Department of Health, 2013.
- Cecchini M, Sassi F, Lauer JA, et al. Tackling of unhealthy diets, physical inactivity, and obesity: Health effects and cost-effectiveness. Lancet 2010;376(9754):1775-1784. DOI:10.1016/S0140-6736(10)61514-0
- Manyema M, Veerman LJ, Chola L, et al. The potential impact of a 20% tax on sugar-sweetened beverages on obesity in South African adults: A mathematical model. PLoS One 2014;9(8):e105287. DOI:10.1371/journal.pone.0105287

S Afr Med J 2016;106(5):436-437. DOI:10.7196/SAMJ.2016.v106i5.10776