

Namibia Country Report

PASCAR and WHF Cardiovascular Diseases Scorecard project

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Abstract

Data collected for the World Heart Federation's Scorecard project regarding the current state of CVD prevention, control and management along with related non-communicable diseases in Namibia are presented. Furthermore, the strengths, threats, weaknesses, and priorities identified from these data are highlighted in concurrence with related sections in the attached infographic. Information was collected using open-source data sets available online and relevant government publications.

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On behalf of the World Heart Federation (WHF), Pan-African Society of Cardiology (PASCAR) co-ordinated data collection and reporting for the country-level Cardiovascular Diseases Scorecard for Africa.^{1,2} Namibia does not yet have a cardiac/heart society that could assist PASCAR in collating the data. However, a paediatric cardiologist at Windhoek Central Hospital (WCH) assisted with information on rheumatic heart disease (RHD), along with an adult cardiology fellow in training, who aided the adult data. These specialist cardiologists verified their respective data fields. A consultant cardiologist, Dr Simon I Beshir (SIB), from the Namibia Heart Centre of the Roman Catholic Hospital provided information on the adult CVD data.

Based on the data collected, we summarise the strengths (achievements), threats, weaknesses and priorities identified, which need to be considered in conjunction with the associated sections in the accompanying infographic. Datasets that

were used included open-source data from the World Bank, World Health Organization (WHO), Institute for Health Metrics and Evaluation, the International Diabetes Federation and government publications. Although Namibia has made some progress toward the provision of comprehensive cardiovascular care, there are still gaps, probably as a result of fragmented and unco-ordinated responses, with limited funding, human resources and technical capacity. Staff shortages and a lack of essential equipment and support at state and private cardiac centres are some of the reasons for the dearth of published research-related activities in Namibia.

Part A: Demographics

With a population of 2.3 million people and spanning 825 419 km², Namibia is a sparsely populated country. According to the World Bank (2018), Namibia is an upper-middle-income country with 50% of its people predominantly in northern Namibia living in rural areas.³ In 2015, 13.4% of the population were living below the US\$1.9-a-day ratio. Life expectancy at birth in 2018 was 60 years for men and 66 years for women. The general government health expenditure was 3.9% of the gross domestic product (GDP) in 2017, while the country GDP per capita was US\$5931.5 in 2018.³

Part B: National cardiovascular disease epidemic The national burden of cardiovascular disease (CVD) and non-communicable diseases (NCD) risk factors

Namibia's premature deaths attributable to CVD (30–70 years old) in 2012 were 12%, which is slightly lower than neighbouring country, South Africa, at 14%, but higher than Mozambique's at 8%. In 2017, the age-standardised total CVD death rate was 17.7%, which was higher than that of South Africa and Mozambique at 16.1% and 11.6%, respectively. However, compared to the 31.8% for the Global Burden of Disease (GBD) data, Namibia's total CVD deaths were lower.⁴ The percentage of disability-adjusted life years (DALYs) resulting from CVD for men was 7.1 and 6.2% for women, which is lower than the GBD at 14.7% for both genders. The prevalence of atrial fibrillation (AF) and atrial flutter was 0.2%, while that of RHD was 0.94% compared to the GBD data of 0.53%. The total RHD mortality was 0.27% of all deaths, which is lower than the GBD data (0.51%) (Table 1).⁴

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Tobacco and alcohol

The prevalence of tobacco use in adult men and women (≥ 15 years old) was 38.9% and 11.4%, respectively, which is higher than comparative Global Health Observatory (GHO) data of 36.1% for men and 6.8% for women.⁵ Data available for adolescents (13–15-years-old), indicated 31.9% of boys and 29.9% of girls used tobacco in 2008.⁶ The estimated annual direct cost of tobacco use is not known. The premature CVD mortality attributable to tobacco is 4% of the total mortality and much lower than that of the global 10%.⁷ The three-year (2016–18) average recorded alcohol consumption per capita (≥ 15 years), was 4.4 litres (Table 1).⁵

Raised blood pressure and cholesterol

In 2015, about 28% of men and women had raised blood pressure (BP) (systolic BP ≥ 140 mmHg or diastolic BP ≥ 90 mmHg) levels, which is higher than the GHO level of

22.1% and that of Africa's 27.4%.⁵ In 2017, the percentage of DALYs lost because of hypertension was about 4.4%, while mortality caused by hypertensive heart disease was 1.64% matching that of 1.65% for global data (Table 1).⁴ The estimated model using data from other countries and specific country characteristics for raised total cholesterol (TC ≥ 5.0 mmol/l) was 33.1% compared to GHO data (38.9%) in 2008.⁵

