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Namibia

Public Expenditure Review

Health Sector Public Expenditure Review

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HNP



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Acronyms

ALOS	Average Length of Stay
ART	Antiretroviral Therapy
BMI	Body Mass Index
CHW	Community Health Workers
CPT	Current Procedural Terminology
CRP	Common Revenue Pool
CT	Computer Tomograms
CVD	Cardiovascular Disease
DHS	Demographic Health Survey
DRG	Diagnosis-Related Groups
EmOC	Emergency Obstetric Care
GDP	Gross Domestic Product
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GGE	General Government Expenditure
GGHE	General Government Health Expenditure
HALE	Health Adjusted Life Expectancy
HCI	Human Capital Index
HMIS	Health Management Information System
HPCNA	Health Professions Council of Namibia
ICD-10	10th revision of the International Statistical Classification of Diseases and Related Health Problems
ICT	Information and Communications Technology
IHME	Institute of Health Metrics and Evaluation
IYCF	Infant and Young Child Feeding
KAP	Knowledge Attitude and Practices
MAF	Medical Aids Funds
MMR	Maternal Mortality Rate
MOF	Namibia Ministry of Finance
MOHSS	Namibia Ministry of Health and Social Services
MRI	Magnetic Resonance Imaging
MTEF	Medium Term Expenditure Framework
NAMAF	Namibia Association of Medical Aid Funds
NAMFISA	Namibia Financial Institutions Supervisory Authority

NAMPHIA	Namibia Population-Based HIV Impact Assessment
NCD	Non-Communicable Diseases
NDP5	5th National Development Plan
NHA	National Health Accounts
NHIES	Namibia Household Income and Expenditure Survey
NMBF	National Medical Benefit Fund
NRPA	Namibia Radiation Protection Authority
OECD	Organisation for Economic Co-operation and Development
PEFA	Public Expenditure and Financial Accountability
PER	Public Expenditure Review
PPP	Purchasing Power Parity
PSEMAS	Public Sector Employee Medical Aid Scheme
SACU	Southern African Customs Union
SSC	Social Security Commission
TB	Tuberculosis
THE	Total Health Expenditure
UMIC	Upper Middle-Income Country
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization

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Executive Summary

This Public Expenditure Review (PER) is the first for Namibia's health sector. Namibia is an upper-middle income country that has made major progress in improving the standard of living for its population and reducing poverty. Still, with one of the highest Gini coefficients in the world, the society is highly unequal. In addition, the size of Namibia, combined with a low population density, makes it challenging for the health sector to provide universal access to quality health services across the country. The recent economic downturn has put fiscal pressure on the government and heightened the need for spending efficiency. Although government spending on health has been consistently close to the Abuja target of 15%, health outcomes are poor. The country faces a double burden of both communicable and non-communicable disease (NCDs), with high HIV/AIDS, stunting and maternal mortality rates that predominately affect the poor, and an increasing prevalence in non-communicable diseases that will contribute to costly treatments and growing health expenditures in the future. The Namibian government is committed to improve health outcomes. Namibia's 5th National Development Plan (NDP5) for 2017-2022 aims to provide access to quality health care for its population, to increase Health Adjusted Life Expectancy (HALE) from currently 59 to 67.5 years, and to reduce mortality for mothers and children. To achieve this goal, the Ministry of Health and Social Services (MoHSS) has identified three strategic pillars for the health sector: (i) people's wellbeing; (ii) operational excellence; and (iii) talent management.

This health PER identifies several areas for the Namibian government to address in view of its goals.

Government health spending is at a relatively high level, and the health system is hampered by substantial inefficiencies and inequalities. The main share of funding is to finance hospital care, HIV/AIDS and the health wage bill, leaving little for prevention, reproductive health and primary care. About 80% of donor funding is for the HIV/AIDS response. Private sector employers contribute almost a quarter of total health spending to pay for insurance coverage managed by medical aid funds (MAF); however, the insured still report very high out-of-pocket payments. The government spends about 10% of total employee remunerations on the government-subsidized insurance enrollment of public employees into the public scheme, PSEMAS. The PSEMAS subsidy further increases inequities as it means that 25% of government health spending finances care for 12% of the population. Public administration and financial management contribute to higher administrative costs, delays in financing, high wage spending caused by more expensive overtime, and arrears. Health workforce statistics are outdated and not linked with payroll data and IFMIS. Since its inception in 2016, the Central Procurement Board (CPB) has not been able to award a single pharmaceutical tender. As a result, pharmaceutical spending by the government has been decreasing overall, where majority of spending was used to finance emergency tenders at very high prices, and about half of pharmaceutical spending was on HIV/AIDS medicines. This has disrupted the availability of medical products and service provision in public facilities. The allocation of government funds does not account for regional differences and performance, and health facilities have little authority to manage resources efficiently.

Access is low and unequal, raising concerns about productivity and idle capacity. Namibia has enough hospital beds and a vibrant private health sector; however, the latter mainly caters for higher income groups. The rapid scale-up of HIV/AIDS testing and antiretroviral services has substantially reduced hospitalization and prolonged life for those affected. However, access to care remains unequal across regions and wealth quintiles. The use of outpatient care is relatively low even though it is free of charge in the public sector. Insured individuals are about three times more likely to be hospitalized than the rest of the population, pointing to inefficiencies that are driven by insufficient price regulation, different treatment patterns across providers, possible overcapacity in the private sector, and unequal service use and provider response to the payment system. Despite long average lengths of hospital stays, public hospitals in most regions report low

occupancy rates. The resulting idle resources are costly for the government, as it spends about 60% of the health budget on hospitals, twice as much as Chile or Mexico. It also raises concerns about access and the availability of quality care.

The health workforce is inadequate to take care of the growing disease challenges. The MoHSS does not have the necessary management tools to ensure the effective planning, deployment and monitoring of health staff. Health workforce planning is outdated and based on the number of patients recorded in 2003. Since 2012, the health workforce is tracked in an Excel sheet that is not linked to payroll, resulting in incomplete data about staffing. Based on this data, Namibia has a shortage of nurses and physicians in the public sector, with some regions disproportionately more affected. Namibia is not training enough physicians to sustain and grow the physician workforce and ensure care for its population. The situation is better for nursing students. However, although government has been supportive of training for nurses, it has not created the necessary positions to hire more nurses. Thus, it is not surprising that the private sector absorbs a large share of trained medical staff. About one-tenth of the health workforce are community health workers (CHW) who are paid by the government. Analysis suggests that the CHW program is affected by insufficient supervision and funding, and only about 5% of the poorest have used their services based on household survey data. The MoHSS is now preparing a health workforce strategy in collaboration with the World Health Organization (WHO) to guide future directions, planning and investments.

Medical technology and pharmaceuticals are among the high-cost areas in any health systems that need careful investment planning and regulations to manage future health expenditures. Medical devices including Computer Tomograms (CT) and Magnetic Resonance Imaging (MRI) are mainly provided by private providers who predominantly cater to higher income groups. Patient safety is regulated under the Atomic Energy and Radiation Protection Act, which is under the administration of the Ministry. However, service provision is not regulated, which may lead to cost escalations. Pharmaceutical management has been severely constrained by procurement delays caused by CPB, small local procurements at higher prices, logistics and supply-management constraints to deliver medicines to health facilities, and lack of communication on stock-management between facilities and central management. These barriers have severely affected the efficiency of the system and its capacity to procure more medicines. It has led to disruptions in the availability of essential drugs and in service-delivery, and it is one of the reasons why Namibians' health outcomes are much poorer than in comparator countries.

The Namibian government is considering changes to health financing to achieve universal health coverage and strengthen the health sector. Namibia's current health financing revenues are pooled in three different schemes to finance care for different population groups, including the government scheme, PSEMAS, and individual medical aid funds. In addition, patients pay out-of-pocket when seeking care. The government has been considering creating one risk pool for the employed population that can be expanded over time to include the entire population. The Government has also established a Special Fund to cater for the needs of the under-served who cannot afford specialist treatment, either in the private sector locally or abroad.

The analysis presented in this report concludes with an alternative health financing option. It proposes one single pool for the entire population that provides coverage to a basic benefit package in the public and private sector. Services excluded from the basic package can still be offered as voluntary health insurance by the existing MAFs. Enrollment of low-income groups into the single-pool would have to be fully subsidized by the government, whereas middle- and higher-income groups would pay their contributions. For the system to be effective, substantial investment into the readiness of providers and the overarching governance system would be needed. Developing and implementing such ambitious reforms will take time in any country. In the meantime, this report has identified several recommendations to help the government strengthen the public health care system.

The Namibian government is committed to addressing these challenges. To support the government in these efforts, this PER presents two sets of recommendations that build upon key findings in this report and aims to support the government in its efforts to achieve its strategic goals. The first set includes longer-term recommendations to reform health financing and introduce a single-pool system. The second set of recommendations includes short- and medium-term actions that will support the government in its three strategic pillars for the health sector: (i) people's wellbeing; (ii) operational excellence; and (iii) talent management; and overall the NDP5 goals. Implementing these short- and medium-term recommendations will help prepare the health sector for the longer-term single pool reform.

Longer-term recommendations for single pool/payer reform

Setting up a single-payer reform requires a health financing strategy with operational plans, the necessary legal framework and governance system, and a national dialogue with all stakeholders. It would involve public sector reforms, including abolishing PSEMAS, redefining the role of the MoHSS to become a regulator and supervisory body, accrediting health facilities, delegating greater management and financial autonomy to health facilities, and ensuring a high-performance national procurement function. The government will have to contract a not-for-profit administrator for the single pool and set explicit performance criteria in the contract. Health care providers will need to invest in the provision and quality of care to deliver the benefit package and get accredited. Substantial investments in information technology are needed, including in financial management, diagnostic and procedure coding systems, and databases for claims, members and providers. Regular analysis will inform decisions and provide evidence for corrections to ensure overarching objectives are achieved. A phased approach may be easier, and coverage could be rolled out first to regions where providers are accredited, contracted and ready to deliver the benefit package. This reform process will take time.

The following recommendations will help the government in achieving this longer-term goal.

Short- and medium-term recommendations

(i) *Conduct analysis to improve health sector performance and health outcomes*

- **Continue to monitor and evaluate health sector performance in the public and private sectors.** Institutionalize National Health Accounts (NHA) and Health Management Information Systems (HMIS) reporting to measure and evaluate health spending and service provision regularly and to identify issues of access, efficiency, equity and sustainability. Institutionalize data collection from private sector providers on their service provision in inpatient and outpatient.
- **Conduct geo-spatial health analysis** and projections of population demographics and disease burdens, capacities of health facilities (including human resources and finances), their catchment areas, productivity, and service utilization. Issues that contribute to low service use in hospitals, long average length of stay, and inefficiencies need to be analyzed. This would include an environmental health assessment to assess drought-related diseases and the adaptive capacity of the health sector. Such analysis will be helpful for the government to determine how to restructure hospitals, identify where additional capacity is warranted, and to anticipate the types of infrastructure and services needed over the medium and long term, in the public and private sector. Findings will help re-purposing low-occupancy hospitals to include primary outpatient care, maternal waiting areas, or social care centers.
- **Conduct analysis of the health workforce.** An in-depth analysis of the health workforce could help identify inefficiencies in staff allocations, composition, and management. Results will help to set targets in the human resource strategy to align medical training and financing to workforce requirements, and decide about increased reliance on foreign physicians. The analysis can also inform the conversion of

primary care into family medicine. It could identify tasks that can be shifted from physicians to better trained nurses and midwives, and provide input to update the curriculum for nurses.

- **Analyze pharmaceutical and medical supply inventory management.** Conduct a formal situational analysis of inventory management in public and private health facilities using WHO checklists or other standardized tools to assess record-keeping, infrastructure, storage arrangements, availability, utilization and other key areas. Results will help inform decisions about procurement and the quality of pharmaceutical and medical supply inventory management.
 - **Conduct detailed analysis of PSEMAS operations and expenditure patterns.** Based on claims data from providers, conduct a performance analysis to identify areas of inefficiencies. Findings will help the government in its decision to comprehensively redefine the financing to PSEMAS, and the benefit package covered by PSEMAS.
 - **Analyze the performance of the National Institute of Pathology (NIP).** An analysis of the NIP's functions, operations, performance, and financial situation will provide the government with necessary information for decisions about restructuring and outsourcing of activities to the private sector at a lower price. In addition to the NIP, this analysis could be expanded to other public entities in the health sector.
 - **Analyze and reform public sector wages.** Conduct a comprehensive review of wages for public sector employees in health, and adjust wages and allowances to improve predictability and align wage expenditures with budgetary planning. Consider adjusting salaries by performance.
 - **Conduct analysis to adjust the resource allocation formula to regions based on socio-economic differences and performance.** Adjustment factors could include regional population sizes, poverty levels, remoteness, disease burden, and differences in costs of service provision. In addition, the formula could be expanded to reward regions for better performance in health and budget management.
 - **Analyze public investment management.** A public investment management assessment in health is recommended to assess how investment projects have been determined, review the criteria against which these are prioritized, what drives poor implementation, and whether associated operational and maintenance expenditures are adequately accommodated for in the recurrent budget.
- (ii) *Invest in integrated and functional information and communication technology (ICT) infrastructure at the government and in health facilities*
- **Integrate Human Resource Management Information Systems** across all levels of government and ensure data transfer to PSEMAS and other relevant agencies (e.g. pension, civil registration etc.). Link manpower database for health with the payroll system. Payroll should become the principal source of the entire health workforce data. Ensure that health facilities can link payroll and manpower systems.
 - **Invest in technology to ensure financial and performance data collection and management.** Substantial investment is needed in financial management and accounting systems in all health facilities. Accounting system will need to provide timely financial data to health facility managers such that they can manage their expenditures. Accounting systems are also essential to send invoices to health insurance companies and get reimbursed for treatment provided to insured patients. Coding systems will facilitate this process and could be installed in all public and private health facilities. Health facilities can be rewarded for collecting valid and reliable data.

(iii) Increase domestic resources and strengthen public sector management

- **Strengthen procurement capacity at the CPB to address shortages.** The disruptions created by the new procurement law need to be urgently addressed. This will require substantial strengthening of the capacity at the Central Procurement Board to ensure professional procurement for health. CPB should procure medicines on the international market at a reduced price. CPB should procure for the public sector and for providers contracted by PSEMAS.
- **Use pooled procurement for pharmaceuticals and manage expenditures.** CPB should use the existing Memorandum of Understanding with UNICEF to facilitate procurement of vaccines through UNICEF, as this has been done in the past. Explore pooled procurement arrangement with the SADC region, and the UN/WHO to increase volumes and benefit from lower prices, especially for high-cost medicine and equipment. Manage pharmaceutical spending by cutting manufacturer prices and margins for pharmacists and wholesalers, apply compulsory rebates, and incentivize generics over brand name drugs. Patent expiries for blockbuster drugs can also help reduce pharmaceutical spending.
- **Increase tobacco and alcohol tax rates, and consider introducing sugar-taxes to incentivize healthier behavior.** The government could further raise additional resources domestically through higher excises on alcohol and tobacco, and introducing a sugar tax. Excises on brand cigarettes should be levied at 70% of the retail price, as recommended by the WHO. Namibia could also add a sugar tax on sugary beverages following the example of South Africa. South Africa's sugar levy is 2.1 cents per gram for beverages with a sugar content exceeding 4 grams per 100 ml, which translates into about 11% of the retail price. Higher taxes on these products will help direct people to healthier consumption.
- **Pay off the stock of arrears in health and reduce the risk of future accumulation.** All commitments and payments should be facilitated by the financial management information system, including wage payments.
- **Reallocate government funding to reproductive health, primary care and prevention.** Based on the results of the PSEMAS performance analysis and as suggested in the two scenarios in this PER, reduce government co-financing of public employee contributions to PSEMAS from more than 11% of payroll to approximately 3% of payroll, which would reflect 50% of total PSEMAS revenue. Reallocate the resulting savings of N\$1.6 billion to increase funding in a budget-neutral way for the HIV/AIDS response, to increase the number of nurses, midwives and physician positions in underserved areas, and to augment funding for reproductive health, primary care and prevention programs for low-income groups and adolescents.
- **Revisit the composition and implementation of program budgets to ensure they serve the needs of the health sector.** The design of programs should reflect national priorities and constitute a shift away from historical input-based budgets toward outputs and results. Budget execution protocols need to be adjusted to reflect the implementation of programs. Ensure quarterly budget releases that reflect actual allotments. Ensure that budget releases reflect annual strategic plans and strengthen the sectors' absorption capacity.

(iv) Invest in people's wellbeing

- **Support efforts to strengthen routine primary care and prevention against health risks.** To prevent HIV, make male circumcision easily available to all boys and men, and inform men with digital health messages about the importance of the procedure. Shorten the time to diagnose drug-resistant

strains of tuberculosis. Promote oral rehydration therapy to decrease diarrhea-related child mortality and expand access to preventive vitamin A and zinc supplementations. Invest in piped water provision in low-income communities with worst health outcomes. Investing in early childhood development, especially in the first 1,000 days of life, provides a critical window of opportunity to reduce stunting and improve a child's long-term physical and mental wellbeing. To tackle the growing NCD burden, invest in prevention, early detection and treatment compliance, particularly for diabetics. Promote regular screening for diabetes and cancer.

- **Reduce maternal mortality** by training health professionals about the WHO safe childbirth checklist. Increase the use of reproductive health services among women with low education levels, adolescent girls, unskilled and rural women. Identify and prevent high-risk pregnancies. Expand the provision of comprehensive emergency obstetric care and modern contraceptives nationwide. Admit pregnant women to maternal waiting areas in rural hospitals to ensure access to timely life-saving interventions, particularly in the Kunene region.
- **Target adolescent girls and boys.** Conduct analysis to identify areas and reasons for high adolescent pregnancy. Educate nurses in adolescent reproductive and sexual health issues. Ensure easy access to contraceptives and reproductive health care for youths, especially in areas with high teenage pregnancy and high HIV prevalence. Implement a behavior change program targeted at men to prevent sexual transmission of HIV to teenage girls. Use digital health to inform youths about their sexual and reproductive health rights. In Kenya, for example, mobile phones provide confidential and free information about modern contraception to young people. Use a multi-sectoral approach to generate work and learning opportunities for adolescents to keep girls in school, help reduce high youth unemployment rate and idleness among youths.
- **Improve road safety and reduce interpersonal violence.** Invest in road safety to reduce high mortality and morbidity from traffic accidents. Develop community programs for young men to reduce interpersonal violence, especially against women.

(v) *Ensure regulatory framework for health service delivery in private and public sector*

- **Regulate, monitor and collaborate with the private health sector.** Regulate the private sector to ensure quality of care, and reasonable tariffs to protect patients against high co-payments. Develop a Public-Private Partnership (PPP) strategy for health. Use the private sector to improve efficiency of care. Private sector investments should be coordinated within the national health investment plan. Monitor the number of CT and MRI units and exams performed annually in the public and private sector, by conditions. Decide about future investment decisions in high-cost medical technology based on analyses like Health Technology Assessments.
- **Set up an accreditation system** for public and private providers based on international best practice.
- **Regulate dual-practice among physicians.** Regulations should define the amount of time physicians on the public payroll may work in private practice, and how this affects their remuneration.

(vi) *Ensure operational excellence in health*

- **Invest in pharmaceutical management systems.** Stock management should be in place and stock monitored and evaluated to ensure that pharmaceuticals on the essential drug list are available in health facilities. The system should alert CMS pharmaceutical management about stock-outs.

- **Develop a national masterplan for health infrastructure and medical technology to guide health investments, including in collaboration with the private sector.** A national masterplan could be developed based on the geospatial health analysis to ensure that future construction is targeted to areas with more limited access to care. The masterplan could serve for national investment planning in the budgetary preparation process. It should include private sector providers and PPPs.
- **Give health facilities greater management autonomy and keep them accountable.** Health facilities could become cost centers and retain their revenues from patient and insurance payments. Budgets should be defined based on outputs and adjusted by area factors such as remoteness, socio-economics and disease burden. Preparing providers for this change in financial transfers requires substantial investment in information technology and financial management systems. Health facilities will need to be managed professionally and managers kept accountable.

(vii) Invest in talent management

- **Expand primary health care workforce.** Following the experience of other countries, capacity in a primary care-led delivery system can be created by grouping pediatricians, obstetricians, gynecologists, and other generalists into teams, and providing conversion training to family medicine. Primary care will strengthen the proactive management of the growing number of people with NCDs while at the same time manage the high burden of communicable diseases and maternal mortality among low-income groups.
- **Consider task-shifting for nurses.** Continue to invest in nurse education. The content of the nurse role and scope for professional development should be updated to allow task-shifting from physicians to nurses and increased responsibility for nurses. Developing the nursing and midwifery roles can help substitute for some of the current more junior physician posts.
- **Revisit the organization and structure of the health workforce.** Set up reasonable targets in the human resource strategy to align medical training and financing to workforce requirements, and decide about increased reliance on foreign physicians. To overcome physician shortages, bilateral contracts could be negotiated to receive physicians from other countries. Budget allocations should be increased to finance more nurse positions and increase the nurse to population ratio across regions, prioritizing areas with nurse shortages. The government could explore innovative models including working in close collaboration with the private sector to better manage the community health worker program. CHW could be organized as a franchising model, social contracting, or outsourced to the private sector.

1. Introduction

This is the first Health Public Expenditure Review (PER) for Namibia with an extended health financing assessment for the health sector. Namibia is an upper-middle-income country (UMIC) and has made major progress in improving the standard of living for its population. Still, the Namibian society is highly unequal, as evidenced by one of the highest Gini coefficients in the world with 0.597 in 2010. Although government spending on health has been consistently close to the Abuja target of 15%, the country performs rather poorly on health outcomes compared to the UMIC average. Healthy life expectancy is much lower than in countries with similar level of health spending, and maternal mortality is high as is adolescent fertility. HIV/AIDS, neonatal disorders, respiratory infections, diarrheal diseases and tuberculosis are the top contributors of premature death. This PER aims to identify issues that affect efficiency and equity in the health sector to inform the government in health policy decisions.

Namibia's economy has deteriorated in the past years which has affected its fiscal situation. Namibia went through a period of strong economic growth from 2010-2015 with an average GDP growth of 5.5% annually. In 2016, real GDP growth dropped to 1.1% and contracted (-1.2%) in 2017 due to a reduction in public construction and in the services sector. The IMF expects real GDP to contract in 2018, albeit at a lower rate, and turn positive in 2019. As a Southern African Customs Union (SACU) country, Namibia's revenue from the common revenue pool (CRP) declined from 36% of general government revenues in 2012/13 to 34% in 2015. This has affected the government budget. By 2017, the fiscal deficit increased to 11% of GDP, which contributed to an increase in public debt to 44.3% of GDP. To reduce the fiscal deficit and public debt, the government in 2016 committed to fiscal adjustment policies.

Namibia is committed to achieving Universal Health Coverage (UHC). Namibia's 5th National Development Plan (NDP5) for 2017-2022 states that by 2022, all Namibians will have access to quality health care. The NDP5 aims to increase the Health Adjusted Life Expectancy (HALE) from currently 59 to 67.5 years by 2022, and decrease mortality for mothers and children. To achieve this objective, the Ministry of Health has identified three strategic pillars for the health sector: (i) people's wellbeing; (ii) operational management; and (iii) talent management. The strategic objectives under these pillars are: improve effective prevention and management of communicable diseases and non-communicable diseases; improve maternal and newborn health; improve emergency services; strengthen social welfare through quality health services; ensure integrated and functional information and communication technology (ICT) infrastructure; ensure regulatory framework for health service delivery; accelerate health infrastructure development; improve contracting and pharmaceutical supply of medicines; enhance organizational performance; enhance human capital development and utilization. With these strategic directions, the government aims to address concerns about unequal access to care across regions and socio-economic groups, inadequate quality of care in public health facilities, and insufficient financial protection.

Decentralization of key public services, including health, to local authorities has progressed slowly. In 1998 Namibia introduced its Decentralization Policy¹. The Ministry of Health and Social Services (MoHSS) remains responsible for policy decisions, treatment guidelines and for availing health services to the population in the public sector. Regional health directorates have been established in each region with their own administrative, financial, and personnel management capacity. The Regional Council includes a Regional Health Advisory Committee. Primary health care services have been decentralized to the regions.

¹ It was preceded by the Regional Councils Act and the Local Authority Councils Act, both of 1992

Major health financing reforms are being considered including the creation of a National Health Insurance fund for UHC. To achieve UHC, the government is considering several health financing reform options including establishing a National Medical Benefit Fund (NMBF) within the Social Security Commission (SSC) as a risk pool for the employed population that could be expanded over time to cover the entire population. The government is also exploring options on how to leverage the private sector for UHC and mechanisms for raising additional revenues for health. The Ministry of Finance has increased excise taxes on tobacco and alcohol in 2019. UHC reforms will require additional analysis to estimate its impact on access, financing, and the government’s fiscal situation, and to ensure the NMBF or any other health financing option will contribute to improved financial risk protection.

Inequality, poverty and unemployment remain major challenges. Half of Namibia’s population is urbanized, and inequality is higher in urban than in rural areas. In 2015, about 17% of the population lived on less than \$1.90 a day. Poverty is highest among subsistence farmers, households with an illiterate household head and households that are female-headed.² Households with at least one orphan are poorer compared to the national average. Most poor households (83%) have either no formal education or only completed primary school. In 2018, unemployment reached 33.4%, and is particularly high (70%) among adolescents in age groups 15-19. About 58% of the employed are in the informal sector, which makes them susceptible to income insecurity. The government’s fiscal policy, including direct transfers and taxes, have helped reduce poverty rates.

