



HEALTH OF OUR NATION

ANNUAL HEALTH SECTOR PERFORMANCE REPORT

2019



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ACRONYMS/ ABBREVIATIONS

ADS	adult dental services
APDAR	Agency for the Prevention of Drug Abuse and Rehabilitation
APR	Annual Health Sector Performance Report
ART	antiretroviral therapy
CARE	Campaign for Awareness, Resilience and Education
CHE	current health expenditure
CRD	chronic respiratory diseases
CVA	cerebrovascular accident
CVD	cardiovascular diseases
MOH	Ministry of Health
DSRU	Disease Surveillance and Response Unit
HCA	Health Care Agency
HIS	health information system
HPC	Health Professionals Council
MTCT	mother-to-child transmission of HIV
NAC	National Aids Council
NBS	National Bureau of Statistics
NCD	noncommunicable disease
NHA	national health account
NHSP	national health strategic plan
NIHSS	National Institute for Health and Social Studies
OECD	Organisation for Economic Co-operation and Development (OECD)
OHSD	Oral Health Services Division
PHA	Public Health Authority
PLHIV	people living with HIV/AIDS
PWID	people who inject drugs
RMNCH	reproductive, maternal, new-born and child health
SCI	service coverage index
SCR	Seychelles Rupees
SDG	Sustainable Development Goal
SDS	school dental services
SMDC	Seychelles Medical and Dental Council
SNMC	Seychelles Nurses and Midwives Council
TWG	technical working group
UCCPD	Unit for Prevention and Control of Cardiovascular Diseases
UHC	Universal Health Coverage
WHO	World Health Organization
WWP	workplace wellbeing programme

Glossary

Life expectancy at birth: The average number of years that a new-born could expect to live if he or she were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of his or her birth, for a specific year, in a given country, territory or geographical area.

Health adjusted life expectancy: Health-adjusted life expectancy (HALE) or healthy life expectancy is the number of years that a person at a given age can expect to live in good health, taking into account mortality and disability.

Neonatal mortality rate: Probability that a child born in a specific year or period will die during the first 28 completed days of life if subject to age-specific mortality rates of that period, expressed per 1000 live births.

Under- five mortality rate: The probability of a child born in a specific year or period dying before reaching the age of 5 years, if subject to age-specific mortality rates of that period, expressed per 1000 live births

Infant mortality rate: The probability that a child born in a specific year or period will die before reaching the age of 1 year, if subject to age-specific mortality rates of that period, expressed as a rate per 1000 live births.

Maternal mortality ratio: The annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100 000 live births, for a specified time period.

Perinatal Mortality rate: Combined number of deaths of babies aged less than 7 days and the number of stillbirths in a year per 1,000 total births during the year.

Health workforce density: Number of core medical professionals, including physicians, non-physicians, clinicians, registered nurses and midwives per 10,000 populations.

SUMMARY INDICATOR TABLE

Indicator	2019 Data	NHSP End-term Target	Performance		
Health Status					
Life expectancy at birth (years)	M - 69.7	M- 74			
	F - 78.4	F - 80			
Maternal mortality ratio (per 100,000 live births)	62.3 (1)	Zero /1600 births			
Neonatal mortality rate (per 1,000 live births)	8.7	<5			
Infant mortality rate (per 1,000 live births)	16.8	<10			
Under- five mortality rate (per 1,000 live births)	17.4	<12			
Mortality (30-70 years) from cardiovascular diseases (%)	29%	<40% of all deaths (2)			
Mortality (30-70 years) from cancer (%)	24%				
Mortality (30-70 years) from Chronic respiratory diseases (%)	1%				
Mortality (30-70 years) from diabetes (%)	1%				
Mortality from road traffic accidents (%)	1%	<1% of all deaths			
Intentional self-harm (number of cases)	50	<100			
AIDS mortality rate/100,000 population	16.4	0.25			
Leptospirosis case fatality rate (%) (3)	7 deaths	<10%			
HIV newly diagnosed cases	109	<60			
STI newly diagnosed cases	662	250			
Viral Hepatitis C new cases	70	<120			
New cancer cases reported	262	<134			
HIV prevalence (%). (4)	0.87%	0.5%			
Hepatitis C prevalence (%) (5)					
Service Coverage					
% of women of child bearing age on modern contraceptives (6)		70%			
ANC coverage	99%	100%			
Immunization Coverage (DPT3)	99.8%	100%			
ART Coverage (Known PLHIV)	81%	72%			
% of patients on ART with viral suppression	87%	>95%			
Coverage of Prevention of mother -to- child transmission of HIV	83%	100%			

Notes: (1) No maternal mortality in Seychelles in 2019, one registered case happened overseas. (2) Different target in National NCD Strategic Plan; (3) No verified data on total number of cases of leptospirosis; (4) HIV prevalence in the general population, KAPB study 2013; (5) APDAR. Seychelles biological and behavioural surveillance of heroin users, 2017; (6) No data in 2019.