Physical activity

Data for 11–17-year-old adolescents indicated that 87.4% were insufficiently active [< 60 minutes of moderate- to vigorous-intensity physical activity (PA) daily].⁵ The age-standardised estimate for adults who were insufficiently active (< 150 minutes of moderate-intensity PA per week, or < 75 minutes of vigorous-intensity PA per week) was 33.4% which is higher than GHO data at 27.5% (Table 1).⁵

Table 1. Cardiovascular disease indicators for Namibia

Indicators	Male	Female	Total	Year
Status of national the CVD epidemic				
Premature CVD mortality (30–70 years old) (% deaths)	-	-	12	2012
Total CVD mortality (% of deaths)	16.5	19.2	17.7 (31.8)*	2017
Total RHD mortality (% of deaths)	0.32	0.21	0.27 (0.5)*	2017
DALYs attributable to CVD (%)	7.1	6.2	6.7 (14.7)*	2017
AF and atrial flutter (%)	0.21	0.2	0.2 (0.5)*	2017
Prevalence of RHD (%)	0.84	1.03	0.94 (0.5)*	2017
Tobacco and alcohol				
Prevalence of adult tobacco use (≥ 15 years old) (%)	38.9 (36.1)**	11.4 (6.8)**	-	2015
Prevalence of youth (13–15-year-olds) tobacco use (%)	31.9 (18.2)**	29.9 (8.3)**	-	2008
Estimated direct (healthcare related) cost of tobacco use in your population (current US\$)	-	-	-	-
Proportion of premature CVD mortality attributable to tobacco (%)	-	-	4 (10)**	2004
Recorded alcohol consumption per capita (≥ 15 years old) (litres of pure alcohol) (three-year average)	-	-	4.4	2016–18
Raised blood pressure and cholesterol				
Population with raised BP (SBP ≥ 140 mmHg or DBP ≥ 90 mmHg) (%)	28.2 (24.1)**	28.4 (20.1)**	-	2018
Population with raised TC (≥ 5.0 mmol/l) (%)	31.1	34.5	33.1 (38.9)**	2008
DALYs attributable to hypertension (%)	4.7	4.0	4.4 (8.7)*	2017
Mortality caused by hypertensive heart disease (% of deaths)	1.12	2.31	1.64 (1.7)*	2017
Physical activity				
Adolescents (11–17 years old) who are insufficiently active (< 60 minutes of moderate- to vigorous-intensity PA daily) (%)	86.5	88.4	87.4	2016
Adults (age-standardised estimate) who are insufficiently active (< 150 minutes of moderate-intensity PA per week, or < 75 minutes of vigorous-intensity PA per week) (%)	28.9	37.4	33.4 (27.5)**	2016
Overweight and obesity				
Adults who are overweight (BMI ≥ 25 – < 30 kg/m ²) (%)	27.2	51.9	40.6 (38.9)**	2016
Prevalence of obesity (BMI ≥ 30 kg/m ²) (%)	7.5	25.4	17.2 (13.1)**	2016
Diabetes				
Defined population with fasting glucose ≥ 126 mg/dl (7.0 mmol/l) or on medication for raised blood glucose (age-standardised) (%)	7.3 (9)**	7.5 (8)**	-	2014
Prevalence of diabetes (20–79 years old) (%)	-	-	4.5 (9.3) [†]	2019

CVD, cardiovascular disease; RHD, rheumatic heart disease; DALYs, disability-adjusted life years; AF, Atrial fibrillation; SBP, systolic blood pressure; DBP, diastolic blood pressure; TC, total cholesterol; PA, physical activity; BMI, body mass index.

*IHME Global data exchange⁴

**WHO Global data⁵

[†]IDF Diabetes Atlas.⁸

Overweight and obesity

In 2016, the prevalence of overweight [body mass index (BMI) ≥ 25 – < 30 kg/m²] and obesity (BMI ≥ 30 kg/m²) in adults 25 years and older was 40.6 and 17.2%, respectively.⁵ Compared to global data, both these indicators are much higher than that of 38.9% for overweight and 13.1% for obesity (Table 1).⁵ Similarly to most African countries, far more women were overweight or obese compared to men (51.9 and 25.4% vs 27.2 and 7.5%, respectively).