This health PER examines the performance of Namibia’s health sector to inform the government in future health policy decisions. The analysis conducted in this Review will (i) examine issues in health outcomes and health financing, (ii) analyze issues related to equity, quality and efficiency in improving health outcomes, and (iii) present recommendations for health financing and service delivery to strengthen health sector performance. The analysis uses different data sources. It uses data collected from the government financing systems, MoHSS Health Management Information System (HMIS), National Health Accounts (NHA), Demographic Health Survey (DHS) for 2013, Namibia Household Income and Expenditure Survey (NHIES) 2015/16, interviews conducted with key stakeholders in Namibia’s health sector, and evidence presented in the published literature. Data for the analyses were provided by various directorates within the MoHSS, including the Finance and Logistics Directorate, Health and Research Directorate, Policy Planning and Human Resources Development Directorate, Atomic Energy & Radiation Protection Authority; and the Human Resources Management Division. Furthermore, interviews were held with personnel from the above-mentioned directorates and divisions to obtain additional contextual information to support the analyses.

2. Health Status

This chapter summarizes the existing literature on the country’s demographic, health and nutritional situation, and examines Namibia’s human capital performance.

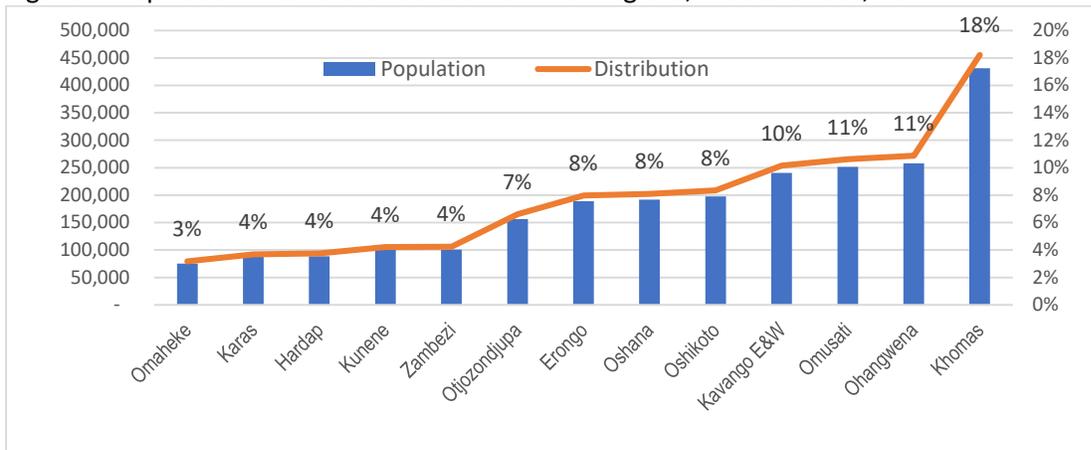
2.1. Demographics

Namibia has one of the lowest population densities in the world, which makes service provision challenging. In 2017, Namibia’s population was estimated to be 2.5 million, with 1.2 million males (48.6%)

² 30.4% are poor relative to 25.8% for male-headed households.

and 1.3 million females (51.4%), with less than 3 people per km². The population is spread out across 14 regions (Figure 1 and Annex Table 1). Khomas region includes the capital Windhoek and accounts for about 18% of the population. Approximately 60% of the population lives in the North, 33% in the central highlands, and the remaining 7% live in the arid southern regions. The size of Namibia combined with a dispersed population and a low population density makes it challenging for the health sector to provide universal access to services across the country.

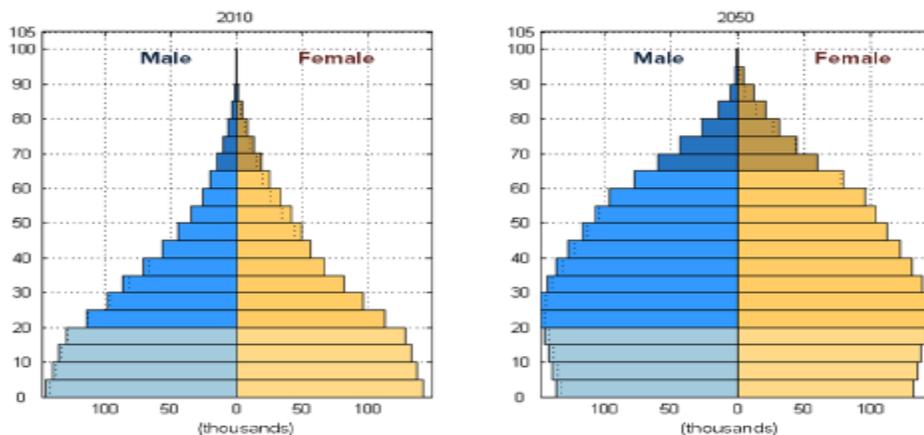
Figure 1: Population Distribution across Namibia' Regions, in total and %, 2017



Source: Estimate based on 2016 World Bank Group Data adjusted by 2011 Namibia Regional Census. Note: Kavango region was split into East and West in 2013.

The demographic transition will contribute to a changing disease burden and increasing healthcare cost. Between 1992-2013, fertility rates have fallen from 5.4 to 3.5 births per woman. Death rates have declined from 9.9 to 7.2 deaths per 1,000 people, and life expectancy at birth has improved from 61 to 63.7 years between 2010 and 2016. The population is young, with 37% under 14 years of age; however, this is expected to change by 2050 when two-thirds of the population will become of working age (Figure 2). People in this age category are more likely to fall ill from chronic diseases such as diabetes and cancer, requiring costlier treatment and prolonged use of health services. This increased demand for modern diagnostics and treatment will likely lead to higher health expenditures.

Figure 2: Total Population by Age Group and Sex, 2010 and 2050



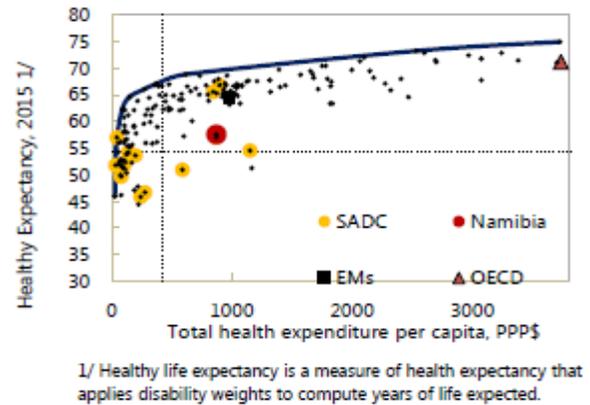
Source: Population pyramids are based on medium variant of the 2010 revision of the *World Population Projections (WPP)* by UN Population Division.

2.2. Health outcomes

Health outcomes are worse than in comparator countries, particularly for low-income individuals.

Namibia performs poorly on health outcomes compared to the upper-middle income country (UMIC) average. Healthy life expectancy is much lower than in countries with similar level of health spending (Figure 3). Maternal mortality is still high, as is adolescent fertility (Table 1). HIV/AIDS, neonatal disorders, respiratory infections, diarrheal diseases and tuberculosis are the top contributors of premature death. Risk factors such as unsafe sex, malnutrition, alcohol use, elevated blood sugar, and poor water and sanitation practices are all major contributing drivers. These risk factors are higher for the poor and preventable.

Figure 3 Health Efficiency Frontier



Maternal, newborn and child health have emerged as key priorities. Namibia has the second highest maternal mortality rate (MMR) among UMICs. HIV/AIDS contributes indirectly to 37% of maternal deaths. Under-five mortality rate has been decreasing in the last decade but is still almost four times higher than the UMIC average (Table 1). About 32% of under-five deaths occur in the first month of life, highlighting the importance of newborn care. Diarrhea, pneumonia, and HIV/ AIDS are the major causes of child mortality. An estimated 53% of all under-five child deaths was attributable to HIV/ AIDS in 2010.

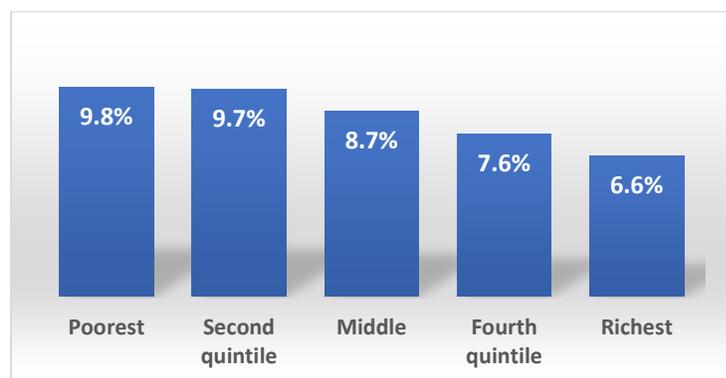
Table 1: Health outcomes compared to other countries, 2016 or most recent year available

Health outcome indicators	Namibia	Botswana	South Africa	Ghana	Sri Lanka	UMIC average
<i>Life expectancy at birth, total</i>						
Male	61.4	64.0	59.2	61.7	71.9	73.1
Female	67.2	69.5	66.4	63.7	78.6	77.6
<i>Mortality</i>						
Maternal mortality (2015) (per 100,000 live births)	265	129	138	319	30	41.0
Under-5 mortality (per 1,000 live births)	45.2	39.3	38.5	51.8	9.1	14.4
Infant mortality (per 1,000 live births)	32.7	32.3	30.0	37.2	7.8	12.2
<i>Fertility</i>						
Total (births per woman)	3.4	2.7	2.5	4.0	2.0	1.8
Adolescents (births per 1,000 girls ages 15-19)	75	31.7	44.4	67.6	14.8	29.6
<i>Nutrition</i>						
% of under-5 stunted	23.1 (2013)	31.4 (2007)	27.4	18.8 (2014)	17.3	6.9
HIV prevalence, adults (% of population ages 15-49)	12.3	23	18.9	1.7	0.1	n/a

Source: World Bank Group. (2018). *DataBank: World Development Indicators*. Retrieved from <https://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>.

Individuals from lower-income groups report worse health, which affects their ability to work. Under-five mortality is nearly double among children in the lowest relative to the highest wealth quintiles. Household survey data suggest that lower-income individuals are more likely to have suffered from an accident or illness in the past month (Figure 4). Ill-health is more often a reason why low-income individuals stay away from work or cannot find a job. The probability of not seeking employment because of illness was 6.7% for poorest compared to 3.5% among the wealthiest group.

Figure 4: % of individuals who suffered accident or illness, in past 30 days, by socio-economic group



Source: NHIES 2015/16.

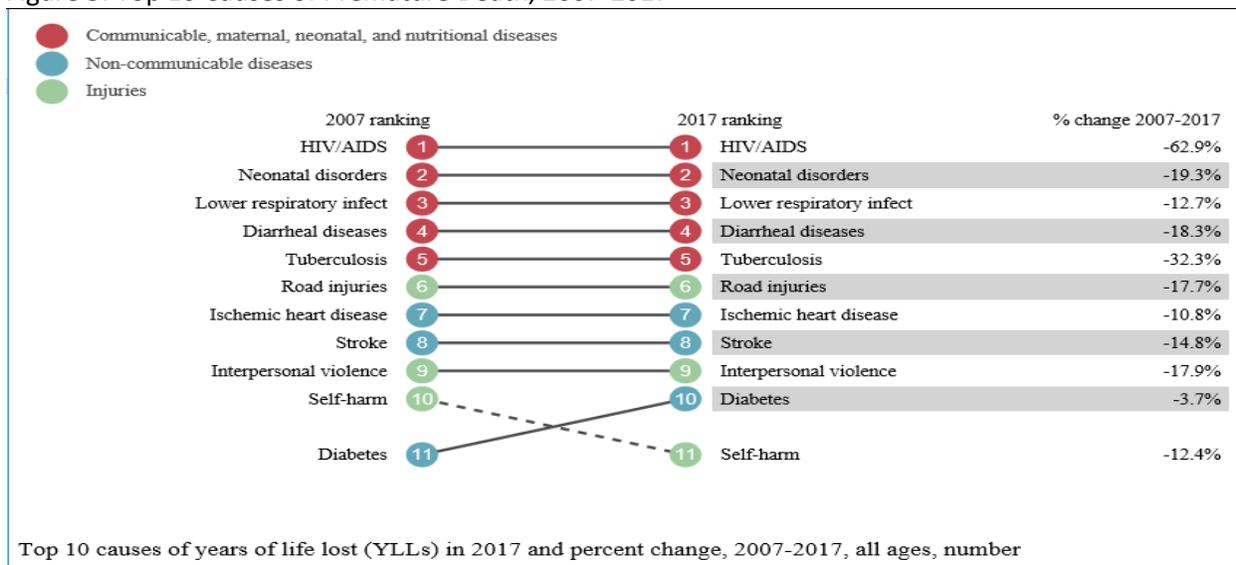
2.3. Burden of Disease

HIV/AIDS dominates the burden of diseases and mortality (Figure 5). Characterized within the Namibia National Health Policy Framework 2010-2020 as a “*major public health problem and the highest national public health priority,*” Namibia is ranked among the top 10 countries with the highest HIV prevalence in the world. The 2013 Demographic and Health Survey (DHS) showed an HIV prevalence of 14%. However, there has been progress in preventing new infections and in the last 5 years alone, and the adult HIV incidence rate has been reduced by 50%. The 2017 Namibia Population-based HIV Impact Assessment (NAMPHIA) suggests that HIV prevalence among adults declined to 12.6% and the incidence rate to 0.36%. An estimated 176,000 adults and 9,000 children were living with HIV in 2017, and about 4,500 adults become newly infected annually. Women across all age groups, including teenage girls, report a higher prevalence than men (15.7% vs. 9.3%). This suggests that older men infect teenage girls who then transmit the virus to boys in their age groups. Zambezi region has the highest HIV prevalence with 22.3% of adults infected. NAMPHIA finds that 77% of all HIV-positive adults have achieved viral load suppression, a measure of effective HIV treatment in a population. WHO suggests that male circumcision can reduce the risk of heterosexually acquired HIV infection in men by approximately 60%. In Namibia, the self-reported rate of male circumcision increased to 37% among men aged 15-64 years.

Fueled by the HIV/AIDS epidemic, in 2015, Namibia was classified with the eighth highest tuberculosis (TB) burden incidence globally. TB is the most life-threatening opportunistic disease, affecting the most economically productive age groups (25-44 years). It is also the most common cause of death among people infected with HIV and the third leading cause of death in hospitals in Namibia (Figure 5). Since 2005, the number of TB cases have declined with better access to treatment. About 80% of health facilities are currently offering diagnostic services for TB. First and second-line TB treatments were made freely available, increasing treatment success rate for all forms of TB from 75% to 85% between 2010-2015. In the same time, the TB incidence rate in Namibia decreased by 6.2%. By 2016, 98% of TB patients were tested for HIV, of which 38% were found to be HIV positive – a significant decline from 67% a decade

earlier. HIV-infected TB patients who receive ART increased from 54% in 2011 to 94% in 2016. BCG vaccine coverage to prevent tuberculosis has been at 94% of the eligible population.

Figure 5: Top 10 Causes of Premature Death, 2007-2017



Source: Institute for Health Metrics and Evaluation (IHME). (2018). *Namibia*. Retrieved from <http://www.healthdata.org/namibia>

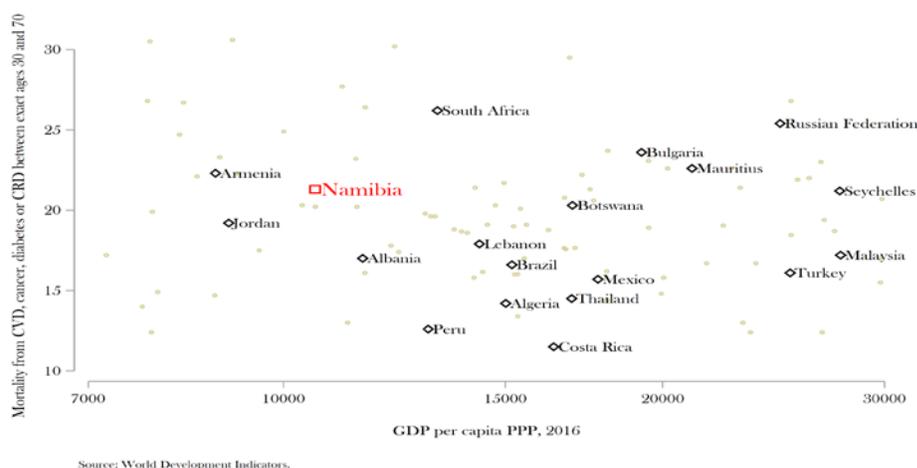
Namibia faces a double burden of diseases as it undergoes an epidemiological transition from communicable to non-communicable diseases (NCD). Namibia's climate and droughts contribute to gastrointestinal and respiratory infectious diseases, which are easily spread when water is scarce and handwashing compromised, particularly in low-income areas. At the same time, cardiovascular diseases (CVD), cancers, and hypertension are on the rise. Namibia has the second highest rate of deaths attributable to CVD and diabetes in the Africa region. Heart diseases was the top NCD cause of premature death in 2017 (Figure 5). While the prevalence of hypertension is 45% among adults aged 35-64 years, less than half of respondents with hypertension were aware of their condition, and only 12.6% of men and 18.9% of women had their blood pressure levels under control. Cancers are becoming more common, mainly breast and cervical cancers among women, and prostate cancer among men. HIV has contributed to increased HIV/AIDS-related cancer, tripling the incidence rate of Kaposi Sarcoma from 212 in 1995-1998 to 624 in 2000-2005. Namibia has one of the highest NCD mortality among UMICs (Figure 6).

Diabetes has increased, but many diabetics appear to be undiagnosed. Diabetes is among the top-10 reasons for premature death (Figure 5). According to the 2013 Namibia DHS, 13% of Namibians were either pre-diabetic or diabetic, but only 1% were taking medication for diabetes, highlighting the potential high prevalence of undiagnosed diabetes. High blood glucose and diabetes had the largest effect on workplace absenteeism, with disproportionate impacts on the electricity, gas, water, and fishing sectors. Lifestyle-related chronic diseases often take years to manifest through accumulated damage to the body, resulting in many patients seeking out medical care at an advanced stage of illness. As a result, NCDs (e.g. diabetes, cancer and cardiovascular diseases) often go undiagnosed and untreated.

Risk factors related to rapid urbanization and changing lifestyle are affecting population health. Risk factors like poor diet and nutrition, tobacco use, physical inactivity, and alcohol use are all associated with increased risk of cancer, cardiovascular disease, diabetes and other chronic conditions. These risk factors are on the rise with growing urbanization, and many people seem not to be aware about them. For example,

over half the participants of a survey could not identify the risk factors of diabetes and hypertension; as a result, they perceived themselves as low-risk for both conditions. Alcohol abuse presents a growing problem among youth, contributing to liver cirrhosis and exacerbating other NCDs. In a national Knowledge Attitude and Practices (KAP) Baseline Survey on Alcohol and Drug Use, 47.9% felt they had consumed more alcohol than was good. Similarly, smoking is more popular among urban than rural residents, with a higher prevalence of smoking among men (19%) than women (5%). The obesity rate is 42.4% among women and 21.2% among men, lower than in South Africa (69.3% and 38.8%, respectively). However, people who are overweight are more likely to suffer from diabetes and heart diseases. As changes in lifestyles are adopted and the population is aging, NCDs will become more prevalent. NCDs require more expensive treatment and will contribute to growing health expenditures. Hence, it is crucial to invest in prevention and early detection at the primary care level.

Figure 6: NCD Mortality Relative to GDP, Selected UMICs

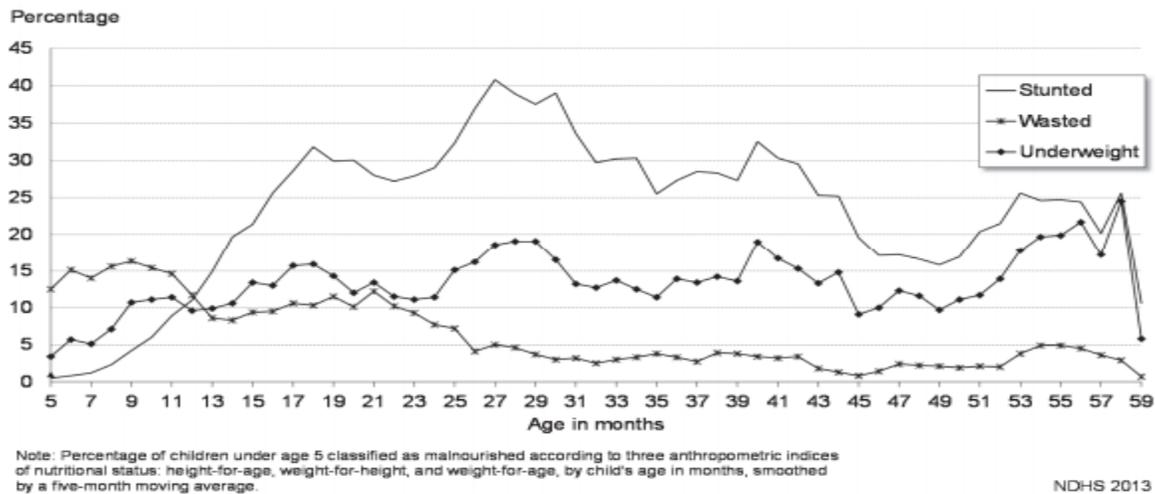


2.4. Malnutrition and Human Capital Index

Stunting rates are high among children. Namibia’s children are considerably more likely to be stunted than children in an average UMIC (Table 1). Approximately 24% of Namibia’s children under five are stunted (short for their age), 6% are wasted (thin for their height), and 13% are underweight (thin for their age). As children grow older they are more likely to be stunted, with the lowest prevalence in children aged 6-8 months (1%) and the highest prevalence in those aged 24-35 months (35%). Factors associated with reduced stunting include gender (21% of female children are stunted, versus 27% of male), children with preceding birth intervals of 48 months (19%, relative to 23-26% for shorter intervals), urban residents (17%, versus 28% of in rural areas), mother’s with secondary level education (9% , versus 34% for mother’s with no education), and household wealth (poorest quintile has the highest stunting prevalence at 31%).

While the proportions of children who are stunted, wasted, and underweight have decreased, more work needs to be done. Early childhood development, especially in the first 1,000 days of life, provides a critical window of opportunity to invest in a child’s long-term physical and mental wellbeing (Figure 7). This window for interventions is time-sensitive, as the cumulative impacts of inadequate food intake, poor health conditions and endemic poverty start in utero, and negatively impact health, cognitive and motor development, educational attainment, and economic status across not only the child’s entire life course, but that of future offspring.

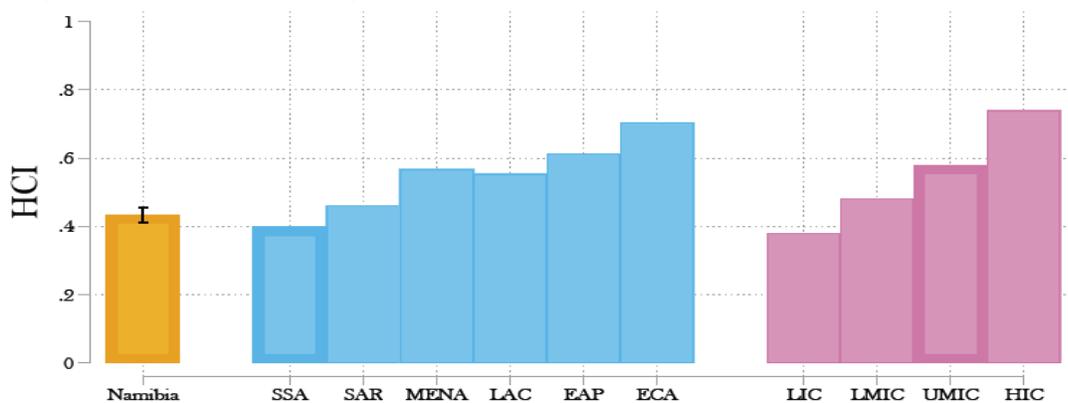
Figure 7: Nutritional Status of Namibian Children by Age in Months, % of Children, 2013



Source: MoHSS/Namibia and ICF International. (2014). *The Namibia Demographic and Health Survey 2013*. Retrieved from <https://dhsprogram.com/pubs/pdf/FR298/FR298.pdf>

The persistent levels of child malnutrition indicate that a significant number of women also suffer from insufficient calorie intake and/ or pregnancy related complications. Mothers with a low body-mass index (BMI), short stature, anemia, and other micronutrient deficiencies have a greater risk of obstructed labor, produce lower quality breast milk, postpartum hemorrhage, and increased susceptibility to infections and adverse pregnancy outcomes. Likewise, only 13% of children aged 6-23 months were fed by their caretakers in accordance to best practices for infant and young child feeding (IYCF).