Achieved ■ On track ■ Not on track ■

FOREWORD

Despite the COVID-19 pandemic, which resulted in the redeployment of countless key health personnel in the first half of 2020, and despite the restriction of movement during the entire month of May 2020, the Department of Health has been able to produce, in the month of June 2020, this Annual Health Sector Performance Report for 2019. This is the third in a row.

We thank the team of extremely dedicated senior health professionals who stopped at nothing to painstakingly clean, scrutinize and analyse the mountains of data received for the year 2019.

This year, the Annual Health Sector Performance Report has, perhaps, more limitations than in the previous years and this in part due to the COVID-19 pandemic.

The Public Health Authority staff, entirely immersed in the COVID-19 response, could not provide analysed statistics for a large part of their important work in 2019. The Family Health and Nutrition Directorate of the Health Care Agency did not submit the whole gamut of their data sets in time for the report. Data from the private sector were also not as forthcoming as desired. The report therefore does not reflect a large portion of what the health sector does - in the especially in the communities.

There are encouraging signs of visible progress in the report. Maternal mortality, prevention of intentional health harm, Hepatitis C prevention, antenatal care coverage, antiretroviral coverage and immunization continue to be areas where the sector does well.

While the country must both safeguard and improve on those achievements, our focus must especially be on the areas where we need to do much more work and see much better results.

Cancer, cardiovascular diseases, chronic respiratory illnesses, diabetes, HIV/AIDS prevention, and diseases of infancy need our undivided attention. We need programmes and services that can really shift the paradigm in these areas.

Much stronger professional leadership, results-based management in services and programmes and relentless training will make the difference. Health promotion and community engagement

must intensify to address the risk factors and lifestyles that lead to many of the key causes of morbidity and mortality.

Encouraging numbers of new Seychellois health professionals are joining the health services every year. They are already breathing new life into the disease prevention and health promotion fray and, indeed, into the way the health sector operates. It is incumbent upon all of us to be the change that we all want to see.

Bernard Valentin

Principal Secretary

EXECUTIVE SUMMARY

The Annual Performance Report (APR) 2019, provides a glimpse of the performance of the health sector in 2019. Under its core leadership and governance mandate, the **Ministry of Health (MOH) ensures that strategic policy frameworks exist, as well as transparency, accountability and effective collaboration between the different actors in the health system.** Several Acts and Regulations to promote and protect health came into force in 2019. Some key questions on health were addressed in the National Assembly ranging from high infant mortality rate in 2018 to procurement of new therapeutics.

The MOH **organized two major events in 2019: the Seychelles Primary Health Care Conference and a High-Level Dialogue on Quality of Care.** The main objective of both events was to improve services and health outcomes.

There were improvements in a few health status indicators in 2019, while some targets still remain elusive. **There were decreases in neonatal, infant and under-five mortality rates compared to 2018; however, the country is not on track to reach the NHSP end- term target for infant mortality.** Noncommunicable diseases (NCDs) is a prime cause of morbidity and mortality and **diseases of the circulatory system (34%) and cancer (20%) caused the majority of deaths in 2019.** Pneumonia is also an important cause of morbidity and mortality, contributing to 15% of all deaths in 2019. Life expectancy (LE) at birth is failing to reach NHSP targets despite a slight increase in 2019, compared to 2018.

WHO describes childhood obesity as one of the most serious public health challenges of the 21st century¹, emphasising that obese children are most likely to remain obese in adulthood with all ensuing health consequences. Annual data from the School Health Programme reveals that the prevalence of overweight and obesity in children has increased steadily since 1998 to reach

¹ <https://www.who.int/dietphysicalactivity/childhood/en/>

32% in girls and 25% in boys in 2018. **The two main risk factors for NCDs, obesity and diabetes show increasing trends in a series of population surveys since 1989.**

Promoting and protecting health is a key investment priority for MOH and several units implement interventions to promote healthier lifestyles. In 2019, MOH implemented a number of regulatory measures to control sugar content in food products; advertising and sale of alcohol and cigarettes; and to promote healthier lifestyles. The Health Promotion Unit conducted a review of its policies and interventions and launched the development of a new strategic plan.