Diabetes

The percentage of the population defined with a fasting glucose level ≥ 7.0 mmol/l or on medication for raised blood glucose (age-standardised) in 2014 was 7.3% for men and 7.5% for women. In 2019, the age-adjusted prevalence (20–79 years) of diabetes was 4.5%, which is higher than that of Africa (3.9%) but lower than the global level of 9.3% (Table 1).⁸

Part C: Clinical practice and guidelines

Health system capacity

In 2018, the country had an average of 4.2 physicians and 19.54 nurses, and in 2009, 27 hospital beds per 10 000 of the population.⁵ In 2009, the first medical school opened.

Before 2008 there was no specialised adult or paediatric cardiology or cardiothoracic service in Namibia. Patients with heart disease were treated by local paediatricians and physicians, then referred to cardiac centres in other African countries for interventions or surgeries. In 2008, the WCH complex, the tertiary public hospital in the capital, inaugurated the Cardiac Unit; the first facility in Namibia to provide comprehensive cardiac care and surgery to children and adults with a particular focus on RHD. Three other centres have subsequently been set up in the private sector (two in Windhoek and one in northern Namibia) that have supported the state Cardiac Unit. At present, specialised paediatric and congenital cardiac services and cardiac surgery are available in the private and public sector. In the public sector, adult cardiology care is provided by consultant physicians, and specialised interventions are arranged on an *ad hoc* basis with private cardiologists.

Although the state system initially focused on specialised tertiary cardiovascular care, the Ministry of Health and Social Services (MoHSS), with the support of partners, established initiatives and programmes to address the national cardiovascular health needs, therefore, moving from a strictly vertical (tertiary cardiovascular centres) or horizontal (health system strengthening through improved primary healthcare) response to a more diagonal one (strengthening primary healthcare and infrastructure alongside disease-specific activities).

Currently, regarding comprehensive services in the state sector, there is a clinical, interventional and surgical paediatric and congenital heart disease service. A team of super-specialists, nurses, technologists, perfusionists, medical officers and social workers is actively involved in clinical management and research. The adult cardiology services until

recently enjoyed similar successes but without a full-time cardiologist, interventional procedures have been *ad hoc*.⁹

Reasons for slow progress include lack of, or no access to, data for locally relevant clinical tools to assess CVD risk or the management of RHD. Also, no system was found to measure the quality of care provided to people who have suffered acute cardiac events. No national CVD database exists, however, there is a hospital-based cardiothoracic surgical database, and cardiologists have complete datasets regarding CVD care provided to their patients over the past eight years (SIB, pers commun).

There is an RHD hospital-based registry, which made it feasible for Namibia to participate in the REMEDY study, a contemporary, multi-centre study and RHD GEN. Network.¹⁰ There are also locally relevant clinical guidelines for the management of pharyngitis and rheumatic fever, and detection and management of AF are available.¹¹ No local guidelines for the management of adult CVD are available, however the American Heart Association and the European Society of Cardiology guidelines are followed.¹² The same applies to a national programme for adult CVD prevention, with local physicians also following international recommendations (SIB, pers commun). Although no national guidelines for the treatment of tobacco dependence exist, health education and advice to quit the habit are provided in the Standard Treatment Guidelines.¹¹ Namibia has standard treatment guidelines for diabetes mellitus and other NCD or conditions, such as hypertension.¹¹

Essential medicines and interventions

Only aspirin, angiotension converting enzyme (ACE) inhibitors and β -blockers could be made available at health centres and clinics for follow-up treatment.¹³ In 2019, metformin, insulin and statins were also said to be available in the public sector, yet these sectors have been suffering from underfinancing, resulting in essential drugs to be unavailable at public health pharmacies.⁵ Warfarin and clopidogrel are also not available at the public health level.^{11,13} Data regarding priority CVD risk stratification or secondary prevention of acute rheumatic fever (ARF) and RHD at primary healthcare facilities were not available. However, TC measurement was available at the primary healthcare level.⁵

Secondary prevention and management

The percentage of persons with hypertension receiving medical treatment is 17%,¹⁴ with no data available for high-risk patients with AF receiving oral anticoagulants. Those people with a history of CVD taking aspirin, statin and at least one antihypertensive agent is also unknown. The percentage of patients with RHD receiving penicillin for secondary prophylaxis is low (33%) and the result of a combination of non-prescription, poor adherence and disruption in the supply chain (Namibia REMEDY data, unpublished).