Figure 8: Benchmarking Human Capital in Namibia (2017)



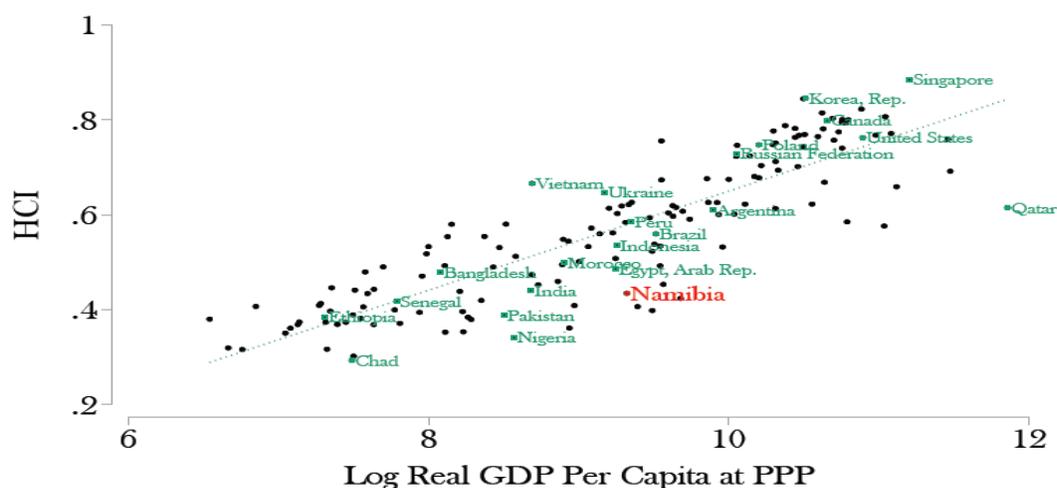
Notes:
 - Unless specified all data are for 2017
 - The uncertainty intervals (black vertical lines) reflect uncertainty in the measurement of components of the Index

Source: Namibia: Human Capital Index Rank 117 out of 157. (2018). *The Human Capital Project*. Retrieved from http://databank.worldbank.org/data/download/hci/HCI_2pager_NAM.pdf

Namibia ranks 117 out of 157 countries on the Human Capital Index (HCI), which restricts how effectively today's children will contribute to Namibia's future. The HCI measures the amount of human

capital a child born today can be expected to attain by age 18. The HCI is based on a composite of 5 key indicators: the proportion of children who are not stunted, probability of survival to age 5, a child’s expected years of schooling, harmonized test scores as a measure of quality of learning, and adult survival rate. In 2017, Namibia’s HCI is higher than the average for its region, but lower than the average for its income group (Figures 8 and 9). Whereas the probability of child survival to age 5 (96%) and the adult survival rate (71%) remains high, 23% of children in Namibia are stunted, leading to a potential lifetime of cognitive and physical limitations. Regarding schooling, children in Namibia complete an average of 8.9 years of schooling (pre-primary, primary, and secondary) by age 18, but due to poor quality of teaching, the number of quality years of schooling is equivalent to only 5.8 years. A child born in Namibia today will be 43% as productive as an adult, relative to if they had received a complete education and health during childhood.

Figure 9: Human Capital versus GDP per Capita (2017)



Source: Namibia: Human Capital Index Rank 117 out of 157. (2018). *The Human Capital Project*. Retrieved from http://databank.worldbank.org/data/download/hci/HCI_2pager_NAM.pdf

This chapter shows that Namibia’s health outcomes are worse than in comparator countries. Improving health outcomes in Namibia requires addressing the underlying constraints and inefficiencies in health service delivery and financing. The treatment of some of the most common diseases in Namibia, including HIV/AIDS, diabetes and CVD can be extremely costly, and eat up a large share of health spending in any country. Hence, it is important to use limited resources efficiently and invest in disease prevention and a strong health care system that takes care of the disease burden of the population.

3. Health Expenditures

The health sector is financed from different sources: government general revenues, government transfers and employee contributions to the public employee medical aid scheme (PSEMAS), contributions and premiums to private medical aid funds (MAF) paid by employers and employees, donor financing, and out-of-pocket payments made by patients who seek care. Together these sources constitute total health expenditures (THE). This chapter first examines health spending by different sources. Then, it analyzes government expenditures by functions and economic classifications, as well as issues in public financial management.

3.1. Total health expenditures and general government expenditures on health

Total and government health spending are already high. Overall, the National Health Accounts (NHA) have estimated total health expenditures at about 9% of GDP in the past years. Since 2015/16, the government spends an increasing share of general government expenditures on health. Government health spending through the Ministry of Health and PSEMAS has increased steadily to 14.5% (Table 2). At this level of spending, the government is close to meeting the Abuja target of 15% of general government spending on health. The Medium-Term Expenditure Framework (MTEF) suggests the government plans to allocate 16.9% of its total operational budget in 2018/19 to health, including PSEMAS. Revenues from patient payments in public facilities are negligible based on administrative data.

Table 2: Trends in total and government health finances, in million N\$, 2015 - 2018

Health financing	2015/16	2016/17	2017/18
Total MOH expenditures (excl. Social services)	6,506.37	7,203.69	7,059.94
Government health expenditure by other Ministries	192.13	190.21	190.21 (est)
Government transfer to PSEMAS medical aid	2,273.65	2,212.87	2,537.08
Government Health Expenditures, in million N\$	8,972.15	9,606.78	9,787.23
PSEMAS in % of Gov. Health Expenditures	25%	23%	26%
Government Health Expenditures in % of GDP	6.0%	5.9%	5.3%
Gov Health Expenditures in % of General Government Expenditures	13.4%	13.5%	14.5%
- GDP, current in million N\$	150,083.00	164,155.57	183,488.25
- General Government Expenditures	67,091.54	71,243.98	67,523.02

Source: Namibia MOF: Estimates of Revenue, Income And Expenditure (2015-2018) and (2019/20-2021/22). MOHSS: Resource Tracking and National Health Accounts.

Health spending is higher in Namibia than in other UMICs, but health outcomes are lower. The Namibian government spends a higher share on health than other UMICs. Donor funding is also higher, mainly to finance HIV/AIDS care in Namibia. As a result, total health expenditure as a share of GDP is also higher (Table 3). Despite higher health spending in Namibia, the populations of other UMICs live longer and healthier than people in Namibia, as shown in the previous chapter (Table 1).

Table 3: Health spending compared to other countries, 2015 or most recent years

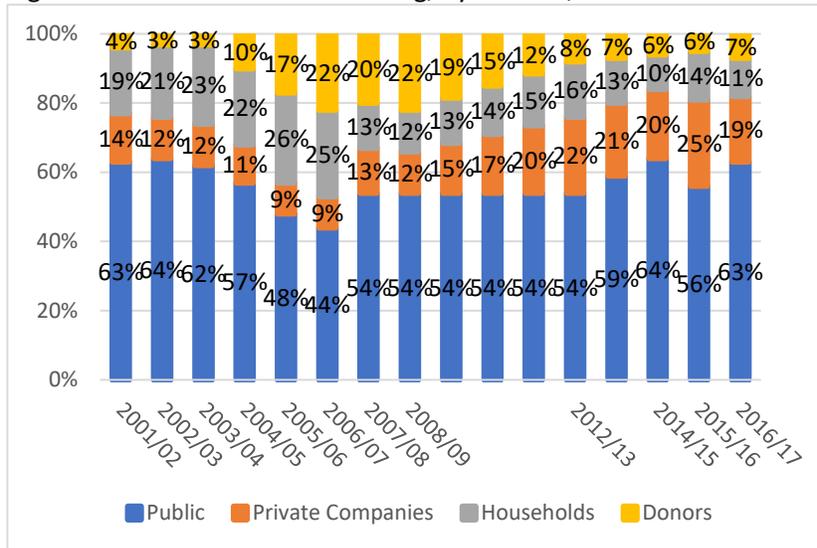
Health financing indicators	Namibia (2017//18)	Botswana	South Africa	Ghana	Sri Lanka	UMIC average
Government Health Expenditure as % General Government Expenditure	14.5	8.8	14.1	7.1	7.9	10.6
General Government Health Expenditure (GGHE-D) as % GDP	5.3	3.3	4.4	2.1	1.6	3.8
Donor funding for health as % of THE, est.	7	8.4	2.4	25.6	1.1	0.4
Total Health Expenditure (THE) as % GDP	9	6.0	8.2	5.9	3.0	6.7
THE per capita, in US\$ PPP adjusted	916.1	970	1,086	249	353	n/a
GDP per capita US\$, PPP 2017 (constant 2011 international \$)	9,989	15,807	12,295	4,228	11,669	16,320

Source: Namibia MOF and NHA. WDI and WHO. Note: UMIC = upper-middle income countries. Government Health Expenditures includes MOH and Government transfers to PSEMAS for Namibia.

The government and private firms are the main financers of the health sector. Healthcare is mainly financed by the government, who finances 63% of total health expenditures (Figure 10 and Table 4). The share of government spending dipped in 2005-07 when donors increased their share to HIV/AIDS financing; however, the government share has risen continuously over the past years. Donor resources have decreased since 2006/07 as Namibia has attained UMIC status. The financing share paid by private sector

employers has peaked in 2015/16, reaching one-quarter of total health expenditures. This share decreased again to 19% of THE in 2016/17 when the Namibian economy contracted, and employers needed to reduce cost. The employer contribution to THE includes premium contributions to the medical aid schemes of their employees, as well as expenses related to health services and workplace wellness programs. Households have contributed a declining share based on NHA estimates.

Figure 10: Share of health financing, by sources, 2001-2017



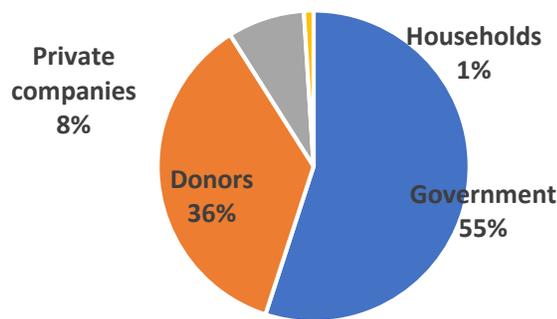
Source: Namibia Ministry of Health and Social Services, 2018

Table 4: Health financing by source, in N\$, 2016/17

Source	In million N\$ 2016/17
Government Public	9,606
Private companies to private health insurance	2,847
Households, estimates	1,722
Donors, estimates	1,123
Total N\$ million	15,319

Namibia’s HIV/AIDS response is mainly financed by government and donors. About 13% of total health expenditure (THE) was spent on HIV in 2017. Donors dedicated about 80% of their health spending to the HIV/AIDS response (Figure 11). While the government has taken on a greater responsibility for HIV/AIDS funding, including to finance ARV treatment for eligible patients, certain interventions remain predominantly financed by donors. These include prevention (76% donor contribution), health system strengthening and program coordination (73%), and care and treatment (33%). Donors also largely finance training of health staff (95%) and compensation of employees working in HIV/AIDS care, which is 55% financed by donors leaving the remaining 45% to be paid by the government (Table 5).

Figure 11: HIV/AIDS funding sources in 2017



The government would have to increase health spending by about 1 percentage point to finance HIV/AIDS activities currently paid by donors. If donors phase out financing for HIV/AIDS, these activities would be funded by other payers. If the government will fully replace donor financing, then the government would have to increase its annual allocation to HIV/AIDS by 36% from N\$1.29 billion in 2017 to N\$2.15 billion (Table 5). The resulting increase in government spending on health would amount to 1.3 percentage point from 14.5% in 2017/18 to about 15.8%. Alternatively, the government could identify areas of inefficiencies in health and reallocate fund to HIV/AIDS. While the amount may be relatively small, it

does compete with other pressing needs in the government budget in health and other sectors, highlighting the importance of efficient allocations and spending.

Table 5: Total health spending on HIV/AIDS by category, in N\$ million 2016/17

AIDS spending category	Government	Donors	Private Companies	Households	Total
Prevention	91.73	330.62	11.18	0.00	433.54
Care & treatment	734.77	454.83	164.02	31.68	1,385.30
OVC	415.47	1.22	0.00	0.00	416.69
HSS & Program coordination	27.81	73.94	0.02	0.00	101.76
Incentives for Human resources	1.34	0.00	2.89	0.00	4.23
Enabling environment	0.01	0.00	0.00	0.00	0.01
Not classified	22.42	0.00	2.54	0.00	24.96
Total in N\$ million	1,293.55	860.61	180.65	31.68	2,366.49
In % of total	55%	36%	8%	1%	100%

Source: Namibia Ministry of Health and Social Services (MOHSS), 2018

The government has announced higher taxes to increase domestic revenue mobilization. To increase domestic revenues, the Namibian Ministry of Finance announced changes to tax policy in April 2019, including on unhealthy products. As a result, the VAT zero-rating on sugar has been removed, and excises on alcohol and tobacco products have been increased by about 10 percent. The government estimates the tax proposal will generate an additional N\$400 million in tax revenues per year.

3.2. Household spending on health care

Low household spending on health suggests inequity in access despite the government’s nominal fee policy that exempts lower-income patients from payment. Nominal fees are paid by patients in the public sector who can afford paying, whereas selected patients pay no charge based on their social classification. The NHA estimates household out-of-pocket expenditures at 11% of THE (Figure 10), which is below the WHO threshold of 20% of THE. Such low household spending can be a sign of households having good health coverage, or it could mean that households are not seeking care because they cannot afford paying for it. This is confirmed by household survey data. More than a quarter of the poorest individuals could not afford seeking care when they were sick or had an accident (Figure 12). This is surprisingly high as most public facilities are free of charge for poor patients. The probability was considerably lower for the wealthier. People in Caprivi, Kavango and Omaheke were most likely to report affordability as problematic. Patients may still have to purchase medicine and other supplies if these are not available in public facilities.

Figure 12: Cannot afford seeking care when needed, by socio-economic groups

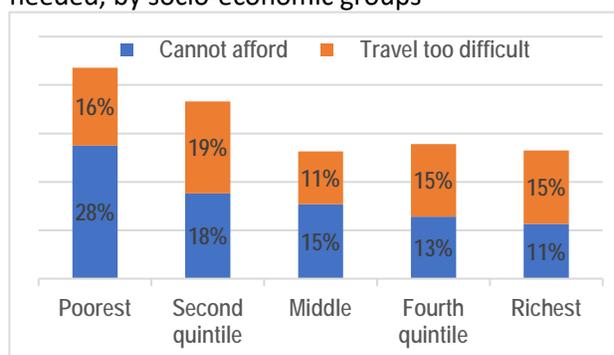
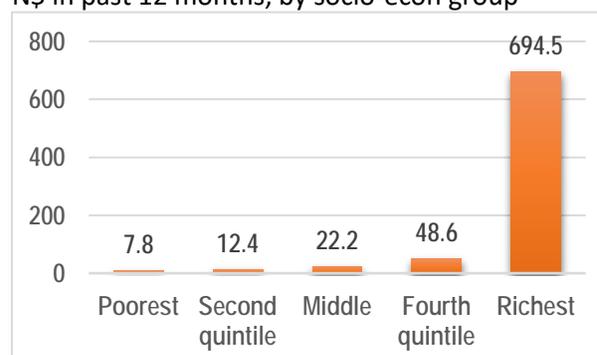


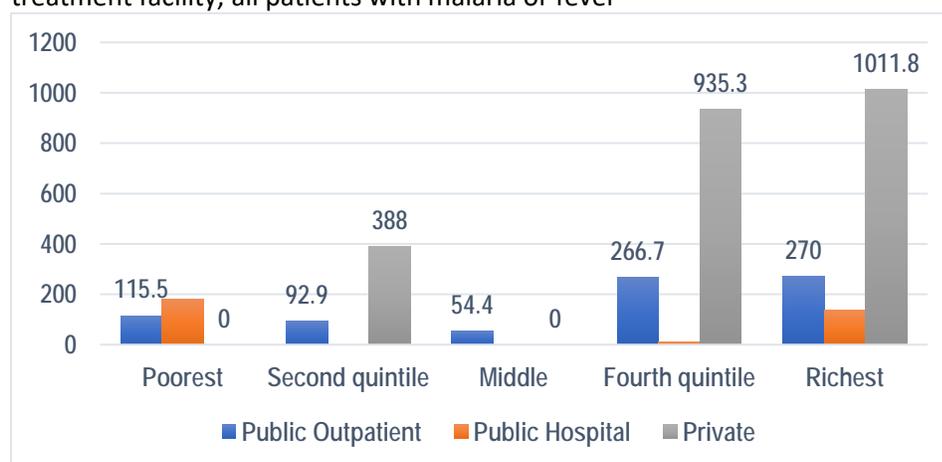
Figure 13: Average per capita health spending in N\$ in past 12 months, by socio-econ group



Source: NHIES 2015/16.

Wealthier individuals pay considerably more for care, particularly those who seek care in the private sector. Sick individuals belonging to the wealthiest households pay on average about 20 times more for health care than those in lower income households (Figure 13). The average price paid by patients is influenced by where they seek care. Highest average amounts occur with private sector providers paid by patients in the upper two wealth quintiles. As payments could be influenced by different diagnosis and treatment, Figure 14 shows average payment only for patients who were diagnosed with malaria or fever³. Malaria patients' pay considerably more if they sought care in the private sector compared to the public sector. This also holds when comparing patients with malaria diagnosis within the same socio-economic quintile. These stark differences in health payments across socio economic groups combined with concerns about affordability, point to substantial inequalities in access across households.

Figure 14: Average per patient health spending (N\$) in past 12 months, by socio-economic group and treatment facility, all patients with malaria or fever



Source: NHIES 2015/16.

3.3. Public and private health insurance

Insured individuals are wealthier and more likely to use care when sick. Namibia offers public health insurance for government employees and their family members through PSEMAS, which is administered by Methealth Namibia⁴. In addition, private health insurance is offered through medical aid funds (MAF). Household survey findings suggest that health insurance mainly caters to higher-income groups and provides better access than the government health system. Individuals in higher socio-economic groups are considerably more likely to live in a household with all household members insured (Figure 15). Sick individuals who live in households with all or some members insured are more likely to access care than those in a household with nobody insured (Figure 16).

³ Individuals who suffered from malaria in past 30 days AND did not suffer from any other illness (chronic or acute) AND were the only patient in the household (the latter, because expenditures are only available at the household level).

⁴ Methealth is a member of MMI Holding, a South African based financial service group listed at the stock exchange. <http://www.methealth.com.na/>

Figure 15: % of individuals insured, by socio-economic group

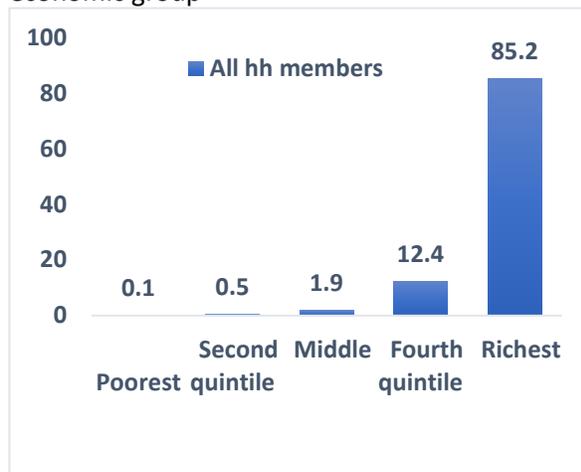
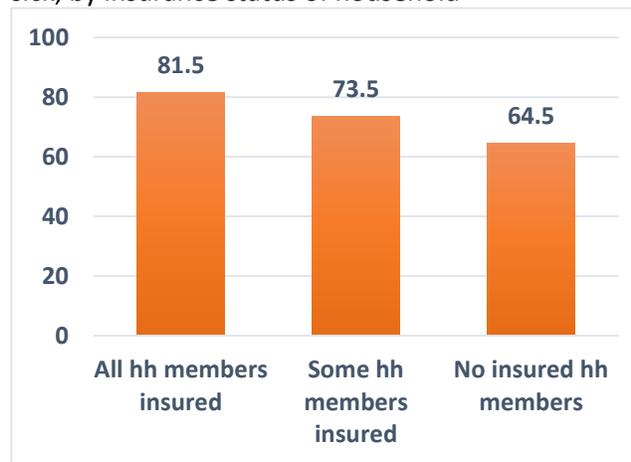


Figure 16: % of individuals who received care when sick, by insurance status of household



Source: NHIES 2015/16.

The government spends more than a quarter on PSEMAS and contributes to inequity in financing.

The public employee medical aid scheme (PSEMAS) is an extra-budgetary public entity that covers health care for government employees and their families. In the past years, the government and public employees have substantially increased their allocations to PSEMAS to finance health coverage. As a result, PSEMAS revenues have more than doubled since 2012 (Table 6). Government financing to PSEMAS introduces inequity in health financing towards the general population as it amounts to one-quarter of government health expenditures (Table 2), but PSEMAS members represent only 12.5% of the population. Since April 2019, the Namibian government has doubled employees' contribution to PSEMAS; however, this increase does not address the inequity of financing of PSEMAS.

Table 6: Trends in PSEMAS finances, in million N\$, 2012 - 2020

PSEMAS financing	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Government transfers ⁵ to PSEMAS	1,279.4	1,584.8	1,775.3	2,273.6	2,212.8	2,537.1	2,515.5	2,413.6
Public employee contribution payment to PSEMAS	103.5	111.0	114.6	595.5	455.2	420	420	820
Total PSEMAS revenue	1,382.9	1,695.8	1,889.9	2,869.2	2,667.9	2,957.1	2,935.5	3,233.6
<i>Annual change</i>		23%	11%	52%	-7%	11%	-1%	10%

Source: Namibia MOF and NHA. Note: 2018-19 Actual. 2019-2020 Projection.

PSEMAS is highly regressive for public employees and expensive to the government. Until recently, PSEMAS contribution payment was a flat amount of N\$250 per employee independent of income. In April 2019 employees' contributions have been doubled. The government co-finances employee contributions by 85%, which is considerably above the 50% usually paid by other governments. As a result, the PSEMAS financing system is highly regressive. The same flat amount translates into a higher percentage of salaries for lower-paid employees than for higher-paid staff. This is different than in most countries where public employee contributions are a percentage of their salaries which is equally shared by government and employees. For example, in Tanzania, public employees' contribution to the National Health Insurance Fund consists of a contribution of 3% of employees' salaries paid by the government as the employer and

⁵ Government transfers to PSEMAS include only transfers paid by MOF. It excludes employee contributions

an equal 3% made by the public employee. Namibia could introduce a similar percentage-based contribution, where members pay a percentage of their salary.

Transfer payments to PSEMAS are higher than in comparator countries. A comparison of the government and employees transfer to PSEMAS shows that Namibia already pays 12% of public sector wages to PSEMAS (Table 7). In 2019, the total transfer is expected to increase to 12.6%, which is comparable to high-income countries. Germany, for example has one of the highest payroll taxes at 14.9% of gross salaries. The payroll rates for social health insurance are much lower in middle income countries, ranging from 2.5% in Ghana, 5% in Vietnam, Rwanda and Indonesia, and increasing to 10% in Guatemala. To reach similar levels, the Namibian government could reduce its contribution to PSEMAS by N\$ 1 billion from 9.4% of total remunerations in 2019 to 5.5% in scenario 1, which would still result in a comparatively high total contribution of 8.7% (Table 7). In scenario 2, the government could reduce its contribution to 3% of total remuneration, and co-finance members’ contribution at an equal amount, similarly as in Tanzania. In this second scenario, the government could save N\$ 1.64 billion in government transfers to PSEMAS. At the same time, the PSEMAS benefit package would have to be reassessed, wasteful spending eliminated, and Methealth’s operational costs and profit margins reduced.

Table 7: Transfers to PSEMAS as a share of wage bill, in % and million N\$, 2017 - 2019

PSEMAS transfers	2017/18	2018/19 Revised	2019 Projection	Scenario 1	Scenario 2
Wage bill (remuneration) in public sector	25,341.5	24,661.1	25,690.5	25,690.5	25,690.5
Government subsidy to PSEAMS	2,537.1	2,515.5	2,413.6	1,413.6	770.7
Employee contribution payments	420.0	420.0	820.0	820.0	770.7
<i>In % of remuneration</i>					
Gov. contribution in % of remuneration	10.0%	10.2%	9.4%	5.5%	3%
Employee contribution in % of remuneration	1.7%	1.7%	3.2%	3.2%	3%
Total contribution in % of remuneration	11.7%	11.9%	12.6%	8.7%	6%

Source: MOF Estimates of Revenues, Income and Expenditures 2019-2022

PSEMAS has high pharmaceutical expenditures and operational costs. PSEMAS does not publish an annual report on the allocation and efficiency of health spending and service use. However, data from the MOF suggest that PSEMAS has consistently spent about one-third on pharmaceuticals (Table 7 and Figure 17). PSEMAS has also increased spending on hospitals, specialists and pathology. PSEMAS pharmaceutical expenditures are high due to direct procurement of small volumes on the local market at prices that are considerably above market prices. PSEMAS could reduce its pharmaceutical expenses by about 40% by requiring contracted providers to join national procurements for pharmaceuticals and medical devices through the Central Procurement Board as stipulated in the new Procurement Act. About 75% of PSEMAS revenues was spent on health care claims in 2016/17, leaving a high share of 25% to operational expenditures and profit.