The government invests considerable resources in health. In 2019, 12% of total government budget was allocated to the health sector and total health expenditure as a percent of nominal Gross Domestic Product increased from 3.8% in 2013 to 6%. **The health sector employs adequate number of qualified health professionals** – the local doctor density is 2.6 doctors/1000 population, while globally, the average number of medical doctors per population is 1.5/1000 population.

The MOH has the responsibility of transforming health resources into results. **The population has excellent access to health care services;** most live within easy reach of a health facility and can receive a comprehensive package of primary, secondary and tertiary services free at the point of delivery.

All services within MOH reported high outputs in 2019: more than 400,000 doctor consultations; 11, 000 admissions to hospital and almost 900,000 laboratory tests conducted in the Clinical Laboratory. More than 400,000 prescriptions were filled, and 81% of prescriptions in PHC were exempted from a nominal prescription fee recently introduced during the year.

Seychelles has achieved a high service coverage index (80), a composite indicator to measure Universal Health Coverage (UHC); however, some aspects of UHC like equity and quality of services are not routinely measured at the moment.

The country has reached several of the end-term NHSP targets and is on track to reach the majority of the Sustainable Development Goal (SDG) 3 targets; however, new strategic directions and synergy with other ministries are needed to reach all national and SDG targets.

1. INTRODUCTION



My Health, My Responsibility 'Bouze' Campaign.

The right to health is enshrined in the Constitution of Seychelles.² Article 29 underscores the commitment of the State for health care provision and the responsibility of the citizen.

Vision of Health in Seychelles: The attainment, by all people in Seychelles of the highest level of physical, social, mental and spiritual health and living in harmony with nature.

The health sector consists of all the organisations, institutions, resources and people in country whose primary purpose is to improve the health of the people in Seychelles. The Department of Health acts as the lead and steward of the health sector.

Mission of the Health Sector: To relentlessly promote, protect and restore the health and quality of life and dignity of all people in Seychelles, with the active participation of all stakeholders, through the creation of an enabling environment for citizens to make informed decisions about their health. The Health Sector mission is translated into the principles of Health for all, by all and in all. The health sector places the well-being of the individual and the family at the centre of all efforts in the pursuit of social and economic development.

This is perfectly aligned with the goals of the National Development Strategy 2019-2023³ that has two main objectives related to health:

- Pursue effective health protection and promote empowerment and personal and societal responsibility for holistic health.
- Build a high-quality integrated healthcare system with a focus on people-centred care.

The National Health Strategic Plan (NHSP) 2016-2020⁴ lays out the health sector priorities and offers a unifying framework guiding the work of all the agencies within the public and private

² Constitution of the Republic of Seychelles, 1994.

³ Seychelles National Development Strategy 2019-2023.

http://www.finance.gov.sc/uploads/files/Seychelles_National_Development_Strategy_2019_2023_new.pdf

⁴ Ministry of Health, Seychelles National Health Strategic Plan 2016-2020.

health sectors. It provides a roadmap for achieving key national and global health targets. In line with the health sector's vision and mission, the main goals of the NHSP are:

- increased expectation of life
- reduced incidence, prevalence and mortality associated with priority non-communicable and communicable diseases;
- increased level of satisfaction of the people and of health professionals with the existing health services; and
- improved overall wellbeing of all people in Seychelles.

To achieve the health vision and mission, a number of key strategic investment priorities were identified to:

- promote and protect health;
- strengthen integrated health care;
- develop and sustain human resources for health;
- ensure sustainable financing for health;
- strengthen governance and leadership;
- promote research and innovation; and
- develop partnership, participation and coordination

The country is signatory to the Sustainable Development Goals (SDGs) and the MOH is responsible for the implementation, follow-up and review of the progress made in achieving SDG 3 targets.

A set of core values guides all policies and practices within the MOH:

- Caring
- Development
- Excellence
- Partnership
- Productivity

- People
- Professionalism
- Reward and team work

Objectives of the report

The main objectives of the Annual Health Performance Report are to demonstrate accountability of the health sector with the MOH at the centre of the sector; determine and give an account of the work done during 2019 and progress made towards reaching set NHSP targets and also global commitments e.g. SDGs and inform future implementation of the NHSP.