Part D: Cardiovascular disease governance

Strategies focusing on assessing and reducing the burden of NCD, which include CVD and risk factors, such as diabetes,

have been developed, with a unit in the MoHSS responsible for these diseases or conditions.¹⁵ However, no dedicated budget is available to ensure its implementation. Although a prevention and control strategy for RHD has been introduced, and a national advisory committee established, progress has been slow.^{16,17} A national surveillance programme, the Demographic and Health Survey, has been reported but with very little information on CVD. The warfarin education/surveillance programme is ongoing and has reported successes (SF, pers commun). Windhoek Central Hospital is the only public health facility in Namibia with a warfarin clinic.¹⁸

Namibia follows the WHO best-buy policies regarding tobacco use and has formulated a national tobacco control plan and multi-sectoral co-ordination mechanism for tobacco control.¹⁶

The Ministries of Health and Education, along with other organisations, implemented the Health Promoting Schools Initiative, which has successfully improved the health of all people from the school environment.¹⁹ In Namibia, CVD consumed the largest proportion of total spending on NCD, which was 22% in the 2015/16 and 18% in the 2016/17 fiscal years.²⁰

Namibia was part of the WHO-CHOICE project, which incorporated a cost-effectiveness modelling tool that gathers national data to be used for developing the most effective interventions for leading causes of disease burden. The model can be adjusted according to the specific needs of the country and assist policymakers in planning and prioritising services at a national level.²¹

Assessment of policy response

Legislation mandating health financing for CVD/NCD has been recommended as the government is aware that CVD costs can be high and consume a large portion of a country's health expenditure.²² In the Namibian Essential Medicines list of the MoHSS, essential CVD medicines on the list have to be purchased from suppliers at the lowest possible prices and provided at affordable costs.¹³ However, medicine is heavily commercialised and the government spends more than R100 million outsourcing services from the private sector, downplaying services that ought to serve masses (FS, pers commun).

The country has policies that ensure equitable nationwide access to healthcare professionals and facilities²³ but none that address the screening of high-risk CVD individuals. Yet no judicial orders protecting patients' rights and mandating improved CVD interventions, facilities, health-system procedures or resources have been implemented. A few policies do address individual interventions, such as tobacco and alcohol use, and PA.¹⁶

Since October 2011, Namibia has not yet submitted another framework convention on tobacco control (FCTC) report.²⁴ At that time the country reported having banned smoking in all public places including indoor workplaces and all forms of tobacco advertising, through the policy. Clear and visible warnings according to requirements and measures to protect tobacco control policies from tobacco industry interference were also mandated.¹⁷ No sustainable funding is available for CVD from taxation of tobacco

or other sin products, and also no excise tax of the final consumer price of tobacco products in Namibia.

There are no taxes on unhealthy foods or sugar-sweetened beverages. Although no information was found for the percentage of excise tax of the final consumer price of alcohol products, excise taxes were increased from 22 February 2018 on ciders, alcoholic fruit beverages, malt beer and sparkling wine by 10%, unfortified wine and spirits by 8.5% and fortified wine by 6.0%. These alcoholic beverages are classified under 'sin' taxes. An additional 5% national 'sin' tax on alcohol and tobacco products will also be introduced for national revenue purposes.²⁵

Legislation exists on banning the marketing of unhealthy foods to minors²⁶ but none mandating clear and noticeable warnings on foods that are high in calories, sugar or saturated fats. Namibia developed a food and nutrition policy to improve food and nutrition,¹⁶ as well as one that addressed physical inactivity through mass media awareness.²⁷

Stakeholder action

In Namibia, non-governmental organisation (NGO) advocacy for CVD policies and programmes as such has not been demonstrated. However, NGO involvement through NCD and related risk factors has indirectly been reported.¹⁶ Although no involvement of patients' organisations in the advocacy for CVD/NCD prevention and management has been reported, there is a patient-led ambassador/advocacy group Namibia for rheumatic fever and RHD.²⁸

Involvement of civil society organisations (CSO) in the development and implementation of a national tobacco control plan and CVD prevention and control plan was also reported in the FCTC report.^{24,29} No CSO involvement in the national multi-sectoral co-ordination mechanism for NCD/CVD was documented. No specific activities by cardiology professional associations were reported that aim at a 25% reduction in premature CVD mortality by 2025, although Namibia was represented at the 65th World Health Assembly in 2012.³⁰ Hypertension screening by businesses at workplaces have been addressed.³¹

As part of the data collected for Namibia, the following strengths, threats, weaknesses and priorities are summarised.