PSEMAS can reduce unnecessary spending to allow government to reallocate funds within the health sector to more efficient care. A recent review of PSEMAS found substantial misuse of health services and a high number of “ghost members”, as Methealth’s database of PSEMAS members is not to be linked to the government public employee database⁶. A functional review could help identify areas to increase efficiency in the administration of PSEMAS. PSEMAS could also conduct regular performance analysis of contracted providers based on members’ claims data to identify moral hazard behavior and the prescription

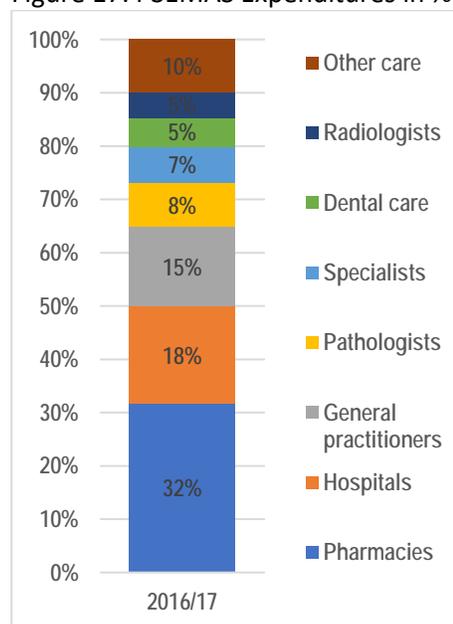
⁶ See Ministry of Finance Budget Speech, March 2019.

of unnecessary care. The resulting cost reduction can facilitate a reduction in government co-financing of employee contributions to PSEMAS as suggested above in the two scenarios. The saved amount could be reallocated to the HIV/AIDS response (see Table 5) and other health priorities in a budget-neutral way.

Table 8: PSEMAS Expenditures, in million N\$, 2013-2017

PSEMAS Expenditures	2013/14	2014/15	2015/16	2016/17
Pharmacies	479.51	570.43	668.37	631.02
Hospitals	245.04	330.50	414.24	363.04
General practitioners	271.51	294.19	354.52	296.50
Pathologists	110.12	134.47	190.67	166.05
Specialists	80.48	97.27	155.67	134.57
Dental care	77.49	96.89	129.18	107.90
Radiologists	51.44	61.72	100.53	94.18
Other care	196.62	189.85	260.46	197.68
Expenditures in N\$	1,512.21	1,775.33	2,273.65	1,990.95
Loss Ratio	89%	94%	79%	75%
<i>Expenditures by members</i>				
Total members	243,270	261,263	277,511	294,720
Expenditure per member, N\$	6,216.19	6,795.17	8,193.01	6,755.38

Figure 17: PSEMAS Expenditures in %



Source: Namibia Ministry of Finance and Ministry of Health.

Private medical aid funds provide access to private providers for those who can afford paying risk-rated higher premiums. The ten private medical aid funds (MAF) manage about 19% of total health expenditures to provide care in the private and public sector (Figure 10). MAFs provide health insurance coverage to about 7.5% of population who work in the private formal sector. In 2017, about 34% of payments made by the ten MAFs on behalf of their members went to hospitals, 17% was spent on medicines, 12% on medical specialists and only 10% on general practitioners in primary care. The member risk distribution differs across the ten funds and some funds may have healthier members than others. However, in the absence of risk equalization transfers across funds, members in higher risk or smaller MAFs will pay higher premiums.

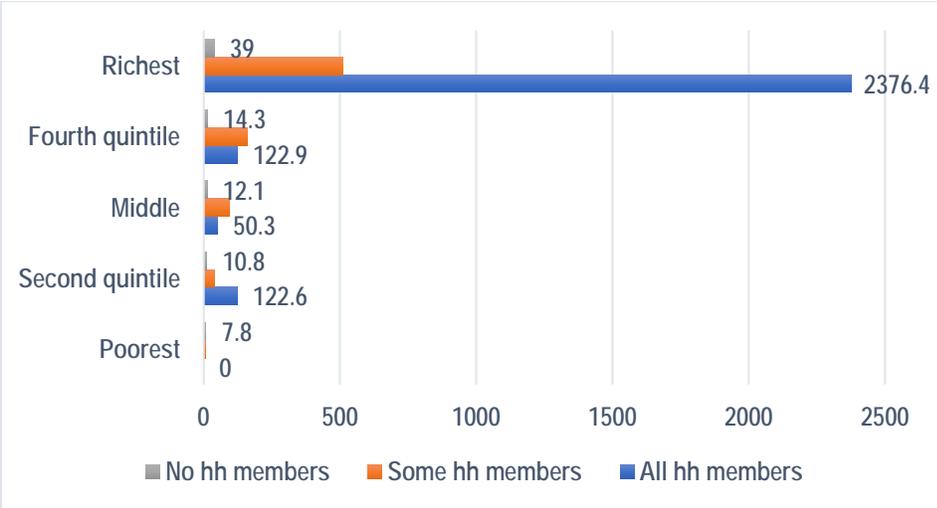
The way PSEMAS and MAF pay providers leads to inefficiency and higher healthcare costs. Both private medical aid funds and PSEMAS use a fee-for-service mechanism to pay providers for the services rendered to their members. This provider payment may result in over-servicing as providers have an incentive to deliver more services than what is medically necessary, leading to higher healthcare costs. A review of PSEMAS expenditures has highlighted cases where providers claim for services that were either not provided or clinically unnecessary. Fee for service payment sets an incentive to refer insured patients through the system, including for care that is not covered by PSEMAS or MAF, which increases expenditures. Diagnostic and procedure coding systems in hospitals and for outpatient care (ICD-10 and CPT) could facilitate the move towards a bundled case-based payment such as diagnosis-related groups (DRG). DRGs is an average payment per case which sets the incentive to deliver services efficiently.

Government regulation of medical aid funds sets no incentive to manage healthcare expenditures. The regulatory and financial supervisory function of medical aid funds is with the Namibia Financial Institutions Supervisory Authority (NAMFISA). NAMFISA can instruct MAFs that are financially

unsound, to take steps to rectify the situation, amend its rules, and ultimately to dissolve any MAF that fails to comply. The Namibian Association of Medical Aid Funds (NAMAF) controls and coordinates the establishment and functioning of medical aid funds. NAMAF publishes billing guidelines linked to the procedure codes to calculate benchmark tariffs based on which MAFs reimburse healthcare providers for services rendered to members. However, NAMAF’s benchmark tariffs are not mandatory, and providers do not have to adhere to them. Also, the co-payment charged to insured patients is not regulated, and providers are free to charge any level of co-payment in addition to the tariff charged to MAFs. As a result, MAFs and providers have no incentive to efficiently manage their cost, as they can easily shift healthcare expenditures to co-paying insured patients.

Insufficient regulations contribute to ineffective financial protection and high co-payments paid by insured patients. Health insurance does not appear to lower health payments for the insured compared to patients without insurance. Since providers can charge any amount as co-payment to insured and uninsured patients, some providers (particularly specialists) charge significantly more than the benchmark tariffs recommended by NAMAF. In addition, several providers do not claim directly from MAFs and PSEMAS. Rather, patients pay the provider directly and then claim to get reimbursed. This lack of price regulations may explain the extremely high out-of-pocket payments reported by insured patients who live in a household with all members insured with MAFs or PSEMAS (Figure 18). It also means that insufficient insurance regulation leads to ineffective financial protection of members against the financial risk of ill-health. The government could improve financial protection for the insured by issuing regulations on the basic benefit package to be covered by insurance as well as on national tariffs for all providers.

Figure 18: Average per capita health spending (N\$) in past 12 months, by socio-economic group and household insurance status



Source: NHIES 2015/16.

Substantial differences across payers mirror unequal access. Based on the recent NHA, per capita spending for persons covered by private medical aid funds amount to N\$16,887 (or US\$1,204) and for PSEMAS up to N\$7,489 (or US\$534), whereas per capita spending in the public sector is only N\$3,545 (or US\$253). These differences are driven by insufficient price regulation, different treatment patterns across providers, unequal service use and provider investment. It also confirms that Namibia’s health sector is highly unequal and divided into three sub-sectors that serves different socio-economic groups.

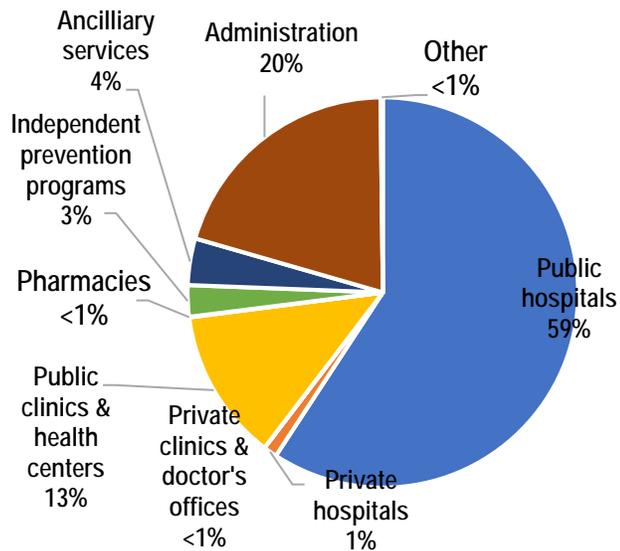
3.4. Functional allocation of government health expenditures

Government health spending favours hospital care. A large share of government health expenditures finances secondary and tertiary level care in hospitals (Table 7 and Figure 19). Namibia spends twice as much on hospitals than Chile and Mexico, and more than several OECD countries (Figure 20). Despite the government’s policy to focus on primary health care, only 13% of total government health expenditure is spent on the provision of primary health care services in public clinics and health centers. Indeed, the government spends more on administration (20%) than on primary care.

Table 9: Government-managed health expenditures by provider, 2016/17

Provider	Expenditure in N\$ million
Public hospitals	4,597.03
Private hospitals	87.80
Private clinics & doctor's offices	0.42
Public clinics & health centres	977.36
Pharmacies	4.02
Independent prevention programs	201.97
Ancillary services	299.53
Administration	1,579.34
Other	14.39
Total managed by government	7,761.87

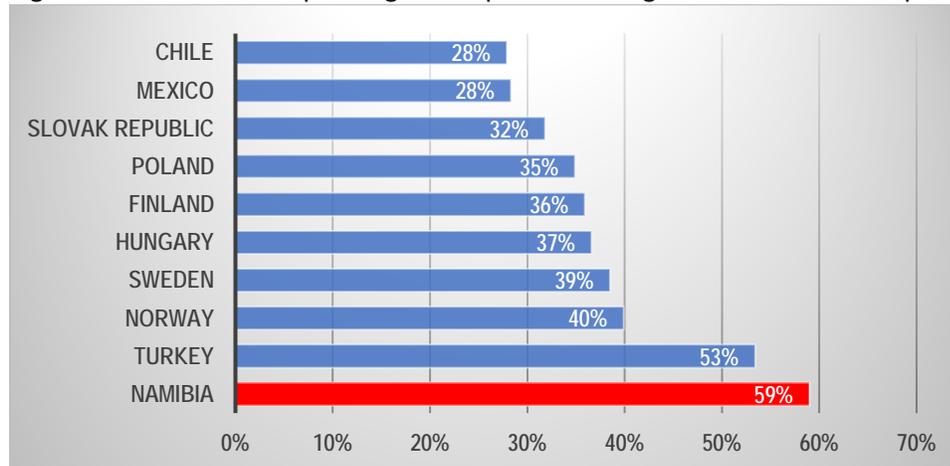
Figure 19: % Distribution of Government-managed health expenditures by provider, 2016/2017



Source: Namibia Ministry of Health and Social Services, 2018.

Note: Government expenditures by provider include only expenditures managed by the government. These differ from the amounts noted above where the government is the financing source, as the government is not the effective agent of all funds that it contributes to health.

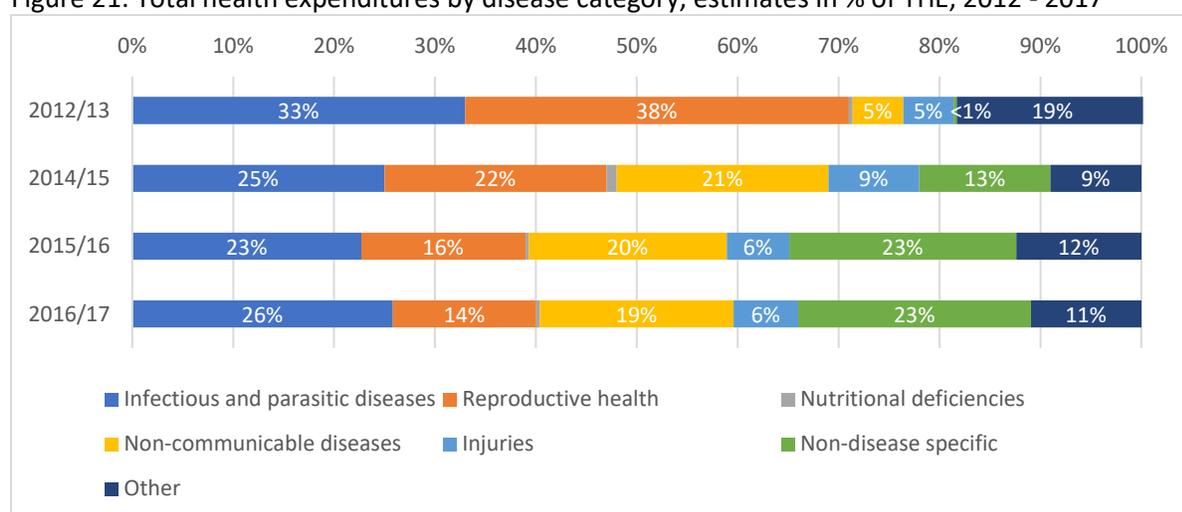
Figure 20: Government spending on hospitals in % of government health expenditures, 2017



Source: OECD Health at a Glance Statistics and Namibia Ministry of Health and Social Services, 2018.

Infectious and parasitic diseases continue to absorb the highest level of funding, although spending on non-communicable diseases is increasing. Spending on infectious and parasitic diseases decreased from 33% in 2012/13 to 26% in 2016/17 based on NHA data, whereas spending on NCDs increased to 19% in the same period (Figure 21). Half of spending on infectious and parasitic diseases went to HIV/AIDS in 2016/17, which is the highest allocation to any specific disease or health condition. Spending on TB remains low at 3% of THE, with about 21% of TB funding financed by donors. While spending on NCDs has increased, only 6% is spent on NCD prevention. Although Namibia reports a very high stunting rate compared to other UMICs (Table 1), spending on nutritional deficiency is negligible. Non-disease specific spending has increased substantially and includes expenditures that cannot be allocated to a specific disease, but benefits health in general, such as expenditures on administrative expenses and national-level overheads. The share of spending on reproductive health decreased most significantly to 14%, despite Namibia’s comparatively poor performance in terms of its maternal mortality, neonatal mortality rates, and very high adolescent fertility rate as shown in the previous chapter (Table 1).

Figure 21: Total health expenditures by disease category, estimates in % of THE, 2012 - 2017



Source: Namibia Ministry of Health and Social Services, (2018) based on National Health Accounts

Government health spending is biased towards curative care instead of prevention of diseases. Chapter 2 has shown that prevention of high-cost diseases, maternal and child mortality, and of communicable diseases should be an investment priority. However, government spending on prevention is relatively low given the high attention given to hospital and curative care. More attention could be given to financing preventive care as well as reproductive health. The focus should be on the prevention and reduction of high-frequency/cost events by directing government funding towards HIV/AIDS prevention, reproductive health to reduce maternal mortality and prevent adolescent pregnancy, respiratory infections, tuberculosis, diabetes, and the prevention of road accidents and violence.

3.5. Economic allocation of government health expenditures

Government spending on the health wage bill is high, but salaries are not linked to staff performance. For the entire government, public sector wages are about 15% higher than in the private sector, and have contributed to the relatively high public wage bill of 16.3% of GDP in 2016. However, in health, salaries in the private sector are higher than in the public sector. Still, health wage spending (salaries and allowances) has increased from 47% to 53% of total MoHSS expenditures between 2015/16 and 2017/18 (Table 10). The Namibian government pays a larger share of its GDP on the compensation of health workers

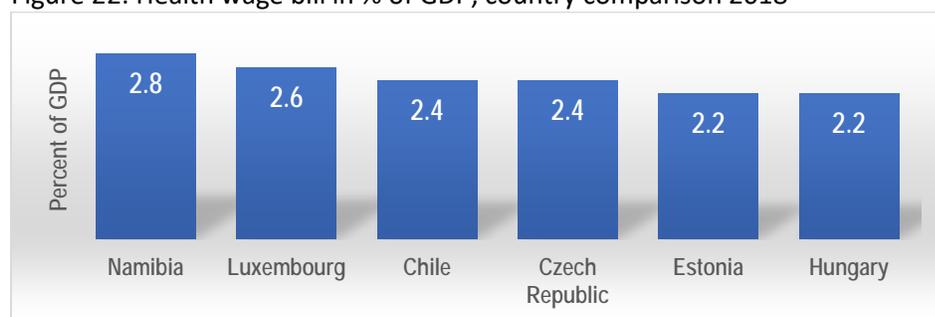
than several OECD countries (Figure 22), but Namibia's health services and outcomes are much worse. Salaries of health professionals are independent of their performance.

Table 10: Health expenditures by MOH, in million Namibian \$ nominal and % distribution, 2015-2018

MOH Expenditures by Economic function	2015/16		2016/17		2017/18	
	<i>In million Namibian \$ and % of MoH spending</i>					
Salaries	2,671.97	41%	3,087.23	43%	3,280.58	46%
Allowances	398.18	6%	430.24	6%	463.23	7%
Pharmaceuticals	1,046.52	16%	998.12	14%	874.86	12%
Medical supplies	377.86	6%	649.12	9%	261.86	4%
Other (excl. social services)	1,458.30	22%	1,532.10	21%	1,868.37	26%
Capital	553.54	9%	506.89	7%	311.05	4%
Total MOH expenditures	6,506.37	100%	7,203.69	100%	7,059.94	100%

Source: MOHSS. Note: Salary expenditures include those of the MoHSS only and excludes salaries paid for health personnel employed by other Ministries such as medical staff at Ministry of Defense.

Figure 22: Health wage bill in % of GDP, country comparison 2018



Source: OECD Stat. Compensation of employees in health sector. Includes salaries and allowances.

The number of personnel on the wage bill differs from actual staffing numbers. Another concern is that the health wage bill counts fewer staff than the number of health staff reported by the MoHSS's health statistics. This difference could be because the government wage bill for the health sector includes salary expenses of health staff that is officially on the Ministry's organizational structure, which was last updated in 2003. In the subsequent years, "additional" positions were created which are funded by the government; however, these positions are not part of the official health wage bill. In addition, it can take up to three months until newly hired health staff are added to the payroll.

Overtime work by health staff is the main driver for over-expenditures on salaries. While the wage bill should be anticipated, MoHSS' staff establishment is based on patients estimates for 2003, which is considerably below the number of patients treated today, 15 years later. To provide health services to more patients, health staff have worked overtime which has not been budgeted for. Overtime poses concerns for efficient spending, as it is costlier than the salary paid for normal working hours (overtime is paid at 1.5 or 2 times the normal salary rates). Further, training of interns is systematically underbudgeted, leading to over-expenditure in salaries.

The MoHSS reduced non-wage expenses and capital outlays. As wage spending has increased, government spending on pharmaceutical declined to 12.3% of MOH expenditures, and capital investments in health have declined to 4% by 2017/18 (Table 10). Almost 40% of government pharmaceutical spending is on ARV treatment for patients with HIV/AIDS. As a result, the share of pharmaceutical spending on other diseases is very low, about 6% of MOH expenditures which is far below the OECD average spending on pharmaceuticals of 16.4% of total current health expenditures. The annual reduction in pharmaceutical

spending over the past years is also contrary to the trend observed in other countries, and points to barriers in pharmaceutical procurement. Transfers and subsidies paid to faith-based health facilities (social contracting) help to finance their operations (Table 10).

Few cases are sent to South Africa for treatment. Treatment for some high-cost and rare diseases is not offered in Namibia given its small population. However, Namibia can benefit from its proximity to South Africa’s specialist hospitals and send patients for treatment to highly specialized hospitals. Government spending on treatment abroad is relatively low at 0.2% of total MoHSS expenditures. Most patients are treated in South Africa, including at the Netcare Christiaan Barnard Memorial Hospital in Cape Town and other facilities in the Western Cape. Cardiac conditions are the predominant reason for transfers abroad, including pediatric cardiac patients. The government paid about N\$300,000 per case in the past years (Table 11). Treatment abroad for these high-cost diseases may be less expensive than offering these services in Namibia, especially if new investment were needed to offer services and the number of cases is relatively low. Still, these expenditures need to be carefully monitored as costlier NCDs will become more common with changing lifestyles and as the population ages. Analysis will support the government in negotiating lower-case payments under higher volume contracts with individual hospitals.

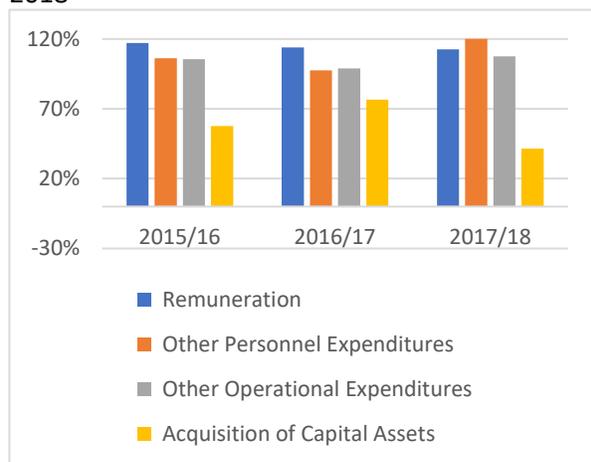
Table 11: Treatment abroad financed by the government, 2015-2018

Treatment Abroad	2015	2016	2017	2018
Number of cases transferred	60	82	82	75
Government spending in N\$	17,936,757	26,953,549	28,060,556	20,495,862
Average payment per case in N\$	298,946	328,702	342,202	273,278
Average payment in US\$	\$20,926	\$23,009	\$23,954	\$19,129

Source: MOHSS; Note: Exchange rate: N\$1 = US\$0.07

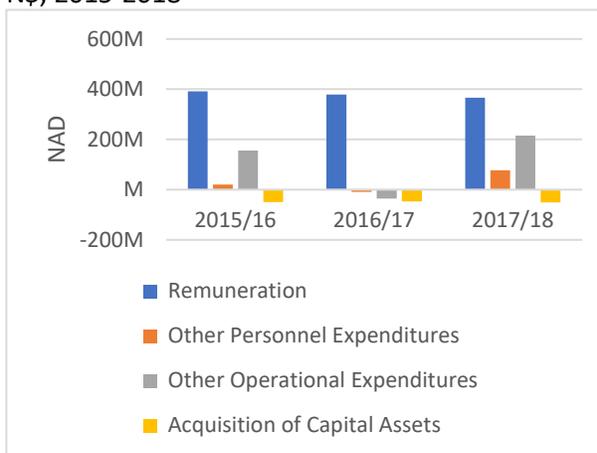
There is considerable variation in budget implementation across economic categories. Budget implementation has been near or above 100%. However, the budget for wages and other related personnel expenditures has consistently been above 100% by 15-17 percentage points. Given the size of the wage bill, this is significant and has crowded out other critical expenditure items such as the investment budget. The availability of funds for acquisition of capital assets has been low at 40-50% of budget (Figures 23 and 24).

Figure 23: Budget Execution Rates in %, 2015-2018



Source: MOHSS

Figure 24 Expenditure Deviation from Budget in N\$, 2015-2018



Insufficient coordination across Line Ministries and weaknesses in procurement affect fund release, leading to under-spending and budgetary shortfalls. The new Procurement Act requires centralized procurement by the Central Procurement Board (CBP). However, weak capacity in central procurement as well as poor coordination between the MoHSS and Ministry of Works have led to substantial delays, including in processing tenders and in the cancellation of contracts. Furthermore, indecision by the Ministry of Works on extensions of contracts causes delays in implementation. Late releases of funds to the MoHSS has also meant that suppliers were not paid on time, leading to arrears. In some cases, contractors were unable to continue the work leading to incomplete projects.

Weaknesses in commitment controls and in budget execution have contributed to arrears in the health sectors. In 2017, domestic arrears for the government amounted to 2.4% of GDP mainly for non-wage and capital spending. About 13% of these arrears occurred in the health sector (Table 12). Health arrears amount to 7.4% of the annual MoHSS expenditures. Arrears were driven by considerable over-expenditures by the National Institute of Pathology (NIP) caused by internal inefficiencies, the NIP setting prices without consulting the MoHSS, and wastage due to unnecessary tests being requested by inexperienced physicians. As a result, unpaid invoices have been accumulating due to an under-estimation of NIP expenditures, leading to arrears. Pharmaceutical spending regularly encounters budgetary shortfall leading to arrears due to internal inefficiencies, poor forecasting, poor stock management, ordering and carrying over of invoices to following financial years (see Chapter on pharmaceuticals). To address this situation, the MoHSS Finance Directorate has requested regions and tertiary hospitals to provide their invoices so that arrears can adequately be provided for in the projections of monthly releases.

Table 12: Government arrears in health, 2016-2018

Government arrears in health	2016/18	2017/18
Total arrears in health, in million Namibian \$	538.4	524.8
In % of MOHSS expenditures	7.4%	7.4%

Source: MOHSS

3.6. Public Financial Management

The government expenditure framework is broadly defined and provides little details about specific spending categories. The government budget process is anchored in a medium-term fiscal framework, which provides for aggregate budget ceilings. This is accompanied by a medium-term expenditure framework (MTEF). The MTEF includes high-level programs to guide the strategic allocation of resources. However, programs are broadly defined. For example, budget allocations for communicable and non-communicable diseases makes it difficult to allocate and track HIV related expenditures specifically.

The actual budgeting process is still by Directorates and not aligned with the MTEF's move towards program budgets. Previously, the MTEF would indicate the budgets and actual costs by directorate. This is now clustered into the various program areas⁷ as per the MTEF. The actual budgeting process remains unchanged at the directorate level, with each directorate preparing and submitting their own budgets. This actual budgeting process diverges from the MTEF program budgets.