Intended audience

The target audience for this report is primarily national health policy makers at all levels of government and all health care providers. The report is also intended to inform legislators and the public about the work done by the health sector, the achievements secured and the remaining gaps.

Process of report development

A group of people from all entities within MOH contributed to the development of this report and the Office of the Principal Secretary for Health, Dr Bernard Valentin, led the process. The data used were compiled primarily from MOH data processing units for routine reporting – the Disease Surveillance and Response Unit (DSRU), Statistics Unit and Cancer Registry.

2. GOVERNANCE AND LEADERSHIP



High-Level Dialogue on Quality of Care, November 2019.

The World Health Organization defines health sector governance as “a wide range of steering and rule-making related functions carried out by governments/decisions makers as they seek to achieve national health policy objectives that are conducive to universal health coverage.”⁵ Leadership and governance ensures that strategic policy frameworks exist, that there is transparency, accountability, and effective collaboration between the different actors in the health system. Good governance ensures collaboration with other sectors beyond the formal health system including the private sector and civil society. The ultimate aim is to protect, promote and restore health.

This chapter looks at key achievements during 2019 against thematic areas as outlined in the NHSP:

- Sector stewardship and management capacity
- Legal and regulatory framework
- Sector accountability
- Empowered civil society/community
- Private sector participation

The executive leadership of the MOH lies with the Principal Secretary. The Ministry⁶ is responsible for policy development; planning; monitoring and evaluation; as well as oversight and coordination of the implementation of health strategies by the three public bodies and private sector responsible for health care provision. The Ministry is also responsible for human resource development, health promotion and international cooperation.

The statutory entities (Fig. 2.1) under the purview of the MOH have the following mandates:

- The Health Care Agency (HCA): To promote, protect and restore the health of the public⁷
- The Public Health Authority (PHA): to regulate health and provide protection of the population’s health

⁵WHO-Governance retrieved from <https://www.who.int/healthsystems/topics/stewardship/en/>

⁶At the time of writing this report, the status of MOH had changed to DOH after the president assumed the health portfolio in February 2020.

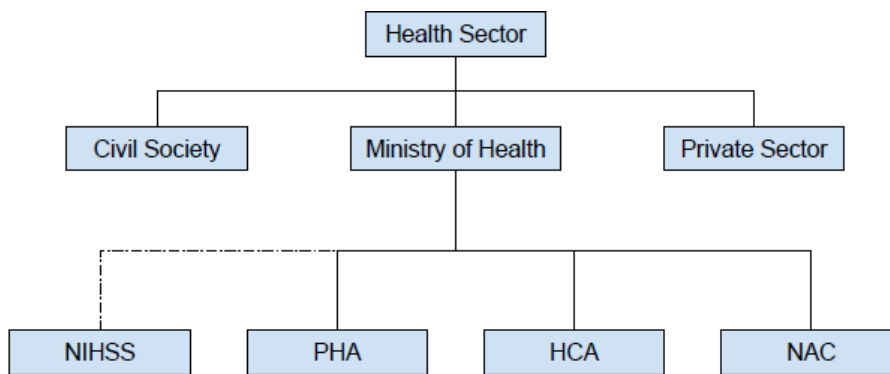
⁷ Health Care Agency Act 2013, Section 4(1)

- The National AIDS Council (NAC): to provide strategic guidance and coordination of HIV activities on a national level

Executive leadership of the above entities lies with the Chief Executive Officers or the Public Health Commissioner in the case of the Public Health Authority, while the respective governing boards provide strategic leadership.

The National Institute for Health and Social Studies (NIHSS) is an academic entity that provides pre-service and in-service education for health care providers. The NIHSS is now an independent entity with a director and board.

FIGURE 2.1. HEALTH SECTOR STRUCTURE



Much was done in 2019 to ensure efficient and effective implementation of the health agenda within a complex and evolving Health Sector.

2.1 HEALTH SECTOR STEWARDSHIP AND MANAGEMENT CAPACITY

Stewardship is a political process that involves balancing competing influences and demands. It includes maintaining the strategic direction of policy development and implementation; detecting and correcting undesirable trends and distortions; articulating the case for health in national development; regulating the behaviour of a wide range of actors - from health care financiers to health care providers; and establishing effective accountability mechanisms. Beyond

the formal health system, stewardship means ensuring that other areas of government policy and legislation promote - or at least do not undermine - peoples' health.⁸

Having a fully functional health structure

The MOH continued its efforts to put in place a fully functional health sector. The Statistics Unit, which was transferred to the MOH Secretariat from the Public Health Authority in 2018, was strengthened by the arrival of two statisticians from the Nigerian Technical Aid Corps. The Policy Analysis Unit also saw the recruitment of new personnel.