Strengths

Namibia has a strong political will, with legislation and policies such as the FCTC in place. The MoHSS supported the training of several Namibian doctors and allied staff in cardiovascular care. At the World Health Assembly in 2018, Namibia endorsed the adoption of the Resolution on Rheumatic Fever and Rheumatic Heart Disease.³² Implementation of programmes in response to the NCD disease burden is being addressed through innovative interventions, and there is good infrastructure. Central and regional medical stores are also available to ensure the availability of safe and efficacious medicines. However, many essential drugs are still not available in government pharmacies.¹⁶

A patient-driven awareness campaign, the Namibian RHD Ambassador programme, aims to empower people with

rheumatic fever and RHD through educational skills they can pass on to their families and communities about the disease. Furthermore, it also provides a platform for them to advocate for their health needs. This programme is receiving continued support from the MoHSS via the NCD desk.²⁸ However, there is still room for increased awareness about ARF/RHD at the community level.

Namibia's recorded alcohol consumption per capita (4.4 litres) is lower than that of countries such as Uganda (12.2 litres) and Nigeria (7.8 litres) or Tanzania and Rwanda (7.3 and 7.0 litres, respectively) in persons ≥ 15 years old.⁵ Also, policies that address the harmful use of tobacco products, alcohol, unhealthy diets and other CVD risk factors such as physical inactivity and obesity are in place.¹⁶

In 2011, the MoHSS published Namibia's Standard Treatment Guidelines, which included, among other things, the detection and management of diabetes mellitus, rheumatic fever and RHD.¹¹

Threats

NCD are becoming unforeseen health issues, along with unhealthy lifestyles competing with the high burden of communicable diseases.¹⁵ Namibia faces enormous threats for the funding base of the WHO country office, resulting from a global financial crisis and recession and reduction in donor funds.¹⁵

Namibia's total CVD mortality rate (17.7%) is higher than most other countries under investigation, including that of its neighbouring country, South Africa, at 16.1%. The total RHD mortality rate also ranks higher than most of the countries in our study. The prevalence of tobacco use in Namibia is also of concern when compared to the global prevalence of 36.1 and 6.8% for men and women, respectively. Similarly, adolescents' tobacco use is much higher than the global figures shown in Table 1. Other risk factors creating a reason for concern are hypertension, hypercholesterolaemia, overweight and obesity, also shown in Table 1. Hypertension prevalence of almost 46% in adults 35–64 years old, who participated in the 2013 Namibia Demographic and Health Survey, is high and reason for concern along with other NCD risk factors.³³

Some CVD, such as RHD, show a female preponderance and affect women of childbearing age. Therefore comprehensive reproductive health services must be made available to these women, as pregnancy is associated with specific maternal and foetal morbidity and mortality. Access to information regarding their risk in pregnancy, medication use, family planning, and a safe, reliable form of contraception is essential. In addition to barrier methods, progesterone implants are a safe contraception option for women with CVD. Unfortunately, the local supply of these has been erratic. Long-term, children under 10 years old who receive mechanical prostheses do not fare well with anticoagulation like their adult counterparts. Repair, if feasible, is favoured under the circumstances.³⁴

Weaknesses

Morbidity and mortality caused by NCD are on the increase. The lack of funding caused some objectives not

to be met regarding NCD, such as the establishment of a CVD budget.¹⁵

Although the prevalence of RHD is below 1%, it is still higher than the global figure of 0.53% shown in Table 1. The incidence of new ARF cases reflects the reality that primary prevention is not practised broadly. Equally, the availability of benzathine penicillin for secondary prevention is not always guaranteed. Lately, benzathine penicillin has been reserved mostly for children under 15 years old, while the population beyond receives penicillin V potassium (Pen VK). A penicillin task force was set up to investigate and address the fragile supply chain.¹⁷

Although cardiac surgery is available locally, the waiting lists and times are long. As patients sometimes present with advanced disease, they may miss the window of opportunity for curative or palliative surgery or die while waiting.^{34,35} Cardiac interventions and surgeries are generally available in the private sector, with limited access to adults in the public health sector in the light of budget and skills restrictions.⁹ Similar to African countries, Namibia has a shortage of human resources and local expertise.⁹

Priorities

Priority areas for prevention and control are to:

- strengthen surveillance, monitoring and research to establish disease patterns and trends
- influence policy formulation, legislation and support planning for NCD and conditions
- promote healthy lifestyles and primary prevention.¹⁵

According to the WHO Country Cooperation Strategy 2010–2015, transparent policy and strategy need to be defined, and funds allocated to address the agenda through sound partnerships with all relevant stakeholders.¹⁵ Therefore, it is imperative to implement a well-organised and controlled public–private partnership as a priority to secure appropriate care for CVD patients at the public healthcare level.

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