⁷ For example, the Directorate of Special programs (responsible for HIV, TB and malaria) falls under the public health program, as does the Directorate for Primary Healthcare. The Directorate for Tertiary Healthcare and Clinical support services falls under the curative and clinical healthcare program, while the Directorate for Policy Planning and Human Resources Development, Directorate of Finance and Logistics and the Directorate of Human Resources Management fall under the health system planning and management program.

The budget is still input-based, and program budgeting has not provided for increased flexibility during budget execution. The budget remains an input-based line item budget, and each line item is controlled for during execution. This means that budgets are excessively rigid within directorates and cannot be shifted across programs. As the program orientation in the MTEF provides neither for an effective tool for resource allocation or increase flexibility, it is mostly viewed as a tax with limited benefits to the planning unit during the budget preparation phase.

Budget execution problems are in part driven by weaknesses in budget releases. Budget release from MOF to the MOHSS has been reliable until about 2016, when the release of funds was changed from quarterly releases to monthly releases. However, monthly releases tend to be below budget appropriations. In addition, budget releases have shifted toward the end of the fiscal year, straining the MoHSS absorption capacity. The monthly release process has introduced an administrative burden as the MoHSS must lobby every month for the promised allocations which tend to be well below original allotments. The release of the development budget (capital spending) has been changed from an annual basis to quarterly releases.

Health facilities have limited management autonomy and financial management capacity. Hospitals are not autonomous, which limits their capacity to manage resources efficiently. The entire health workforce is planned and managed centrally by the Ministry of Health. Salary payments are made directly from treasury to public employees, and operational expenses are managed through regional offices. Tertiary hospitals receive a budget allocation. However, this is not the case for district hospitals, health centers and clinics, who do not receive significant funds directly. In addition, public hospitals do not have the necessary financial management system to invoice MAFs and PSEMAS for treatment provided to insured patients. Health facility managers are not kept accountable for inefficiency or low quality of care.

Cash flow problems inhibit the ability of regions and tertiary hospitals to operate effectively. The monthly release system to regions and tertiary level hospitals is restrictive. The release of funds to regions and tertiary hospitals takes between 10 to 14 days from the receipt of funds from the MOF, with the delay being caused by the negotiations to allow the revision of the projections. Because of unpredictable financing, regions and hospitals cannot adequately plan activities or implement services. Furthermore, hospitals cannot compensate insufficient releases from own revenues as these are returned to Treasury.

Referral hospitals own revenues are negligible and returned to Treasury. In 2018 the health sector collected N\$82,857,379, an equivalent of 23.7% of total operational budget for referral hospitals. These funds could serve an important function of providing liquidity during government cash flow problems, but are currently unavailable to hospitals as they are returned to Treasury. The health sector has repeatedly advocated for the retention of user fees, though without success, as treasury argues for single treasury accounts. The concern is, it could lead to a proliferation of hospital bank accounts and idle balances outside the control of Treasury. However, while revenue collected in hospitals make up an important share of the hospital budget, at 0.12% of total government revenue collected this constitutes a negligible amount.

The allocation of resources across regions is independent of socio-economic and performance factors. The MoHSS has been considering the introduction of a resource allocation formula to include factors to adjust for socio-economic differences in the resource allocation to regions. Such factors could include regional population sizes, poverty levels, disease burden, and differences in costs of service provision. This approach would allow for a more accurate distribution of health resources to better respond to the need for health care. However, no final agreement has been reached yet. In addition to equity adjustments, the formula could be expanded to reward regions for better performance, such as service coverage rates.

In sum, this chapter shows that although health spending is at a relatively high level in Namibia, the main share of funding is to finance hospital care, HIV/AIDS and the health wage bill, leaving little to prevention

and reproductive health and primary care. In addition, the government and private employers contribute a large share to PSEMAS and MAF, respectively; however, insurance coverage does not protect the insured against paying very high out-of-pocket amounts. While public administration, procurement, and financial management are contributing to higher administrative costs in health, delays in financing, high wage spending is caused by more expensive overtime and arrears. These findings suggest that by identifying and addressing these areas of inefficiencies, the government could generate savings within the health system and reallocate funds to improve health outcomes through better service provision. The following chapter examines the availability and use of publicly financed health services.

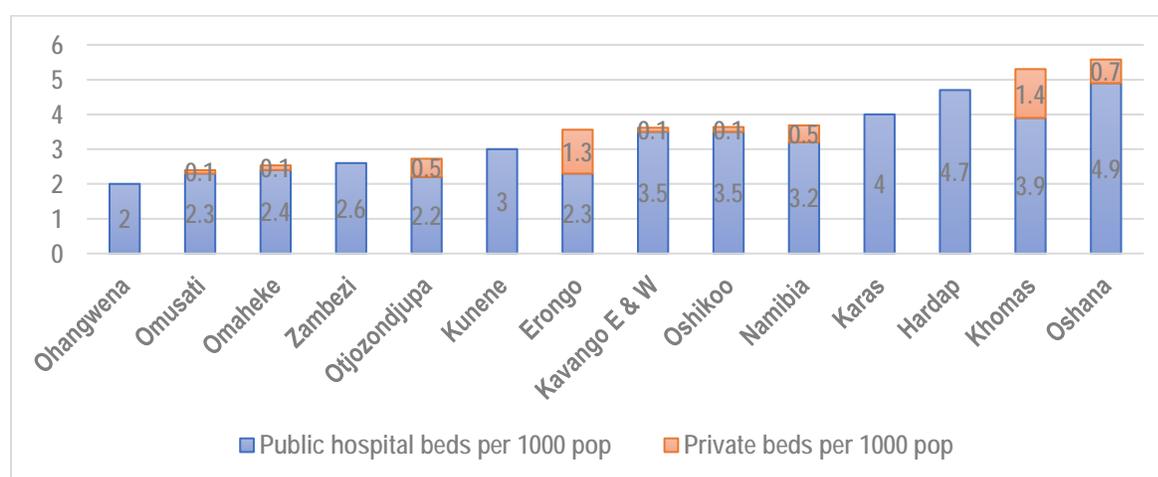
4. Availability and Use of Health Care

The MoHSS defines the government-funded minimum package of health services to be provided at each level of health facility in the public health sector. This Chapter examines issues in the availability of health infrastructure, the use of health services, and hospital productivity.

4.1. Health infrastructure

Namibia has enough health infrastructure, but faces regional challenges in sparsely populated areas which affects access. In 2018, the public health sector comprised overall 373 health facilities with a total of 7,551 beds in the sector (Annex Table 2). This results in a population-to-bed ratio of 3.2 beds per 1000 population in the public sector, which is comparable to higher-income countries including New Zealand, Norway, Portugal and Turkey. However, there are large regional inequalities in Namibia. Most health facilities are in a few cities in the northern and central regions of the country. The Ohangwena region reports the lowest bed density compared to the population (Figure 25). In contrast, Ohangwena has a relatively high number of primary care outpatient facilities. About 21% of Namibians live more than 10 km from a health provider and some travel long distances to access health services (Annex Table 3).

Figure 25: Hospital Beds per 1,000 People, in Public and Private Sector, by Region, 2018



Source: MoHSS, <https://mfl.mhss.gov.na/location-manager/locations>, Accessed: 8 October 2018

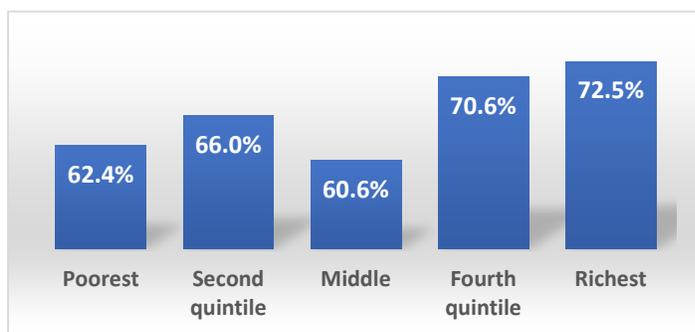
Emergency obstetric care (EmOC) is unevenly distributed across the regions. In 2010, only 3 regions had recognized comprehensive EmOC services, and only 42% of health facilities had staff trained in basic EmOC, which may explain the relatively poor performance in maternal health. The government is planning substantial investment in infrastructure to ensure availability of care, especially in low-income areas.

Namibia already has a vibrant private health sector. The private sector includes another 101 health facilities that offer 1,144 beds, mainly in the Khomas and Erongo regions (Figure 25). Mediclinic Southern Africa operates three private hospitals in Windhoek, Swakopmund and Otjiwarongo. The government plans to develop a strategy to better leverage on the strengths of the private sector. The planned PPP for one new health facility as well as for medical technology and renal dialysis are major steps towards this direction. These investments should be carefully coordinated with overall public investment to prevent regional overcapacity and to be aligned with national hospital planning. There is a risk for overcapacity in the private sector. Overcapacity will cause private providers to increase prices charged to patients and insurers, and the provision of unnecessary care, which will contribute to higher health care cost.

4.2. Use of health care

The use of outpatient care is relatively low and higher for wealthier individuals. Primary healthcare services are mostly available through clinics and health centers. On average, Namibians report about 1.42 outpatient visit per capita per year which is relatively low, with lowest per capita visit rates seen in Khomas and Erongo regions (Annex Table 4). Household survey data suggest that the wealthier who were sick or had an accident were significantly more likely to seek care than lower-income groups (Figure 26). Access to care could be improved for lower-income groups by expanding the availability of primary health care services provided by general practitioners and nurses in low-income areas.

Figure 26: Of those who suffered, % received medical care, by socio-economic group



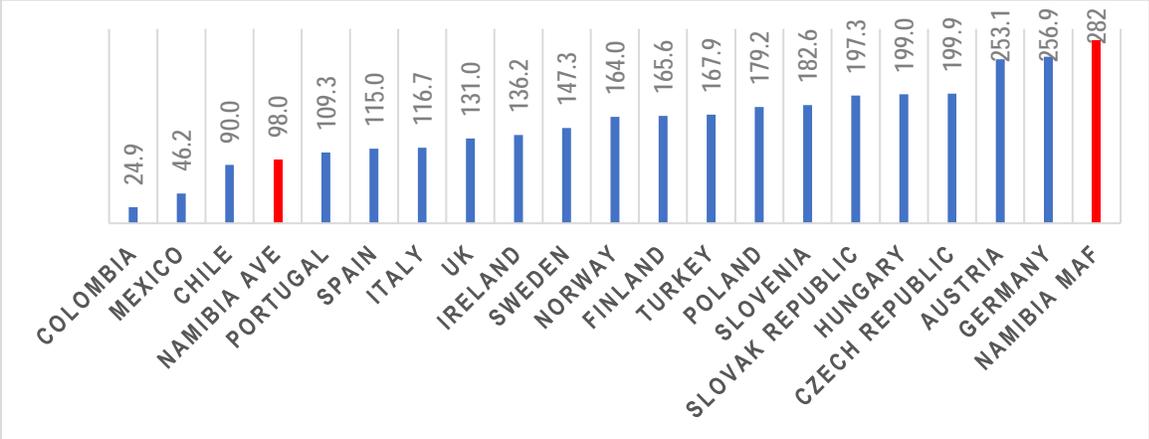
Source: NHIES 2015/16.

Maternal health care use has improved in the past years, but more is needed to ensure access to reproductive care for low-income women and girls. By 2017 about 80% of pregnant women report at least one ante-natal care visit and 70% of mothers had delivered in a health facility. However, only about 60% of new mothers receive post-natal care. A large proportion of maternal deaths happen during the first four days postpartum, which highlights the importance of medical follow-up after delivery to reduce maternal death. Substantial regional differences exist, with Zambezi reporting better use of maternal care than the Kunene regions. Education, wealth index, place of residence and marital status are all strong predictors for maternal health. Increasing the use of reproductive health services among women with low education levels, adolescent girls, unskilled workers, and rural women is crucial to reduce high maternal mortality and adolescent pregnancy rates.

Use of hospital care is comparable to other UMICs, but very high for MAF members. Based on health administrative data, the average hospital admission rate in Namibia is higher than in Colombia and Mexico, and comparable to Chile and Portugal. However, MAF members in Namibia report considerably higher admissions rates. In 2017, the NAMAF reported that 282 of 1,000 insured individuals were hospitalized at least once (Figure 27). Almost one-tenth of MAF members were hospitalized more than once. These

extremely high hospitalization rate among the insured point to a bias towards hospital-based care instead of less costly outpatient services. This can be driven by the fee for service payment and hospital overcapacity in the private sector. It is less likely due to adverse selection of sicker populations into MAFs, as insured individuals appear to be a healthy group. They are more likely to be male, they are on average about 30 years old, urban residents (25.7% vs. 8.9%), and employed in the formal sector (30.8% vs. 7.3%).

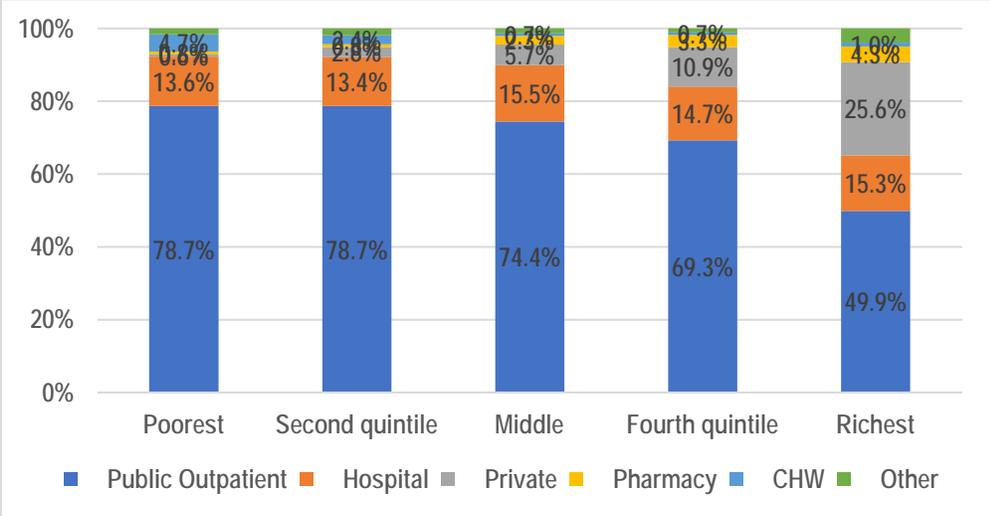
Figure 27: Hospital Admission Rates per 1,000 People, Country Comparison, 2016-2017



Source: Namibia MoHSS, HMIS and NAMAF 2017 Annual Report. OECD Health Statistics 2016.

Patients’ socio-economic background influences where they seek care. Income status defines where patients seek care (Figure 28). The wealthiest are most likely to seek care in a private health facility. As a result, private sector providers cater to 11% of those in the 4th quintile and one-quarter of richest patients. Public hospitals are equally visited across income groups. Public outpatient facilities are the predominant providers for all patients, including the wealthiest with almost half of them seeking care in public outpatient at no charge.

Figure 28: Health providers where patients seek care when sick, by socio-economic groups



Source: NHIES 2015/16.

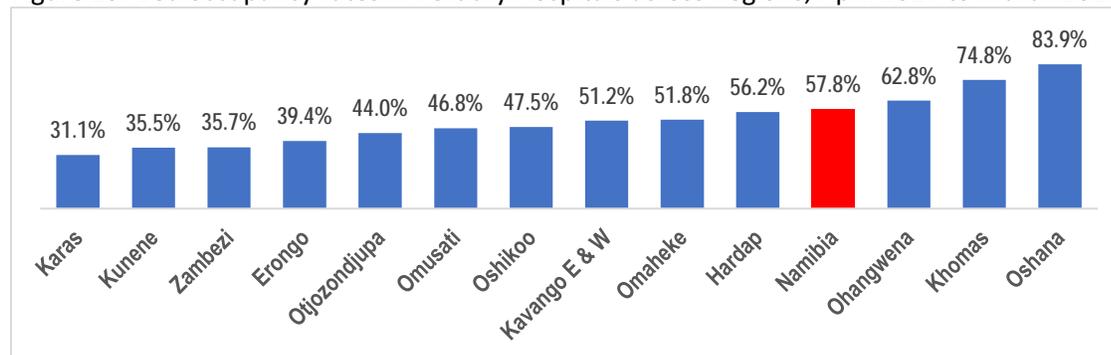
The community health extension worker program is to help reach underserved areas, but is inadequately financed and supervised. Health extension workers are to take health services closer to communities in rural areas. In 2012, the MoHSS successfully piloted Community Health Workers (CHW), in Opuwo, and decided to expand the program nationwide. In 2013, the government added over 1,600 CHWs to the government payroll. Zambezi and Kunene regions have the highest numbers of CHW per population. Although CHW represent about 11% of the health workforce in the public sector, CHW were only consulted by 4.7% of the poorest patients who were sick and used care (Figure 28). In addition, the CHW program is challenged by insufficient supervision and funding. In 2018, the government could not recruit the 640 newly trained CHWs as priority was given to managing government wage expenditures. This suggests a need to revisit the management and financing of the CHW program.

The rapid scale-up of antiretroviral (ART) services had stunning results. Coverage of HIV testing has drastically increased between 2006-2013, from 55% of women and 34% of men aged 15-49 years to 81% and 63% respectively in 2013. Most HIV testing (84% of women and 76% of men) occur in public health facilities. Overall, over 94% of Namibians know where to go to get an HIV test. About 84% of the eligible population is receiving treatment in 340 health facilities. Most ART (80%) is provided in 47 main ART and 147 outreach sites across the country, while 20% is accessed through the private sector. Private health insurance covers ART, including the Health-is-Vital Risk Equalization Fund and the Namibia Health Plan's Blue Diamond. The rollout of ART has also resulted in large-scale reductions in hospitalizations from 9,465 to 1,597 patients, and in fewer deaths from 2,622 in 2006 to 359 cases in 2009.

4.3. Hospital productivity

Namibian hospitals report long average lengths of stays and low bed occupancy, pointing to idle resources. About 60% of government spending is on hospitals (Figure 19), but tertiary hospitals report on average only about 58% of their beds occupied with substantial variations across regions. Oshana and Khomas regions have the highest bed density and occupancy rates. However, other regions also seem to have idle hospital capacity. Lowest occupancy rates are seen in Karas, Kunene and Zambezi (Figure 29). However, overcapacities or too many private hospitals may not be the reason why these regions have low occupancy rates. Rather, the level of quality of care or insufficient access could be among the reasons that lead to idle hospital resources. Another reason is insufficient staffing or medical supplies, which would cause patients to seek care elsewhere. Health facilities often have insufficient night staff, doctors on call, or nurses. If staff are unavailable to work overtime, patients will not be attended to and hospitals become idle. A more in-depth analysis of hospitals could shed light on the reasons for low use rates. Some hospitals could be restricted to day-clinics and outpatient care centers to better respond to changing health needs.

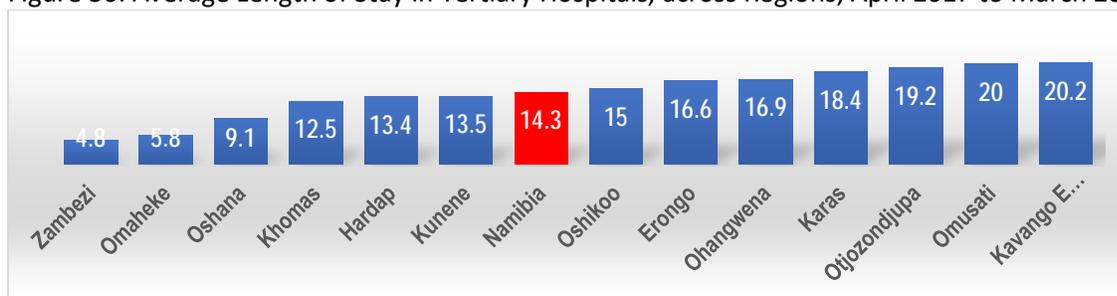
Figure 29: Bed occupancy rates in Tertiary Hospitals across Regions, April 2017 to March 2018



Source: MoHSS

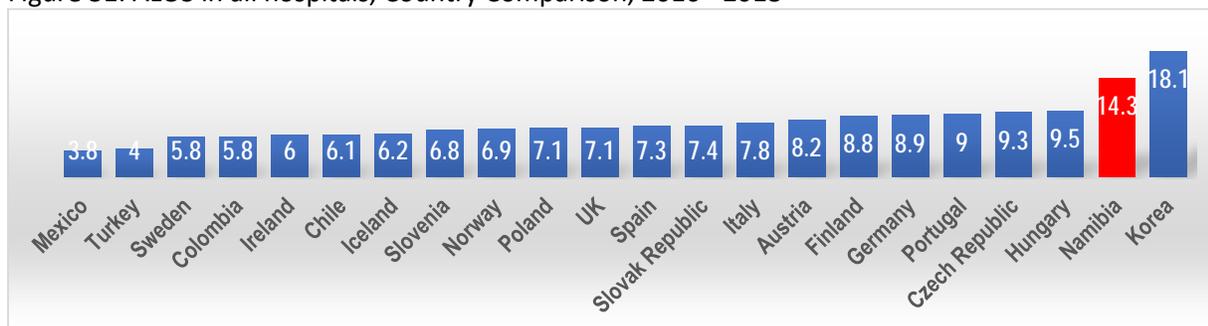
Average length of hospital stay (ALOS) varies across regions and patients stay hospitalized considerably longer than in OECD countries. The average length of hospital stay varies widely across regions (Figure 30). Patients may be hospitalized for a longer time because of chronic or more severe illness related to HIV/AIDs, tuberculosis and road accidents. Some patients also have to wait for referrals to other hospitals. The wide variations across Namibian hospitals and very long ALOS compared to OECD countries (Figure 31) warrants more in-depth analysis of treatment patterns in Namibian hospitals. Long ALOS could also be influenced by the current line-item budget allocations which funds hospitals based on the number of beds, instead of performance. ALOS usually become shorter with the introduction of per-case payments (e.g. DRGs) when hospitals are reimbursed based on the number of cases admitted instead of the number of beds or services provided.

Figure 30: Average Length of Stay in Tertiary Hospitals, across Regions, April 2017 to March 2018



Source: MoHSS

Figure 31: ALOS in all hospitals, Country Comparison, 2016 - 2018



Source: Namibia MoHSS, HMIS. OECD Health Statistics 2016.

The government is envisioning increased private sector collaboration with health facilities. Building on Namibia's vibrant private health sector, the government has initiated discussions with private companies to create a pediatric Intensive Care Unit (ICU) and a Trauma center through public-private partnerships (PPP). To ensure high occupancy rates and case numbers for a small population and equal access to care, these highly specialized services would have to be offered to the entire population. As these are high-cost events, the government would have to negotiate a payment rate for ICU and trauma cases that are fiscally viable. This would require revising the regulations that currently define the benchmark tariffs set by NAMAf for private providers as well as regulations of co-payment levels charged to patients.

This chapter shows that Namibia appears to have enough hospital beds and a vibrant private sector; however, the availability and use of services is unequal across regions. Access to care is biased towards more expensive hospital care and favors insured individuals and those from wealthier households, who mainly go to the private sector. Despite long average lengths of hospital stays, public hospitals in most regions report low occupancy rates. The resulting idle resources are costly for the government as it spends

about 60% of government health spending on hospitals. More detailed facility level analysis would be needed to identify the underlying reasons for low hospital use and productivity in a system that is supposed to be free of charge for patients. It could be related to insufficient staffing in remote area hospitals as well as inadequate medical equipment and pharmaceuticals, which will be the focus of the next sections.

5. Health Workforce

There are serious limitations in health workforce planning and management that pose barriers to service delivery and lead to inefficiencies in financing as identified in the previous chapters. Health workforce planning and management has not been decentralized and is under the responsibility of the MoHSS. However, the Ministry does not have the necessary management tools to ensure the effective planning, deployment and monitoring of health staff. Human resource planning is outdated. It is based on the number of patients recorded in 2003. Information on the health workforce is incomplete and not systematically collected. Since 2012, the health workforce is tracked in an Excel sheet; however, information is missing for some regions. The health workforce Excel sheet is not linked to payroll. As a result, Namibia does not provide reliable statistics on the health workforce based on payroll data. This lack of reliable data affects the validity of any analysis on the health workforce. The MoH is currently developing a health workforce strategy with the support of WHO.

5.1. Health workforce in public and private sector

The current physicians and nurse capacity are relatively low compared to comparator countries. Based on information available, Namibia has overall 1,222 physicians in the public and private sector; half of them work in Khomas. Namibia's medical workforce in the public sector comprised 0.33 physicians per 1,000 population and 2.02 nurses per 1,000 population in 2018. For physicians, this falls far below the ratios reported in other UMICs (Figure 32). The nurse ratio is higher, comparable to India and Turkey but is lower than the UMIC average of 3.4 nurses for 1,000 people (Figure 33). Dual practice in the public and private sector is not regulated for physicians. Health staff do not have fixed-term contracts which makes it more difficult to fire non-performing staff or staff who work in the private sector while on the public payroll.