The Seychelles Primary Health Care Conference⁹

The Astana 2018 Declaration adopted by world leaders and organisations provides a new stimulus to Primary Health Care for the 21st century and beyond. The MOH therefore found it necessary to take a critical look at the Seychelles Primary Health Care system, which over the years has significantly improved the health and wellbeing of the Seychellois people. However, it appears that PHC mechanisms have not evolved to adequately meet emerging health needs and socioeconomic and other challenges faced by the nation. In July 2019, the MOH invited key partners and stakeholders to reflect on the strengths and weaknesses of PHC in Seychelles and come up with strategies to respond to new and emerging challenges while safeguarding the gains. The conference made a number of key recommendations:

Governance and Leadership

- Put in place measures to strengthen the leadership and management structures at all levels of services delivery to enhance effective delivery of PHC services.
- Institute mechanisms to ensure better coordination and integration of PHC with other health related programmes.
- Identify mechanisms to mobilise additional resources and relook at the current MOH criteria for resource allocation for PHC services to ensure adequate funding.

⁸ World Health Organization. Stewardship. Retrieved from <https://www.who.int/healthsystems/stewardship/en/>

⁹ Report of the Seychelles Primary Health Care Conference 11 – 13 July 2019, AVANI Seychelles, Barbarons Resort and Spa

- Facilitate the process of institutionalising a national quality management/improvement programme, including making available standards, guidelines and protocols for all aspects of service delivery.

Service Delivery

- Review and/or clearly define an essential package of services to be delivered at different levels of service delivery.
- Assess and re-organize the community-based health services as well as facility-based services in line with current needs and expectations of the community, paying attention to vulnerable and marginalised populations.
- Assess interaction between PHC and hospital-based services to ensure continuum of care.

Human resources for health

- Establish national staffing norms, in addition to having a structured staff development programme that provides continuous updates and trainings based on training needs assessments. Improving the current mentoring/coaching supportive supervision systems can help improve staff performance.
- Review the distribution of tasks and roles of different cadres of workers.

Individual, families and community engagement

- Examine and put in place strategies to better empower and engage individuals, families, communities to take ownership of their health and be active health care co-providers.
- Build wider consensus, finalise and effectively implement the Seychelles Charter for Health.

The conference ended with the adoption of a resolution to improve PHC. The MOH has developed a draft roadmap for the implementation of the resolution and recommendations.

High- Level Dialogue on Quality of Care

In November 2019, the MOH convened experienced practitioners from both the public and private sector, as well as key nursing and allied health professionals and representatives of human resources and support services to reflect on quality of care and make proposals for quality improvement initiatives. The event benefitted greatly from the experience and wisdom of retired professionals.

The event ended with a wrap up by the Minister for Health, who summarised the various points raised during the discussions, which included development of clear standards to measure quality, emphasis on continuous professional development, fostering leadership and ownership of quality improvement initiatives.

2.2 SECTOR LEGAL AND REGULATORY FRAMEWORK

Acts and other Statutory Instruments

The following Acts and Regulations came into force in 2019:

- Alcoholic Drinks Control Act 2019 (Act 13 of 2019) to control manufacturing, production, sale and promotion or advertisement of alcoholic drinks.
- Health Professionals Act:
 - S.I. 1/2019 Health Professionals (Fees) Regulations, 2018
 - S.I. 2/2019 Health Professionals (Amendment of Schedules) Regulations, 2018
- Food Act 2014:
 - S.I. 15 of 2019 Food Act (Labelling of Pre-Packaged Foods) Regulations, 2019
 - S.I. 16 of 2019 Food (Contaminant and toxins in food or feed) Regulations, 2019
 - S.I. 17 of 2019 Food (Import Certificate) Regulations, 2019
- Tobacco Control Act
 - S.I. 30 of 2019 Tobacco Control (Sale of Packages and Single Cigarette) Regulations, 2019
- Excise Tax (Imposition of Sugar Tax on Drinks Regulations, 2019)

- All drinks with a sugar content exceeding 5g/100ml subject to a Sugar Tax of SCR4/litre