Figure 32 Physicians per 1,000 People, 2017

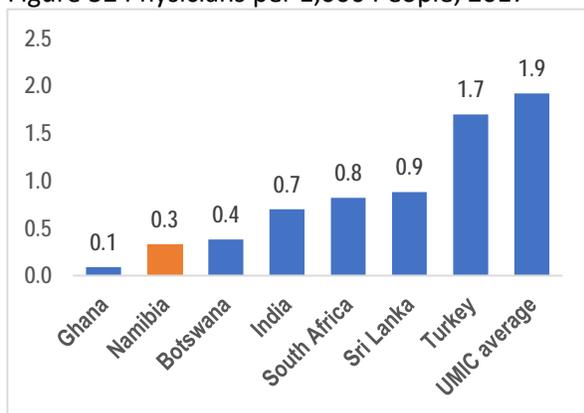
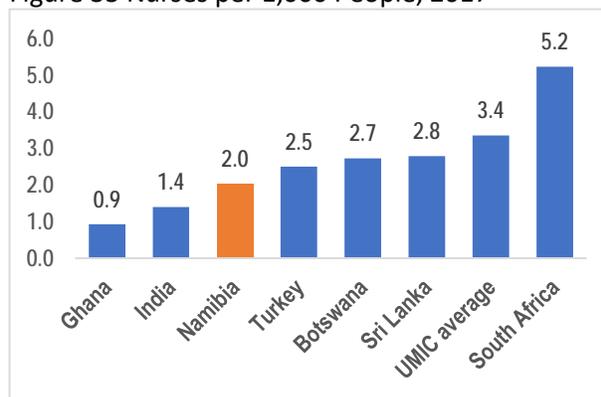


Figure 33 Nurses per 1,000 People, 2017



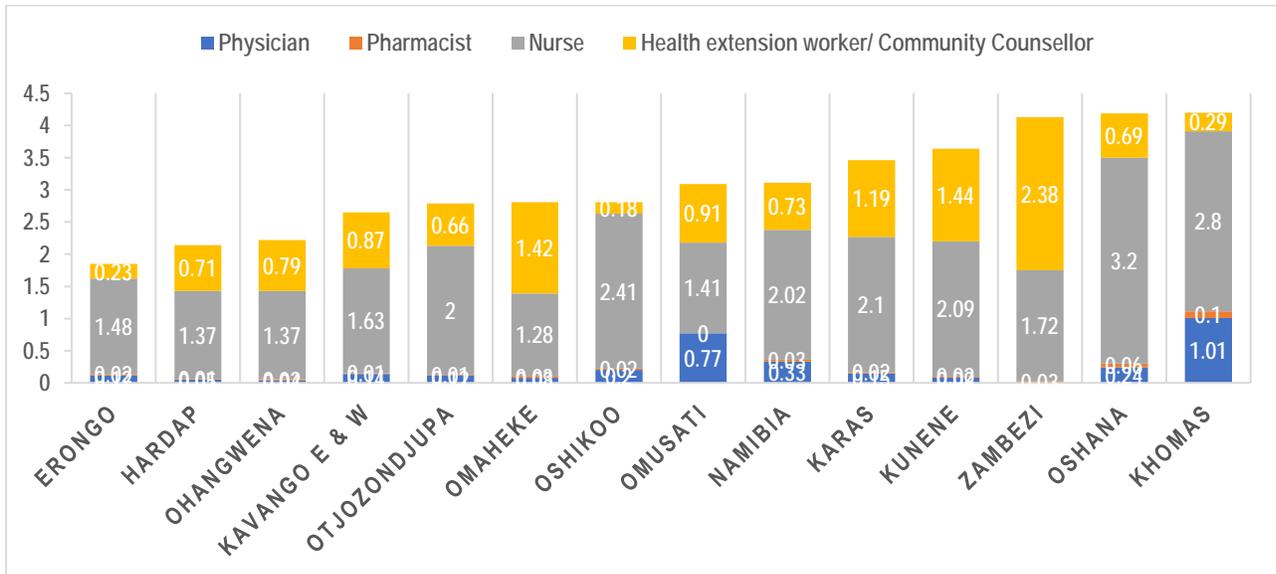
Source: MoHSS and World Bank Health Nutrition and Population Statistics Database for 2017 or latest.

Note: Public sector only. Does not include health staff working in the private sector.

Urban areas with large hospitals have highest health personnel density. More than half of all public sector physicians are based in Khomas, which also reports the highest physician density per population followed by Omusati. Nurses are more equally distributed across regions; however, Oshana and Khomas

report the highest nurse density. Zambezi has the highest number of community health workers per 1,000 population (Figure 34). The lowest health staff to population density is in the Erongo region, where inhabitants also report lowest outpatient visit rates per capita in the public sector (Annex Table 4).

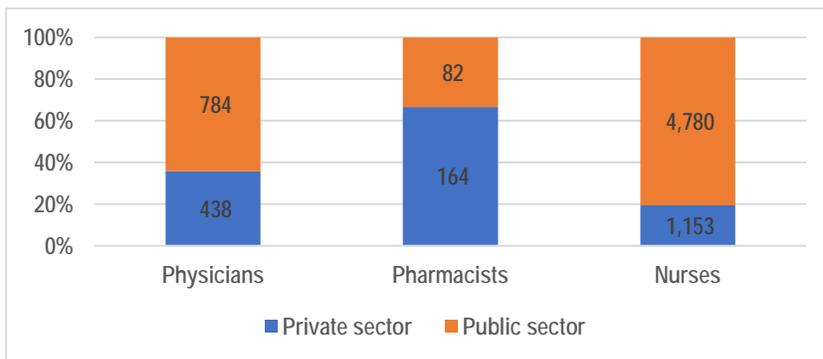
Figure 34: Health workforce in public sector per 1,000 population, by region, 2018



Source: MoHSS. Note: Includes "additional" positions and different types and cadres of health workers.

The private sector absorbs a large share of health staff. The private sector caters mainly to patients in higher income groups but accounts for one-third of all physicians, two-thirds of pharmacists and about 20% of nurses (Figure 35). Private sector physicians are strongly represented in certain regions, including in Hardap (80% of all physicians are private), Erongo (70%), Karas (63%), and Omusati (59%) (Annex Table 7). As dual practice is not regulated, medical specialists hired by the government can work in private practice while on the public payroll.

Figure 35: Health workforce in public and private sector, total number and % distribution, 2018



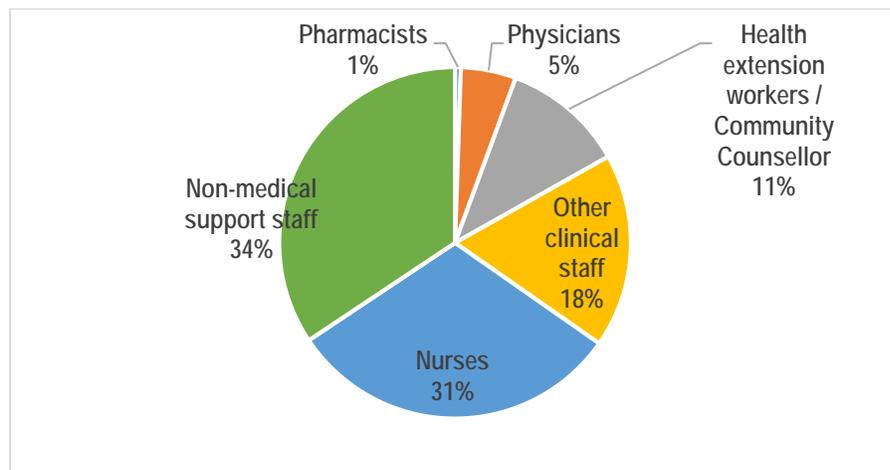
Source: MoHSS

The public sector appears to have high capacity in non-medical support staff. In 2018, non-medical support staff accounted for one-third of total health staffing in the public sector (Figure 36). This results in a national average of about 1.1 support staff per nurse. The ratio fluctuates from 0.9 support staff per nurse in Omusati and Oshana to 1.5 in Karas (which reports the highest support staff per nurse ratio). Even so,

the nurse to population density is comparable to the national average. Given pressure to manage the overall public wage bill, a more in-depth analysis on staffing and reliable data on the health workforce could help identify areas for more efficient workforce planning.

The government-financed Community Health Workers program raises concerns about financial viability, management and supervision. The CHW program was introduced by the MOHSS with the support of UNICEF and has been scaled up nationwide. By 2017, about 1600 CHWs were on the government payroll, reflecting 11% of the health workforce in the public sector (Figure 36). CHW focus on maternal and neonatal care, childhood illnesses, prevention of HIV/AIDS, tuberculosis and malaria, behavioral change, as well as social welfare and disabilities. On average, each CHW is allocated to 91 households, mainly in the most disadvantaged communities. Household survey data suggest that CHW serve the lowest income groups; however, only about 5% of the poorest who needed care went to CHW as shown in the previous chapter (Figure 28). This could be related to the fact that CHW do not treat patients but rather refer them to health care providers when needed. A UNICEF evaluation based on stakeholder interviews suggests that CHWs have contributed to improved maternal and child health outcomes, health awareness, and increased utilization of care. CHW have a low attrition rate of 3.6%. However, the motivation for CHWs is negatively affected by inadequate supervision and refresher training, and the absence of a clear career paths. In December 2016, the MoHSS ceased the training of CHWs for a year due to budget constraints. In 2018, the government trained 647 CHWs, but did not allocate the budget to add them to the government payroll, which has raised concerns about the financial sustainability of the program.

Figure 36: Health workforce in Public Sector, by professional category, 2018



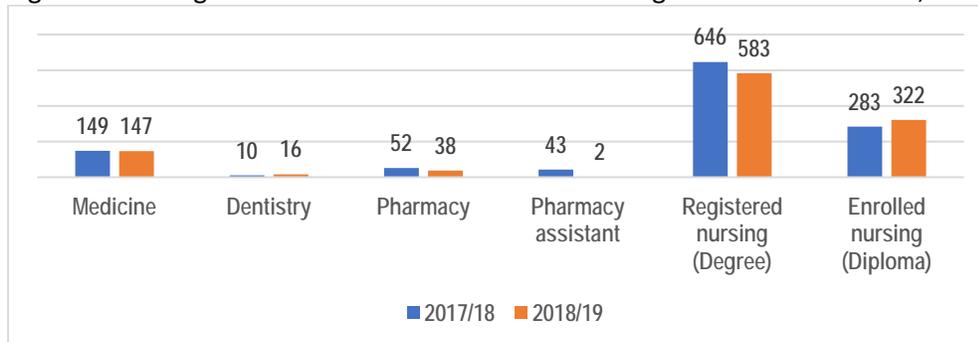
Source: MoHSS

Health workforce data and payroll systems will need to be synchronized to be reliable. Workforce data are subject to challenges, as staffing fluctuates frequently in health facilities. The MoHSS has made efforts to collect better workforce data. Integrating Human Resource Management Information Systems across all levels of government would allow for the management of the health workforce across regions and the health care system. The payroll system is currently not synchronized with health workforce data. Current and reliable payroll data would make staff reporting far easier for statistical purposes. The payroll system should thus become the principal data source of the entire health workforce.

5.2. Training the future health workforce

Newly trained nurses do not easily find a public sector position. The Health Professions Council of Namibia (HPCNA) is the regulatory body responsible for registering health professionals in both the private and public sectors. While the number of newly graduated medical doctors have remained at a similar level in the past years, there has been a shift among the nurses. Fewer nurses graduated as registered nurses, but more nurses graduated with a diploma between 2017/18 and 2018/19 (Figure 37). However, due to budget restrictions, newly trained nurses have not been recruited in the public sector even so the nurse to population ratio is very low in several regions as shown above in Figure 34.

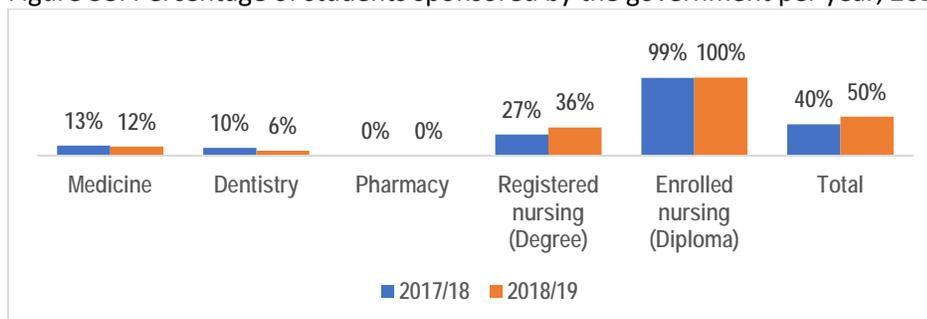
Figure 37: New graduates from medical schools and registered with HNPCNA, 2017-2019



Source: MoHSS, HPCNA. Note: Enrolled nurses have a diploma while registered nurses have a degree

The government sponsors the education for about half of medical students, mainly for nurses. The School of Medicine at the University of Namibia only started teaching in 2010 when it enrolled 55 medical students. To increase the Namibian health workforce, the MoHSS sponsors the education for about half the students in their health professions studies. Diploma nursing is the category with highest sponsorships (Figure 38). Students are enrolled in various tertiary education institutions across the world, including Algeria, Russia, Ukraine, India, Cuba, Zambia, South Africa and Namibia. However, quality of foreign medical education is a major concern. In 2018, only two of 207 foreign-trained medical graduates passed all six modules of the Namibian medical board examination to be registered as a medical intern in Namibia. The remaining 205 medical graduates were offered to enroll in a 12-month practical training program in preparation for the pre-internship evaluation. Annex Table 8 illustrates the number of sponsored students, who have graduated with various degrees, as well as the number of students sponsored by the MoHSS, who are currently enrolled and anticipated to graduate between 2019 and 2022.

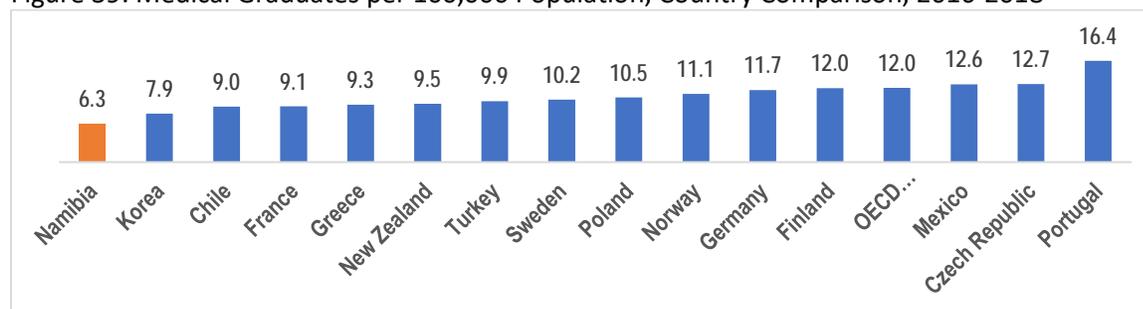
Figure 38: Percentage of students sponsored by the government per year, 2017-2018



Source: MoHSS

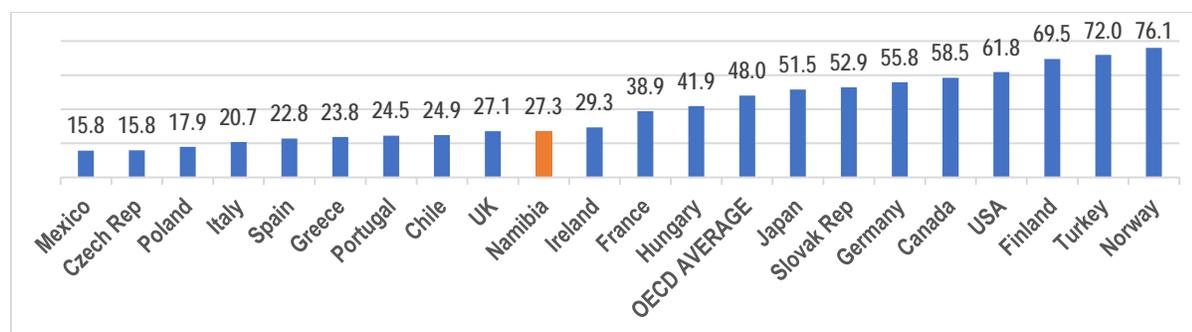
The medical training capacity is insufficient to treat Namibia’s population, although the number of graduates is expected to grow in the next years. The number of medical graduates per population in Namibia is far below the numbers reported by other countries including Chile and Mexico (Figure 39). Assuming wastage from the physician workforce of about 10% per year, the current capacity of physicians and annual output of graduates is insufficient to sustain and grow the physician workforce. This means that Namibia will either substantially invest in medical training or it will have to rely on an increasing number of expatriate physicians to ensure treatment for its future population. The government has recognized this challenge and plans to increase the number of medical graduates. Namibia fares better with training nurses, and the number of nurse graduates is in the range of several OECD countries (Figure 40). However, nurses are in high demand internationally, and Namibia’s nurses may be leaving for South Africa and elsewhere in the absence of local positions.

Figure 39: Medical Graduates per 100,000 Population, Country Comparison, 2016-2018



Source: MoHSS and OECD Health Statistics 2018

Figure 40: Registered Nursing Graduates per 100,000 Population, Country Comparison, 2016-2018



Source: MoHSS and OECD Health Statistics 2018

The nursing profession could be modernized to help balance the staff mix and strengthen the primary care system. The current staff mix and medical training output is biased towards nursing and community-health workers, although the biggest shortage is among physicians. Despite these investments, the government was not able to hire the newly trained nurses and CHWs in recent years. Namibia will have to raise the number of qualified physicians in the health workforce, in particular general practitioners to prevent and manage a changing disease burden. At the same time, modernizing the nursing profession can help strengthening primary care. Experienced nurses with additional training in midwifery and other areas could be employed as nurse practitioners, especially in regions that are underserved by general practice physicians. Given the high maternal mortality and adolescent pregnancy rate, retraining the workforce should help strengthen the delivery of reproductive healthcare and midwifery services in rural and low-

income areas. Identifying tasks that can be shifted from physicians to nurses will be crucial as the population will be aging and report more NCDs, and to overcome acute physician shortages.

A human resource strategy can help forecast future investment in training to grow a quality health workforce. In planning its future health workforce and medical training capacity, Namibia would have to set up a reasonable target in its human resource strategy. Aligning medical training and financing to workforce requirement will be important for Namibia to decide about increased reliance on foreign physicians, which may be less expensive than investing in high-cost medical education in the short-run.

6. Medical Technology and Pharmaceuticals

Namibia’s Medicine Regulatory Council regulates safety and efficacy associated with medicine and clinical supplies. The Namibia Radiation Protection Authority (NRPA) regulates radiological equipment to ensure patient safety. Medical technology and pharmaceuticals are among the biggest cost-drivers in health systems that treat a population with a growing NCD burden. They need to be carefully planned and regulated to manage the growth of future health expenditures. This chapter examines these two areas for Namibia, although the analysis is limited by the data availability.

6.1. Medical Technology

Namibia may already have reached sufficient capacity in medical devices in the private sector. The medical device market is dominated by the private sector (Table 13). With 12 Computer Tomograms (CT) in the public and private sector, and 7 Magnetic Resonance Imaging (MRI) units in the private sector, Namibia already has approached OECD capacity levels based on population numbers (Figure 41 and 42). However, Namibia’s private sector mainly caters to a small proportion of patients in higher income groups, suggesting that Namibia has too many MRIs and CTs. This may lead to the prescription of unnecessary diagnostic exams. The NRPA has an inventory of medical devices, but there is no registry to monitor the number of exams performed annually in the public and private sector, or for which conditions. Monitoring the use of medical technology would be helpful to identify unnecessary procedures that lead to higher cost. It would also help guide future investment decisions in high-cost medical technology.

Table 13: Medical technology, number of MRIs and CTs by region, 2018

Regions	MRI		CT	
	Public	Private	Public	Private
Kavango E & W	0	0	1	0
Oshana	0	1	1	1
Erongo	0	2	0	2
Khomas	0	4	2	5
Namibia	0	7	4	8

Source: MoHSS

Collaboration with the private sector can help improve access, but should be regulated. Public hospitals already send their patients to the private sector for MRI exams, as it may be cheaper than investing in the purchase of MRI units for the public sector. To ensure access to high-cost technology in the public sector, Namibia could contract out more technology and laboratory services to private sector providers at a favorable rate. Regulations of such public-private contracts and tariffs will help to ensure quality in service delivery at a financially viable price for the government.

Figure 41 MRI units, total, per 1 million population

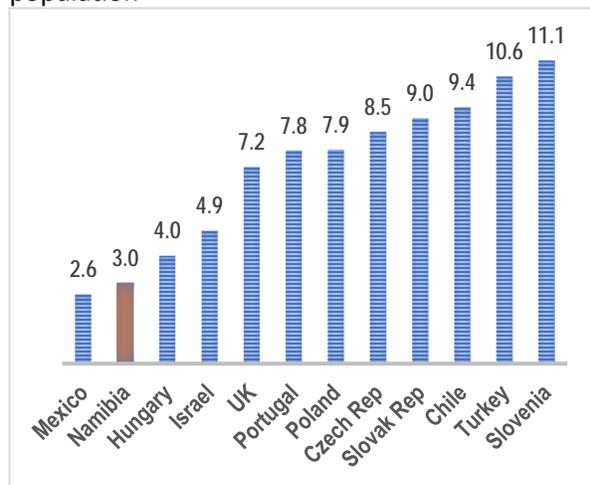
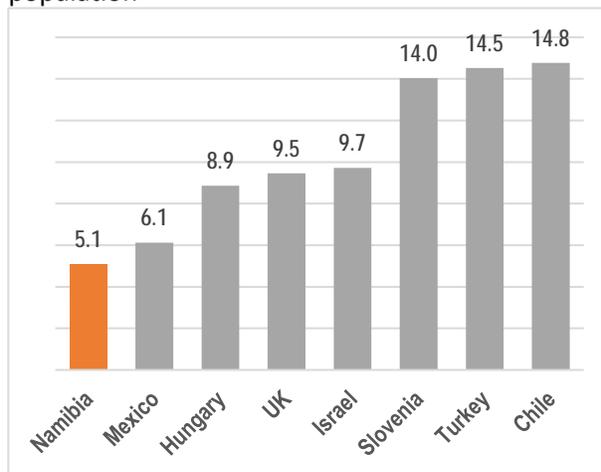


Figure 42 CT scanners, total, per 1 million population

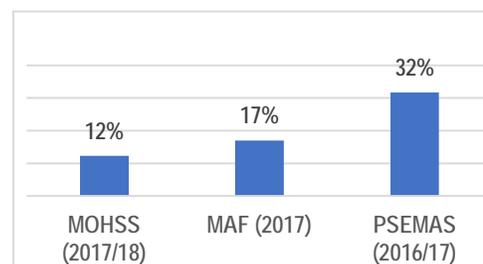


Source: MoHSS and OECD Health Statistics 2018

6.2. Pharmaceutical management and procurement

Pharmaceutical management has been strained by declining government and donor funding, and weak procurement capacity at the CPB. Pharmaceuticals are a major expenditure item for PSEMAS, compared to MOHSS and MAFs. PSEMAS spends one-third of its total expenditures on pharmaceuticals (Figure 43). For the MOHSS, pharmaceuticals constitute the second largest expenditure item after salaries, but have declined in the past years. This declining trend is contrary to the trend observed in other countries where pharmaceutical spending has been on the rise. Between 2016 and 2019, the CPB was not able to award any pharmaceutical tenders. This lack of long-term tenders by the Namibian CPB has caused the MoHSS to process emergency procurements (called short term buy-outs) at higher prices, and elevated risks of stock-outs due to the short-term nature of these orders. Emergency procurement are also done by health facilities through private suppliers when they are not able to obtain the required stock from the central or regional medical stores. This puts additional pressure on the pharmaceutical budget to purchase medicines in a market known for price increases (US\$ exchange impact a major issue) and a decline in donor funding.

Figure 43 Medicines in % of Total Expenditures

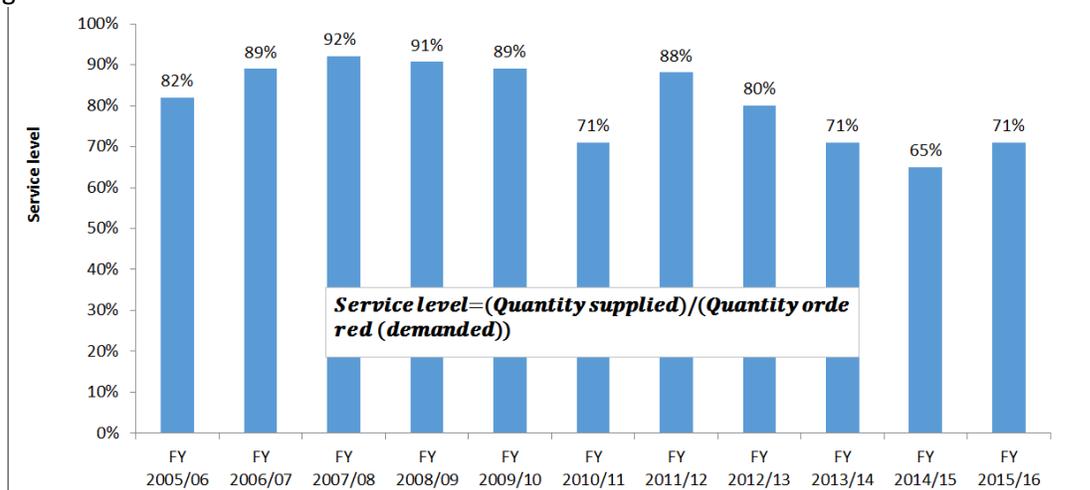


The logistics system is being modernized to speed-up delivery to health facilities. Procurement and distribution of drugs and medical supplies for the public sector is carried-out by the Central Medical Stores (CMS), which is a sub-division of the Directorate of Tertiary Health Care and Clinical Support Services. The CMS is responsible for warehousing, and distribution of pharmaceuticals, including ARVs and medical supplies. CMS operates from seven warehouse units in three discreet locations within Windhoek and two regional warehouses located in the north of the country. CMS has a well-functioning logistics management information system (Enterprise Resource planning (ERP) software); however, its regional warehouses are not connected. CMS has a small fleet of six vehicles that distribute pharmaceutical products to health facilities. Using a small fleet to distribute across a very large geographical area results in a long order delivery lead-time. The delivery cycle can take around 5-6 weeks to complete. In addition, the MoHSS

reported that about 66% of drug supplies in CMS are out of stock. To modernize its logistics and distribution, CMS is considering outsourcing transportation to the private sector.

Namibia’s policy to empower local suppliers resulted in the cancellation of long-term contracts, more buy-outs and higher prices. Since 2012/2013, to empower local Namibian suppliers to participate in the pharmaceutical value chain, CMS has been required to procure from local Namibian suppliers and distributors. These importers sell to CMS at a higher price that includes their margins. CMS pays manufacturer based on historical prices and not based on an international benchmark, which would lead to lower prices. While the intention of the policy was the promotion of a local pharmaceutical supply industry, it led to an increase in buyouts and put pressure on the budget for pharmaceuticals due to price increases. In 2015/16, pharmaceutical buyouts constituted 17% of total pharmaceutical expenditures by the MOHSS. The ultimate impact was an increase in overdue payments, resulting in suppliers withholding deliveries. In addition, pharmaceutical procurement from commercial suppliers has been ad-hoc, with 4 to 5 emergency procurement annually resulting in higher prices. A further disadvantage is Namibia’s small population, which requires smaller volumes of pharmaceuticals. Also, hospitals can procure items that are not on the CMS list through their own procurement management units. These factors make it difficult to procure medicines on the international market at a reduced price. They also have affected the service level of the CMS, which has been declining since 2012/2013 (Figure 44).

Figure 44: CMS Service Levels – 2005 - 2016



Source: CMS Syspro® database

The introduction of the new Public Procurement Act has been a challenge and contributed to stockouts. Namibia’s new Public Procurement Act became effective in 2017. Previously, CMS managed the procurement of all products for the MOHSS. PSEMAS providers still use single procurement methods resulting in small quantities at high prices, and very high pharmaceutical expenditures. Under the new Procurement Act, all procurement above a specified threshold is now undertaken by the CPB. The Act does allow the MoHSS to apply for exemptions from the Minister of Finance. Similarly, PSEMAS continues to procure separately instead of joining the national procurement through CPB. However, CBP has not awarded a single tender since 2016. Operational weaknesses at the CPB have resulted in delays in procurements and overspending, which have led to disruptions in health commodity procurement and ongoing stock-outs. As a result, the MoHSS and CMS were required to rely on buyouts, at higher prices. Frequently, pharmaceuticals were not available for buyouts immediately, and once back in stock, the prices have increased further as new batches were procured at revised exchange rates.

Efficient management is crucial to ensure the availability of medical products in health facilities. CMS receives data about stock-outs in health facilities. However, there is no stock-management system that monitors pharmaceutical stocks in health facilities and alerts CMS pharmaceutical management about stock-outs. Patients will try to purchase their medicines in private pharmacies when pharmaceuticals are not available in public health facilities. Most recently, CMS reported shortages in vaccines as Namibia does not benefit from pooled procurement through UNICEF. Namibia could procure vaccines through UNICEF, and historically, has done so for some antigens, but not recently. Namibia already has an existing MoU with UNICEF that facilitates such procurement. Hence, stock-outs are preventable through better planning and management, and e-procurement systems.

A web-based pharmaceutical management information system has greatly improved decision-making in pharmaceutical commodity management. The MOHSS has been moving from a paper-based system to a pharmaceutical information dashboard as part of the CMS turn-around project. The dashboard assists facilities to view stock quantities over and above what is supplied by CMS. It also allows access to data of other facilities, thus facilitating redistribution of items that may be overstocked elsewhere while another facility may be experiencing a shortage. Pharmacy managers can use the same system to estimate stock requirements, thereby reducing the likelihood of stockouts.

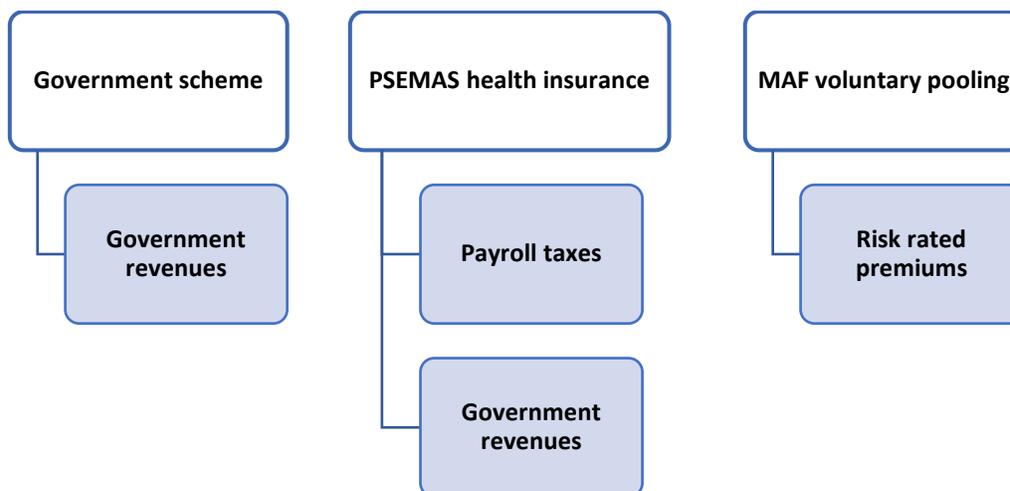
Pooled procurement, price management and generics can help manage expenditures and improve availability of pharmaceuticals. The Caribbean regional electronic pharmaceuticals procurement system has been in use to acquire pharmaceuticals and medical supplies. It has reportedly helped enhance the transparency of the procurement process with contracts awarded published online. Ideally, Namibia could enter into pooled procurement arrangements with the SADC and the UN/WHO for example, to increase volumes and benefit from lower prices, or alternatively enter into international procurement arrangements. To manage pharmaceutical spending, governments usually cut manufacturer prices and margins for pharmacists and wholesalers, apply compulsory rebates, and incentivize generics over brand name drugs. Patent expiries for blockbuster drugs also help reduce pharmaceutical spending.

7. Health Financing Options

To achieve universal health coverage (UHC) in a fiscally sustainable way, the Namibian government has been considering changes to health financing. The goal of UHC is to increase pooled funding and reduce out-of-pocket payments by patients. Namibia's health system is financed from three sources of revenues that are pooled in three different schemes to finance care for different population groups: (i) government revenues are pooled in the government budget to finance the government health scheme managed by MoHSS, and in PSEMAS, (ii) compulsory contribution payments for government employees (payroll taxes) are pooled by PSEMAS, and (iii) voluntary contribution payments by private employers and households in individual MAF pools (Figure 45). In addition, patients pay out-of-pocket when seeking care.

Several options have been considered to increase pooled funding. The government has considered establishing a National Medical Benefit Fund (NMBF) within the Social Security Commission (SSC) as a risk pool for the employed population that could be expanded over time to cover the entire population. The government is also exploring options on how to leverage the private sector for UHC and mechanisms for raising additional revenues for health. Introducing and increasing excise taxes on tobacco, alcohol, and sugar-sweetened beverages have been discussed to raise additional domestic resources.

Figure 45: Current coverage schemes and their funding sources in Namibia



Based on the analysis presented in this PER, universal coverage for the entire population through the current MAF and PSEMAS system is not a fiscally viable option. As shown in the previous chapters, the MAF and PSEMAS system are too expensive and appear to lead to inefficient care-seeking. Insured patients report very high out-of-pocket payments when seeking care, and MAF members have high hospitalization rates. Similarly, PSEMAS is heavily subsidized by the government and little is known about its performance and effectiveness in providing financial protection to members. MAF and PSEMAS involve several risk-pools for a small population which increases transaction costs. The National Health Accounts conducted by the MoHSS found that per capita spending for persons covered by private MAF amount to N\$16,887 (or US\$1,204) and for PSEMAS up to N\$7,489 (or US\$534), whereas per capita spending in the public sector is only N\$3,545 (or US\$253). To some extent, weaknesses in the current system are created by the lack of necessary oversight and regulations that other countries have. In addition, the current system does not set the necessary financial incentives to providers to deliver better quality and more efficient care.

A country with a small population like Namibia could pool the health risk of its population in one single risk-pool for everyone to provide access to the same basic benefit package. The pool could be managed by a private not-for-profit or public entity experienced with financial management. Enrollment would be mandatory for all inhabitants of Namibia, and PSEMAS would not exist anymore. Membership cards would have to be issued similarly as in Ghana for instance, where the national health fund introduced membership cards with biometric registration to facilitate management. In Taiwan, each member has a card with a memory chip that stores personal information, including the past six visits to health care providers, diagnoses, prescriptions, and allergies; and public health and insurance data. Information campaigns would have to be conducted to ensure the Namibian population is adequately informed about their rights and benefits as members of the single pool.

Coverage for low-income groups would have to be subsidized by the government, which may require additional domestic resources. The current government health budget and transfers to PSEMAS would be transferred to the single pool to finance care. Members will have to pay a contribution payment, while recognizing that low-income households will not be able to afford paying contributions to the single pool. Their enrollment would be fully subsidized by the government. Formal sector groups could be expected to afford paying full contribution rates and could be taxed on their payroll (Table 14). The government transfer to the pool and contribution amounts by members will finance the benefit package. The government could

raise additional resources through higher taxes on alcohol and tobacco, and by introducing a sugar tax to subsidize coverage.

A basic benefit package would provide access to cost-effective care in the public and private health sector. Most basic packages cover preventive care, maternal and child health care and limited curative care. The basic package would have to be explicitly defined based on the financial resources available and Namibia’s burden of disease. It should cover prevention and primary care in public and private outpatient health facilities and pharmaceutical products on the essential drug list at no co-payment to patients, as well as cost-effective specialized treatment in the public and private sector. Thailand uses a Health Intervention and Technology Assessment to decide which procedures, drugs and vaccines are included in the basic benefit package and to negotiate for reduced prices. The Technology Assessment Program also serves to prioritize medicines to be included in the national list of essential medicines. Similar to Ghana and Ethiopia, Namibia could establish a negative list to identify the services not covered in the basic package. This will create a market for private insurers and medical aid funds who will be able to offer complementary packages that cover services excluded from the basic package through voluntary pooling (Table 14).

Table 14: A Single Pool for Universal Coverage of a Basic Benefit Package in Namibia

Features	Single pool/payer	Voluntary pooling
Benefits	Basic benefit package	Services excluded from basic benefit package
Participation	Mandatory for residents of Namibia Requires enrollment	Voluntary Requires enrollment
Financing	Government subsidies for low-income groups (current health budget and PSEMAS transfer) Contribution payments (payroll tax or community-rated)	Individual contribution payments (risk-rated or community-rated)
Administrator	Public or private not-for-profit entity	Existing insurers (e.g. MAF)
Providers contracted	Public and private sector	Private and public sector

The single pool would pay contracted providers for better quality and efficiency in care. Effective coverage requires reliable management of benefits and expenditures, and partnership with providers for the benefit of members. The single pool would contract with selected providers. Ideally, providers who have not been accredited by the government should be excluded from contracts to ensure quality care. Similarly, as the Universal Coverage Scheme (UCS) in Thailand, a single pool in Namibia could reimburse hospitals by Diagnostic Related Groups (DRG) payments within a global hospital budget. DRG pays hospitals a bundled amount for all services needed to treat a diagnostic case. DRG payments generally lead to shorter hospital lengths of stay and an increase in the number of hospital admissions. Outpatient care providers could be paid a capitation amount that takes provider and patient circumstances into account, and rewards better quality care. Patients could be asked to pay a small co-payment for curative care services to limit moral hazard behavior. The single pool and contracted providers would have to substantially invest in reliable information technology and financial management systems, as providers will have to transfer claims data to the single pool who will reimburse providers for care delivered to members.

Investing in facility infrastructure, staffing, medical products and data analysis are prerequisites to ensure providers are effective partners. Accredited health facilities must be available for contracting to deliver quality services to patients. Some health facilities may have to invest in staffing and medical

resources to ensure they will be able to provide the benefit package contracted to a growing number of patients. Health facilities would use common coding and monitoring systems to document care delivery. Investment in information technology would be needed to ensure connectivity with providers and members, financial management, and data collection. The single pool would conduct regular provider performance analysis based on claims data to inform providers about treatment patterns and exclude lower-quality providers from contracts. Better data will allow regular financial and performance analysis and the use of results in contracting with providers, revenue management and rate setting, and in benefits adjustments.

The government will have to provide reliable insurance supervision, legislation and political commitment to the new financing structure. The government would have to set clear rules and regulations on administrative expenses, financial oversight, coverage, contracts, accreditation, and payment. Prices and co-payments will need to be regulated to manage health expenditures and the financial risk for the government. Similar as in European countries, including Austria, Switzerland, and Slovakia, the Namibian government could define the tariffs paid by the single pool on a national level. The government could also require the administrative cost of the single pool to be below 5% of health expenditures. Professional managers are essential for the single pool, and political interference should be avoided. The Ministry of Health would play an important role in regulation and quality assurance, and in ensuring a mature health system that can adjust to changing demand for care by pool members.

The management of public health facilities would have to be modernized. Hospital managers will need greater management autonomy to manage their resources and become more efficient. This will include increased authority over staffing within the norms set by the government, and easy access to the central medical store to purchase pharmaceuticals and medical supplies through national pooled procurement at lower prices. Accountants would need to be hired in health facilities to ensure professional financial management as health facilities will have to use the revenues received from the single payer to pay for their inputs such as pharmaceuticals and other expenses. The government may continue to pay salaries of health personnel directly to staff's individual bank accounts.

Health financing reforms are complex and will create winners and losers who will likely oppose the reform. Changing from a system with three risk pools that provide access to different benefits for different groups to one with a single pool to cover basic benefits for all will take time and create opposition. The change will need to be managed carefully as there will be winners and losers who may challenge the reform. PSEMAS would not exist anymore, and MAFs would have to reduce their business, as services covered by the basic package will be carved out and offered to all by the single pool. This would affect their membership and contracting. Providers could lose if government regulations are implemented to manage prices and future health expenditures. Providers may oppose the reform if they fear less revenue than under the current system with unregulated tariffs. But providers could also win if they gain more management autonomy and predictable funding from the single pool. Namibia's population will win if the basic benefit package is clearly defined and available to all at no or a small co-payment.

A strategy with operational plans and regular analysis will support implementation and allow corrective measures. Developing a single payer reform will require a national dialogue with all stakeholders and a systematic approach with clear goals, a strategy and operational plans for providers, the government and the single pool. Regular analyses of the process will provide the relevant information to continuously adjust and strengthen the system's implementation effectiveness. A phased approach may be needed, and coverage could be rolled out first to regions where providers are accredited, contracted and ready to deliver the benefit package. This process will take time. In preparation for it, the government is advised to address the inefficiencies and inequalities that have been identified in this PER to support the overall performance of Namibia's health sector and ready the health sector for longer-term reforms.

8. Conclusion and Recommendations

This is the first PER of the Namibian health sector since the country gained independence from South Africa in 1990. The analysis identifies several areas in health financing, management and health service delivery for the Namibian government to address, to ensure that NDP5 objectives of increased life expectancy and improved maternal and child health will be achieved. Overall the analysis finds that health spending in Namibia is already at a relatively high level for an upper-middle income country, but other countries achieve much better health outcomes. The HIV/AIDS response has seen tremendous progress and has helped reduce the incidence rate. Namibia is now confronted with a double-burden of diseases: communicable diseases are still the most frequent reasons for premature mortality; at the same time there is a growing burden of costly NCDs. In addition, road accidents and interpersonal violence are among the top-ten killers.

The main share of government funding is on hospital care, HIV/AIDS and the health wage bill. But many hospitals report low occupancy rates and idle resources despite long average lengths of hospital stays. The government-employee health insurances program PSEMAS is too expensive compared to other countries, it introduces inequities in health financing, and reports very high pharmaceutical expenditures. Public financial management in health creates high transaction costs, delays in financing, and arrears. Although private employers contribute almost a quarter of total health spending; health insurance coverage does not provide the necessary financial protection for the insured who still report very high out-of-pocket payments.

The PER finds that health service provision is affected by inefficiency and inequality. Namibia appears to have enough hospital beds and a vibrant private sector, but the availability and use of services is unequal across regions. Access is biased towards more expensive hospital care, and favors insured individuals and the better-off. The government has invested in training of nurses and community health workers, but the health sector suffers from a shortage of physicians. The health workforce statistics has not been updated in the past 15 years and is not linked to payroll. High-cost medical technology is mainly provided through the private sector, raising concerns about equal access and efficient use as this sub-sector is not regulated. Pharmaceutical expenditures have decreased for the government, and almost half of it is spent on HIV/AIDS-related treatment, leaving little to finance other medicines. The implementation of the new procurement law has been hampered by capacity constraints at CBP who has not awarded a single pharmaceutical tender since 2016. Combined with outdated supply chain management, this has affected the availability of pharmaceuticals in health facilities and led to service disruption. To measure progress towards its strategic objectives, investing in reliable data from public and private providers should be a priority for the government.

The Namibian government is committed to addressing these challenges. To support the government in these efforts, this PER presents two sets of recommendations. The first set includes longer-term recommendations to reform health financing and introduce a single-pool system. The second set of recommendations includes short- and medium-term actions that will support the government in its three strategic pillars for the health sector: (i) people's wellbeing; (ii) operational excellence; and (iii) talent management; and overall the NDP5 goals. Implementing these recommendations will also help prepare the health sector for the longer-term single pool reform.

Longer-term recommendations for single pool/payer reform

Setting up a single-payer reform requires a health financing strategy with operational plans, the necessary legal framework and governance system, and a national dialogue with all stakeholders. It would involve public sector reforms, including abolishing PSEMAS, redefining the role of the MoHSS to become a regulator and supervisory body, accrediting health facilities, delegating greater management and financial

autonomy to health facilities, and ensuring a high-performance national procurement function. The government will have to contract a not-for-profit administrator for the single pool and set explicit performance criteria in the contract. Health care providers will need to invest in the provision and quality of care to deliver the benefit package, and get accredited. Substantial investment in information technology are needed, including in financial management, diagnostic and procedure coding systems, and databases for claims, members and providers. Regular analysis will inform decisions and provide evidence for corrections to ensure overarching objectives are achieved. A phased approach may be easier, and coverage could be rolled out first to regions where providers are accredited, contracted and ready to deliver the benefit package. This reform process will take time.

In preparation for this reform, the government is advised to address the areas that have been identified in this PER, support the overall performance of Namibia's health sector, and ready the health sector for longer-term reforms.

Short- and medium-term recommendations

(i) *Conduct analysis to improve health sector performance and health outcomes*

- **Continue to monitor and evaluate health sector performance in the public and private sectors.** Institutionalize NHA and HMIS reporting to measure and evaluate health spending and service provision regularly, and to identify issues of access, efficiency, equity and sustainability. Institutionalize data collection from private sector providers on their service provision in inpatient and outpatient.
- **Conduct geo-spatial health analysis** and projections of population demographics and disease burdens, health facilities capacities (including human resources and finances), their catchment areas, productivity, and service utilization. Issues that contribute to low service use in hospitals, long average length of stay, and inefficiency need to be analyzed. This would include an environmental health assessment to assess drought-related diseases and the adaptive capacity of the health sector. Such analysis will be helpful for the government to determine how to restructure hospitals, identify where additional capacity is warranted, and to anticipate the types of infrastructure and services needed over the medium and long-term, in the public and private sector. Findings will help re-purposing low-occupancy hospitals to include primary outpatient care, maternal waiting areas, or social care centers.
- **Conduct a health workforce analysis.** An in-depth analysis of the health workforce could help identify inefficiencies in staff allocations, composition, and management. Results will help to set targets in the human resource strategy to align medical training and financing to workforce requirement, and decide about increased reliance on foreign physicians. The analysis can also inform about how to convert primary care into family medicine. It could identify tasks that can be shifted from physicians to better trained nurses and midwives and provide input to update the curriculum for nurses.
- **Analyze pharmaceutical and medical supply inventory management.** Conduct a formal situational analysis of inventory management in public and private health facilities using WHO checklists or other standardized tools to assess record-keeping, infrastructure, storage arrangements, availability, utilization and other key areas. Results will help inform decisions about procurement and the quality of pharmaceutical and medical supply inventory management.
- **Conduct a detailed analysis of PSEMAS operations and expenditure patterns.** Based on claims data from providers, conduct a performance analysis to identify areas of inefficiencies. Findings will

help the government in its decision to comprehensively redefine the financing to PSEMAS, and the benefit package covered by PSEMAS.

- **Analyze the performance of the National Institute of Pathology.** An analysis of the NIP's functions, operations, performance, and financial situation will provide the government with necessary information for decisions about restructuring and outsourcing of activities to the private sector at a lower price. In addition to the NIP, this analysis could be expanded to other public entities in the health sector.
- **Analyze and reform public sector wages.** Conduct a comprehensive review of wages for public sector employees in health, adjust wages and allowances to improve predictability, and align wage expenditures with budgetary planning. Consider adjusting salaries by performance.
- **Conduct analysis to adjust the resource allocation formula to regions based on socio-economic differences and performance.** Adjustment factors could include regional population sizes, poverty levels, remoteness, disease burden, and differences in costs of service provision. In addition, the formula could be expanded to reward regions for better performance in health and budget management.
- **Analyze public investment management.** A public investment management assessment in health is recommended to assess how investment projects have been determined, review the criteria against which these are prioritized, what drives poor implementation, and whether associated operational and maintenance expenditures are adequately accommodated for in the recurrent budget.

(ii) *Invest in integrated and functional information and communication technology (ICT) infrastructure at the government and in health facilities*

- **Integrate Human Resource Management Information Systems** across all levels of government and ensure data transfer to PSEMAS and other relevant agencies (e.g. pension, civil registration etc.). Link manpower database for health with the payroll system. Payroll should become the principal source of the entire health workforce data. Ensure that health facilities can link payroll and manpower systems.
- **Invest in technology to ensure financial and performance data collection and management.** Substantial investment is needed in financial management and accounting systems in all health facilities. Accounting system will need to provide timely financial data to health facility managers such that they can manage their expenditures. Accounting systems are also essential to send invoices to health insurance companies and get reimbursed for treatment provided to insured patients. ICD-10 and CPT coding systems will facilitate this process and could be installed in all public and private health facilities. Health facilities can be rewarded for collecting valid and reliable data.

(iii) *Increase domestic resources and strengthen public sector management*

- **Strengthen procurement capacity at the CPB to address shortages.** The disruptions created by the new procurement law need to be urgently addressed. This will require substantial strengthening of the capacity at the Central Procurement Board to ensure professional procurement for health. CPB should procure medicines on the international market at a reduced price. CPB should procure for the public sector and for providers contracted by PSEMAS.
- **Use pooled procurement for pharmaceuticals and manage expenditures.** CPB should use the existing Memorandum of Understanding with UNICEF to facilitate procurement of vaccines through

UNICEF, as this has been done in the past. Explore pooled procurement arrangement with the SADC region and the UN/WHO to increase volumes and benefit from lower prices, especially for high-cost medicine and equipment. Manage pharmaceutical spending by cutting manufacturer prices and margins for pharmacists and wholesalers, apply compulsory rebates, and incentivize generics over brand name drugs. Patent expiries for blockbuster drugs can also help reduce pharmaceutical spending.

- **Increase tobacco and alcohol tax rates, and consider introducing sugar-taxes to incentivize healthier behavior.** The government could further raise additional resources domestically through higher excises on alcohol and tobacco, and introducing a sugar tax. Excises on brand cigarettes should be levied at 70% of the retail price, as recommended by the WHO. Namibia could also add a sugar tax on sugary beverages following the example of South Africa. South Africa's sugar levy is 2.1 cents per gram for beverages with a sugar content exceeding 4 grams per 100 ml; which translates into about 11% of the retail price. Higher taxes on these products will help direct people to healthier consumption.
- **Pay off the stock of arrears in health and reduce the risk of future accumulation.** All commitments and payments should be facilitated by the financial management information system, including wage payments.
- **Reallocate government funding to reproductive health, primary care and prevention.** Based on the results of the PSEMAS performance analysis and as suggested in the two scenarios in this PER, reduce government co-financing of public employee contributions to PSEMAS from more than 11% of payroll to approximately 3% of payroll, which would reflect 50% of total PSEMAS revenue. Reallocate the resulting savings of N\$1.6 billion to increase funding in a budget-neutral way for the HIV/AIDS response, to increase the number of nurses, midwives and physician positions in underserved areas, and to augment funding for reproductive health, primary care and prevention programs for low-income groups and adolescents.
- **Revisit the composition and implementation of program budgets to ensure they serve the needs of the health sector.** The design of programs should reflect national priorities and constitute a shift away from historical input-based budgets toward outputs and results. Budget execution protocols need to be adjusted to reflect the implementation of programs. Ensure quarterly budget releases that reflect actual allotments. Ensure that budget releases reflect annual strategic plans, and strengthen the sectors absorption capacity.

(iv) Invest in people's wellbeing

- **Support efforts to strengthen routine primary care and prevention against health risks.** To prevent HIV, make male circumcision easily available to all boys and men, and inform men with digital health messages about the importance of the procedure. Shorten the time to diagnose drug-resistant strains of tuberculosis. Promote oral rehydration therapy to decrease diarrhea-related child mortality and expand access to preventive vitamin A and zinc supplementations. Invest in piped water provision in low-income communities with worst health outcomes. Investing in early childhood development, especially in the first 1,000 days of life, provides a critical window of opportunity to reduce stunting and improve a child's long-term physical and mental wellbeing. To tackle the growing NCD burden, invest in prevention, early detection and treatment compliance, particularly for diabetics. Promote regular screening for diabetes and cancer.
- **Reduce maternal mortality** by training health professionals about the WHO safe childbirth checklist. Increase the use of reproductive health services among women with low education levels, adolescent girls, unskilled and rural women. Identify and prevent high-risk pregnancies. Expand the provision of

comprehensive emergency obstetric care and modern contraceptives nationwide. Admit pregnant women to maternal waiting areas in rural hospitals to ensure access to timely life-saving interventions, particularly in the Kunene region.

- **Target adolescent girls and boys.** Conduct analysis to identify areas and reasons for high adolescent pregnancy. Educate nurses in adolescent reproductive and sexual health issues. Ensure easy access to contraceptives and reproductive health care for youths, especially in areas with high teenage pregnancy and high HIV prevalence. Implement a behavior change program targeted at men to prevent sexual transmission of HIV to teenage girls. Use digital health to inform youths about their sexual and reproductive health rights. In Kenya, for example, mobile phones provide confidential and free information about modern contraception to young people. Use a multi-sectoral approach to generate work and learning opportunities for adolescents to keep girls in school, help reduce high youth unemployment rate and idleness among youths.
- **Improve road safety and reduce interpersonal violence.** Invest in road safety to reduce high mortality and morbidity from traffic accidents. Develop community programs for young men to reduce interpersonal violence, especially against women.

(v) *Ensure regulatory framework for health service delivery in private and public sector*

- **Regulate, monitor and collaborate with the private health sector.** Regulate the private sector to ensure quality of care, and reasonable tariffs to protect patients against high co-payments. Develop a PPP strategy for health. Use the private sector to improve efficiency of care. Private sector investments should be coordinated within the national health investment plan. Monitor the number of CT and MRI units and exams performed annually in the public and private sector, by conditions. Decide about future investment decisions in high-cost medical technology based on analysis such as Health Technology Assessments.
- **Set up an accreditation system** for public and private providers based on international best practice.
- **Regulate dual-practice among physicians.** Regulations should define the amount of time physicians on the public payroll may work in private practice and how this affects their remuneration.

(vi) *Ensure operational excellence in health*

- **Invest in pharmaceutical management systems.** Stock management should be in place and stock monitored and evaluated to ensure that pharmaceuticals on the essential drug list are available in health facilities. The system should alert CMS pharmaceutical management about stock-outs.
- **Develop a national masterplan for health infrastructure and medical technology to guide health investments including in collaboration with the private sector.** A national masterplan could be developed based on the geospatial health analysis to ensure that future construction is targeted to areas with more limited access to care. The masterplan could serve for national investment planning in the budgetary preparation process. It should include private sector providers and PPPs.
- **Give health facilities greater management autonomy and keep them accountable.** Health facilities could become cost centers, and retain their revenues from patient and insurance payments. Budgets should be defined based on outputs, and adjusted by area factors such as remoteness, socio-economics and disease burden. Preparing providers for this change in financial transfers requires substantial

investment in information technology and financial management systems. Health facilities will need to be managed professionally, and managers kept accountable.

(vii) Invest in talent management

- **Expand primary health care workforce.** Following the experience of other countries, capacity in a primary care-led delivery system can be created by grouping pediatricians, obstetricians, gynecologists, and other generalists into teams, and providing conversion training to family medicine. Primary care will strengthen the proactive management of the growing number of people with NCDs, while at the same time manage the high burden of communicable diseases and maternal mortality among low-income groups.
- **Consider task-shifting for nurses.** Continue to invest in nurse education. The training content provided in the nurse role and scope for professional development should be updated to allow task-shifting from physicians to nurses, and increased responsibility for nurses. Developing the nursing and midwifery roles can help substitute for some of the current more junior physician posts.
- **Revisit the organization and structure of the health workforce.** Set-up reasonable targets in the human resource strategy to align medical training and financing to workforce requirement and decide about increased reliance on foreign physicians. To overcome physician shortages, bilateral contracts could be negotiated to receive physicians from other countries. Increase budget allocation to finance more nurse positions and increase the nurse to population ratio across regions, prioritizing areas with nurse shortages. The government could explore innovative models, including working in close collaboration with the private sector to better manage the community health worker program. CHW could be organized as a franchising model, social contracting, or outsourced to the private sector.

References

- African Health Observatory; World Health Organization Africa. (2018). *Namibia Factsheet of Health Statistics 2018*. Retrieved from http://www.aho.afro.who.int/profiles_information/images/6/67/Namibia-Statistical_Factsheet.pdf
- African Health Observatory; World Health Organization Africa. (2018). *Namibia: Child and Adolescent Health*. Retrieved from http://www.aho.afro.who.int/profiles_information/index.php/Namibia:Child_and_adolescent_health
- African Health Observatory; World Health Organization Africa. (2018). *Namibia: HIV/ AIDs*. Retrieved from http://www.aho.afro.who.int/profiles_information/index.php/Namibia:HIV/AIDS
- African Health Observatory; World Health Organization Africa. (2018). *Namibia: Maternal and Newborn Health*. Retrieved from http://www.aho.afro.who.int/profiles_information/index.php/Namibia:Maternal_and_newborn_health
- African Health Observatory; World Health Organization Africa. (2018). *Namibia: Non-Communicable Diseases and Conditions*. Retrieved from http://www.aho.afro.who.int/profiles_information/index.php/Namibia:Non-communicable_diseases_and_conditions
- African Health Observatory; World Health Organization Africa. (2018). *Namibia: Tuberculosis*. Retrieved from http://www.aho.afro.who.int/profiles_information/index.php/Namibia:Tuberculosis
- Akombi, B. J., Agho, K. E., Merom, D., Renzaho, A. M., & Hall, J. J. (2017). Child malnutrition in sub-Saharan Africa: A meta-analysis of demographic and health surveys (2006-2016). *PloS One*, 12(5), e0177338.
- Allcock, S. H., Young, E. H., & Sandhu, M. S. (2019). Sociodemographic patterns of health insurance coverage in Namibia. *International Journal for Equity in Health*, 18(1), 16
- Bank of Namibia. (2018). *Economic outlook update*. Retrieved from <https://www.bon.com.na/CMSTemplates/Bon/Files/bon.com.na/53/53850e4f-4ab9-427f-b023-f0642d0c5af6.pdf>
- Carrara, H. (2017). *Namibia National Cancer Registry Report (2017): Cancer incidences in Namibia 2010-2014*. Retrieved from https://afcrn.org/images/M_images/attachments/125/Cancer%20in%20Namibia%202010-2014.pdf
- Columbia University. (2018). *New Data Show Dramatic Progress in Namibia Toward HIV Epidemic Control; Substantial Gaps Elsewhere*. Retrieved from <https://reliefweb.int/report/namibia/new-data-show-dramatic-progress-namibia-toward-hiv-epidemic-control-substantial-gaps>
- Craig, L. S., Gage, A. J., & Thomas, A. M. (2018). Prevalence and predictors of hypertension in Namibia: A national-level cross-sectional study. *PloS One*, 13(9), e0204344.
- Guariguata, L., de Beer, I., Hough, R., Bindels, E., Weimers-Maasdorp, D., Feeley, F. G., & de Wit, T. F. R. (2012). Diabetes, HIV and other health determinants associated with absenteeism among formal sector workers in Namibia. *BMC Public Health*, 12(1), 44.

- Guariguata, L., de Beer, I., Hough, R., Mulongeni, P., Feeley, F. G., & de Wit, T. F. R. (2015). Prevalence and Knowledge Assessment of HIV and Non-Communicable Disease Risk Factors among Formal Sector Employees in Namibia. *PloS One*, 10(7), e0131737.
- He, Z., Bishwajit, G., & Yaya, S. (2019). Prevalence of Alcohol and Tobacco Use among Men and Women in Namibia. *International Journal of Environmental Research And Public Health*, 16(1), 59.
- IMF. (2018). *Namibia: 2017 Article IV Consultation*. Retrieved from <https://www.imf.org/~media/Files/Publications/CR/2018/cr1856.ashx>.
- Kassebaum NJ, Barber RM, Bhutta ZA, et al. (2016). Global, regional, and national levels of maternal mortality, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet* 2016; 388: 1775–812.
- Mediclinic International. (2018). *2018 Annual Report and Financial Statements*. Retrieved from <https://ir.mediclinic.com/static-files/35df409e-b9a7-430f-b9a8-1ab130ab7e14>.
- Ministry of Health and Social Services: Directorate of Special Programmes. (2017). *National Strategic Framework for HIV and AIDs Response in Namibia 2017-18 to 2021/22*. Retrieved from http://www.unaids.org/sites/default/files/country/documents/NAM_2018_countryreport.pdf
- Monden, C. W., & Smits, J. (2009). Maternal height and child mortality in 42 developing countries. *American Journal of Human Biology*, 21(3), 305-311.
- NAMAF. (Unknown). *Namaf: Taking Hands in Namibia's Healthcare*. Retrieved from <http://www.namaf.org.na/>.
- NAMAF. *2017 Annual Report*. Retrieved from http://www.namaf.org.na/docs/NAMAF%202017%20Annual%20Report_LQ.pdf.
- NAMFISA. (2019). *Medical Aid Funds*. Retrieved from <https://www.namfisa.com.na/medical-aid-funds/>.
- Namibia Central Medical Stores Turnaround Project. (2017).
- Namibia Population-based HIV Impact Assessment NAMPHIA 2017. Summary Sheet: Preliminary Findings, July 2018. Retrieved from <https://phia.icap.columbia.edu/countries/namibia/>
- Namibia Statistics Agency. (2017). *Namibia Labour Force Survey Date*. Retrieved from <http://namibia.opendataforafrica.org/NLFSD2015/namibia-labour-force-survey-data>
- Nashilongo, M. M., Singu, B., Kalemeera, F., Mubita, M., Naikaku, E., Baker, A., & Kibuule, D. (2017). Assessing adherence to antihypertensive therapy in primary health care in Namibia: findings and implications. *Cardiovascular Drugs and Therapy*, 31(5-6), 565-578.
- National Planning Commission. (2008). *A review of poverty and inequality in Namibia*. Retrieved from <https://www.ean.org.na:8080/xmlui/handle/123456789/1430>
- OECD (2018), *Health at a Glance 2018: OECD Indicators*, OECD Publishing, Paris. http://dx.doi.org/10.1787/health_glance-2017-en

PEPFAR. (2017). *Namibia Country Operational Plan COP 2017: Strategic Direction Summary*. Retrieved from <https://www.pepfar.gov/documents/organization/272019.pdf>.

Republic of Namibia Ministry of Finance. (2019). FY2019/20 Budget Statement. March 27th, 2019.

Republic of Namibia Ministry of Health and Social Services. (2010). *National Health Policy Framework 2010-2020*. Retrieved from http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/namibia/namibia_policy_framework_2010-2020.pdf

Republic of Namibia Ministry of Health and Social Services. (2014). *Report of the Prevalence and Contributing Factors of Facility-Based Maternal and Neonatal Deaths in Five Regions of Namibia (Erongo, Hardap, //Karas, Khomas, Omaheke) during 2010–2012*. Retrieved from <https://www.intrahealth.org/sites/ihweb/files/files/media/report-of-the-prevalence-and-contributing-factors-of-facility-based-maternal-and-neonatal-deaths-in-five-regions-of-namibia-erongo-hardap-karas-khomas-omaheke-during-2010-2012/NamibiaMMRStudy.pdf>

Republic of Namibia Ministry of Health and Social Services. (2017). *Third Medium Term Strategic Plan for Tuberculosis and Leprosy 2017/18-2021-22*. Retrieved from <http://www.mhss.gov.na/documents/119527/563974/Strategic+plan+TBL+Booklet+new+with+cover.pdf/224cc849-0067-4634-82fc-78ac3f9464e6>

Republic of Namibia Ministry of Health and Social Services. (2017). *Namibia 2014/15: Health Accounts Report*. Retrieved from <https://www.afro.who.int/sites/default/files/2017-10/Namibia%20Health%20Accounts%20Report%202014-2015%20-%20final%202017.09.07.pdf>

Republic of Namibia Ministry of Health and Social Services. (2018). *Namibia 2015/16 and 2016/17 Resource Tracking Report*.

Republic of Namibia Ministry of Health and Social Services. . *2017/2018 -2021/2022 Strategic Plan*. Retrieved from <http://www.mhss.gov.na/documents/119527/573553/MOHSS+Strategic+Plan+2017-2022.pdf/9d09e210-5f91-4c45-b7f6-79e3e134939a>.

Republic of Namibia Ministry of Health and Social Services; ICF International. (2014). *The Namibia Demographic and Health Survey 2013*. Retrieved from <https://dhsprogram.com/pubs/pdf/FR298/FR298.pdf>

Sulla, Victor; Zikhali, Precious; Schuler, Philip M.; Jellema, Jon Robbert. (2017). *Does fiscal policy benefit the poor and reduce inequality in Namibia?* Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/991551497258273367/Does-fiscal-policy-benefit-the-poor-and-reduce-inequality-in-Namibia>

UNAIDS. (Unknown). *Namibia*. Retrieved from <http://www.unaids.org/en/regionscountries/countries/namibia>

UNICEF; USAID. (2017). *Evaluation of the Namibian Community Health Workers Programme*. Retrieved from https://www.unicef.org/evaldatabase/files/Nam_HEP_Eval_Report_Dec4.pdf.

World Health Organization. (2019). *Male Circumcision for HIV Prevention*. Retrieved from <https://www.who.int/hiv/topics/malecircumcision/en/>.

WHO Europe. (2019). *European Health Information Gateway: Health for All Explorer*. Retrieved from: <https://gateway.euro.who.int/en/hfa-explorer/#>

World Bank Group. (2017). Namibia. *World Bank Group Data*. Retrieved from <https://data.worldbank.org/country/namibia>

World Bank. (2004). *Making Services Work for the Poor*. World Development Report. Washington D. C.

Annex Tables and Figures

Annex Table 1: Population by region, 2016

Regions	Population	Distribution
Erongo	189,014	8%
Hardap	88,743	4%
Karas	87,460	4%
Kavango East & West	240,767	10%
Khomas	431,607	18%
Kunene	100,157	4%
Ohangwena	257,784	11%
Omaheke	75,191	3%
Omusati	251,369	11%
Oshana	191,898	8%
Oshikoto	197,901	8%
Otjozondjupa	156,309	7%
Zambezi	100,547	4%
Namibia	2,368,747	100%

Source: Estimate based on 2016 World Bank Data estimate adjusted with 2011 Regional census figures

Annex Table 2: Health facilities and hospital beds in public and private sector by region, 2018

Number by region	Namibia	Erongo	Hardap	Karas	Kavango E & W	Khomas	Kunene	Ohangwena	Omaheke	Omusati	Oshana	Oshikoo	Otjozondjupa	Zambezi
Health Facilities in public sector														
Tertiary care	35	4	2	3	4	2	3	3	1	4	1	3	4	1
Secondary care	43	2	3	3	7	2	3	2	1	6	5	3	3	3
Primary care	295	19	13	13	50	11	24	33	13	41	13	22	18	25
Health facilities, total	373	25	18	19	61	15	30	38	15	51	19	28	25	29
Hospital beds, total	7551	435	417	349	835	1695	300	512	178	579	946	700	347	258
<i>Hospital beds per 1000 population</i>	3.2	2.3	4.7	4	3.5	3.9	3	2	2.4	2.3	4.9	3.5	2.2	2.6
Health facilities in private sector														
Tertiary /secondary /primary	101	28	3	11	2	25	2	0	5	4	4	3	9	5
Hospital beds private, total	1,144	238	0	0	28	605	0	0	10	24	130	27	82	0

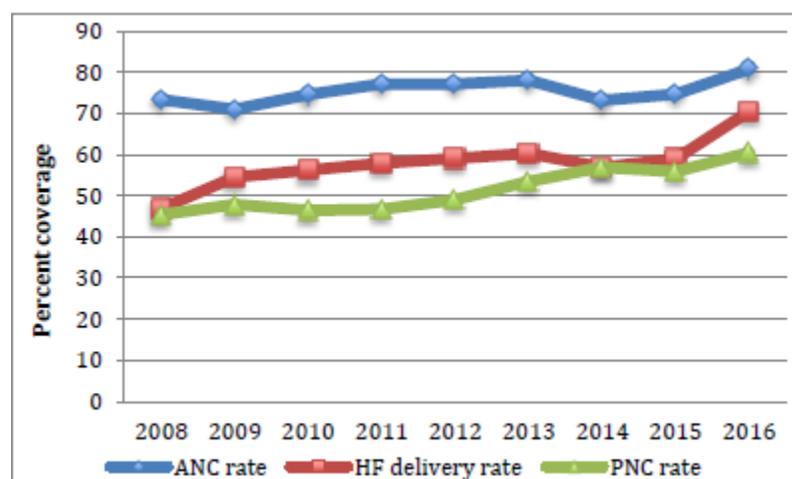
Source: MoHSS, <https://mfl.mhss.gov.na/location-manager/locations>, Accessed: 8 October 2018

Annex Table 3: Average distances to facilities and services by region, 2003/ 2004 (kilometers)

Region		Drinking water	Hospital/ clinic	Public transport	Market/ shop	Primary school	Secondary school	Combined school	Police station	Post office	Magistrate court
Caprivi	Non-poor	0.6	5.1	2.2	3.8	2.6	13.8	4.8	11.2	23.1	35.9
	Poor	0.6	7.7	2.1	4.4	2.6	13.7	5.7	19.1	25.3	52.5
Erongo	Non-poor	0.1	4.3	2.2	2.8	3.8	8.6	26.6	4.7	5.5	11.3
	Poor	0.3	8.4	7.7	7.8	7.3	31.6	72.8	9.2	24.0	50.0
Hardap	Non-poor	0.1	18.0	18.8	15.4	16.3	43.0	139.2	26.0	25.1	32.2
	Poor	0.5	15.1	14.2	11.5	12.1	41.9	161.9	23.8	23.9	29.8
Karas	Non-poor	0.1	16.6	12.3	11.0	12.1	76.1	123.5	16.3	15.8	45.0
	Poor	0.2	17.2	15.6	12.5	12.0	56.5	65.1	21.1	19.5	49.0
Kavango	Non-poor	1.3	5.4	3.9	3.7	2.0	17.8	10.4	23.9	26.7	28.7
	Poor	1.9	7.7	7.3	7.1	4.6	24.1	13.8	42.3	48.4	50.6
Khomas	Non-poor	0.0	5.2	2.2	3.1	3.9	6.1	7.3	5.4	5.8	7.6
	Poor	0.1	11.3	7.3	7.4	9.5	17.9	20.2	11.6	15.4	17.7
Kunene	Non-poor	0.7	32.8	23.1	21.3	17.2	62.9	75.1	36.6	48.8	51.9
	Poor	0.7	21.4	14.6	18.0	13.2	50.0	74.2	29.9	36.8	43.5
Ohangwena	Non-poor	1.5	12.4	6.2	10.3	4.0	24.8	5.7	17.4	34.3	40.8
	Poor	1.3	10.0	8.2	7.6	3.4	23.8	4.9	17.7	32.2	36.0
Omaheke	Non-poor	0.2	34.7	31.7	18.4	30.0	113.2	200.0	47.5	65.9	100.7
	Poor	0.3	30.2	22.0	9.6	19.2	124.7	238.9	38.6	36.9	91.1
Omusati	Non-poor	1.2	8.3	4.6	4.2	3.6	16.9	6.1	13.2	18.2	39.9
	Poor	1.3	9.4	5.4	3.6	3.4	21.3	6.5	20.7	26.4	43.4
Oshana	Non-poor	0.6	4.5	1.8	5.1	2.0	8.4	2.4	7.1	10.7	12.3
	Poor	1.0	5.7	3.7	6.5	2.3	12.8	2.9	10.5	13.4	14.2
Oshikoto	Non-poor	1.2	12.9	5.2	4.7	6.7	20.2	8.6	17.3	16.3	50.8
	Poor	1.4	18.1	5.9	6.3	9.6	27.8	13.1	23.3	21.4	58.1
Otjozondjupa	Non-poor	0.1	20.5	5.0	11.6	15.3	34.8	41.2	16.2	23.7	29.2
	Poor	0.2	19.4	7.6	15.0	18.4	43.5	36.7	20.1	36.7	43.9
Namibia	Non-poor	0.5	10.8	6.2	6.9	6.9	23.9	31.1	14.1	18.7	29.0
	Poor	1.1	12.5	8.0	8.0	7.4	31.1	33.9	24.1	30.4	44.6

Source: National Planning Commission. (2008). *A review of poverty and inequality in Namibia*. Retrieved from <https://www.ean.org.na:8080/xmlui/handle/123456789/1430>

Annex Figure 1: % of pregnant women with ANC, delivered at health facilities, received PNC, Namibia, 2008 - 2016



Source: MoHSS, HMIS Note: ANC = Ante-natal care; HF= health facilities, PNC=post-natal care

Annex Table 4: Inpatient admission rates and outpatient visit rates, across regions, April 2017 to March 2018

Public sector	Namibia	Erongo	Hardap	Karas	Kavango E & W	Khomas	Kunene	Ohangwena	Omaheke	Omusati	Oshana	Oshikoo	Otjozondjupa	Zambezi
Inpatient admission rates, per 1,000 population														
Public hospitals	98.03	73.29	88.34	65.37	96.23	158.94	74.110	62.03	70.30	72.88	134.07	111.87	74.08	65.2
Outpatient visits, number														
Total visits	3370212	195898	111727	127038	533857	312914	116194	423324	100900	421027	331571	297387	199484	199611
Visit per capita	1.42	1.04	1.26	1.45	2.22	0.72	1.16	1.64	1.34	1.67	1.73	1.50	1.28	1.99

Source: MoHSS, HMIS

Annex Table 5: Hospital occupancy rates and average lengths of hospital stay, April 2017 to March 2018

Public sector	Namibia	Erongo	Hardap	Karas	Kavango E & W	Khomas	Kunene	Ohangwena	Omaheke	Omusati	Oshana	Oshikoo	Otjozondjupa	Zambezi
Bed occupancy rates %														
Tertiary care	57.8%	39.4%	56.2%	31.1%	51.2%	74.8%	35.5%	62.8%	51.8%	46.8%	83.9%	47.5%	44.0%	35.7%
Secondary	12.7%		20.8%	0.6%	20.3%		0.0%	1.0%	0.0%	3.7%		3.0%	22.4%	
ALOS, days														
Tertiary care	14.3	16.6	13.4	18.4	20.2	12.5	13.5	16.9	5.8	20	9.1	15	19.2	4.8
Secondary	4.73		4.7	1.0	10.8			1.5		4.2	0.99	5	9.7	

Source: MoHSS, HMIS

Annex Table 6: Public sector health workforce, number by regions, 2018

Number in public sector by region	Namibia	Erongo	Hardap	Karas	Kavango E & W	Khomas	Kunene	Ohangwena	Omaheke	Omusati	Oshana	Oshikoo	Otjozondjupa	Zambezi
Number of:														
Physician	784	22	4	13	34	436	9	11	6	12	147	47	31	12
Pharmacists	82	3	1	2	3	44	2	5	2	1	11	4	1	3
Nurses	4780	279	122	184	393	1210	209	354	96	355	615	477	313	173
Other clinical staff	2762	94	94	137	253	380	204	277	123	284	304	177	161	274
Health extension workers/Community Counsellor	1735	43	63	104	209	125	144	203	107	228	132	35	103	239
Non-medical support staff	5310	316	157	271	448	1581	241	341	123	322	537	506	282	185
Health workforce per 1,000 population:														
Physician	0.33	0.12	0.05	0.15	0.14	1.01	0.09	0.04	0.08	0.77	0.24	0.20	0.12	
Pharmacist	0.03	0.02	0.01	0.02	0.01	0.10	0.02	0.02	0.03	0.00	0.06	0.02	0.01	0.03
Nurse	2.02	1.48	1.37	2.10	1.63	2.8	2.09	1.37	1.28	1.41	3.20	2.41	2.00	1.72
Health extension worker/ Community Counsellor	0.73	0.23	0.71	1.19	0.87	0.29	1.44	0.79	1.42	0.91	0.69	0.18	0.66	2.38

Source: MoHSS

Annex Table 7: Health workforce in private sector, by region, 2018

Number in private sector across regions	Namibia	Erongo	Hardap	Karas	Kavango E & W	Khomas	Kunene	Ohangwena	Omaheke	Omusati	Oshana	Oshikoo	Otjozondjupa	Zambezi
Physician	438	52	16	22	15	174	7	6	4	17	77	12	32	4
Pharmacists	164	19	5	3	7	79	1	4	2	6	20	3	12	3
Nurses	1153	125	58	2	151	543	4	10	0	128	112	0	20	0

Source: MoHSS

Annex Table 8: Number of students sponsored by the government per year, 2017-2022

Graduates per Year	Actual Sponsored		Projected Sponsored			
	2017	2018	2019	2020	2021	2022
Medicine	19	17	98	16	8	25
Dentistry	1	1	44	7	0	0
Pharmacy	0	0	6	14	0	0
Registered nursing	174	210	146	50	0	0
Enrolled nursing	281	321	303	0	0	0

Source: MoHSS