The National Assembly heard the first reading of the Mental Health Care Bill. The Second reading is yet to be scheduled. Other pieces of legislation are currently at different stages of revision at the Office of the Attorney General:

- Regulation of Health and Health Related Practices Regulations as prescribed by the Public Health Authority Act¹⁰, a first draft was circulated for comments. The Office of the Attorney General is currently revising the draft documents. Meanwhile fees that will form part of the schedule have been revised and submitted to Cabinet for approval.
- Medical Product and Pharmacy Bill – to repeal and replace the existing Pharmacy act 1899 (consolidated to 30 June 2012). The new bill shall be based on the requirements of African Union (AU) model Law as well as WHO Global Benchmarking Tool (GBT) for evaluation of National Regulatory System. Seychelles has received technical assistance from the SADC for the development of the new Bill and its subsidiary legislation. The anticipated timeframe for the process is end of May 2020.
- Seychelles Nurses and Midwives Act 1985 (Revision) – legal drafting in progress.
- Temperature Controls Regulations (Food Act) - legal drafting in progress.

Work is ongoing on three policies: Blood Transfusion Policy, Policy on Immunisation and Policy on Part-time Private Practice for nurses and midwives.

2.3 SECTOR ACCOUNTABILITY

Political Accountability

The Minister for Health addressed the National Assembly to commemorate World AIDS Day 2019.

¹⁰ Public Health Authority Act 2013 - Act 7 of 2013, gazetted 28th October 2013

The Minister was asked over 20 questions after his presentation. The questions addressed some key issues:

1. Governance and leadership
 - Regulation of private pharmacies and importation of medicines
2. Health status
 - Trends and causes of mortality and infant mortality in 2018 and early 2019
 - Mortality and causes of death in Seychelles Hospital in 2019, including infant mortality for 2018 and early 2019
3. Health Systems
 - Health workforce – improving working conditions of nursing assistants , monetary incentives for cadres other than nurses and doctors
 - Service delivery – provision of basic services at Pointe Larue, rehabilitation of stroke patients on Praslin, medical evacuation of patients from Praslin and La Digue during the night, early detection of complications of pregnancy and congenital malformations
 - Infrastructure – improvement at Wellness Centre, hygiene at health facilities, laundry facilities at Baie Ste, new facility at Baie Lazare, plans for old Baie Ste Anne, renovations at English River Health Centre, plans for unoccupied wing of North East Point Hospital, incinerator for La Digue
 - Service access – wheelchair access to Eye Clinic
 - Quality of care – quality of meals, provision of hospital beds for patients being cared for at home,
 - Health information – Introduction of electronic medical records
 - Drugs and Medical products – quality control of donated equipment, procurement of newer generations of drugs

Professional Councils in Health

The Seychelles Medical and Dental Council held elections for new Council members in 2019. The Minister for Health appointed the new Board members as prescribed by the Medical Practitioners and Dentists Act 1994.

Table 2.1 shows the number of health care professionals registered with the three professional regulatory bodies: Seychelles Medical and Dental Council (SMDC), Seychelles Nurses and

Midwives Council (SNMC), and Health Professionals Council (HPC). Among newly registered nurses in 2019, only two were Seychellois.

TABLE 2.1. REGISTERED HEALTH CARE PROFESSIONALS, 2019

	New Registrations			Total on register as at 31 st December		
	2017	2018	2019	2017	2018	2019
Doctors	87	138	133	323	365	477
Dentists	16	19	17	61	68	74
Nurses	31	66	28	811	870	951
Midwives	0			328	324	321
Allied Health Professionals	64	19	43	583	658	708

Sources: Council databases

2.4 EMPOWERED CIVIL SOCIETY/COMMUNITY

The list of health sector non-governmental organisations now includes prominent organisations like Cancer Concern Association, HIV/AIDS Support Association, Seychelles Diabetes Society, Autism Seychelles and neophytes like Seychelles Stroke Foundation, Seychelles Alzheimer’s Foundation, the Seychelles Patient Association and many others.

The Seychelles Alzheimer’s Foundation continued to raise awareness about Alzheimer’s disease and provide local and overseas training and exposure to its members.

Seychelles Patients Association was visible in many communities across Mahe and Praslin, raising awareness about the responsibility of patients towards their health and the best way they should engage with the health system.

Soroptimist International – Club of Victoria held three events to raise awareness and improve the lives of cancer patients and their families – The Pink Link to raise funds for cancer related activities, including upkeep of the Oncology Unit; the annual beach walk at Beau Vallon Beach to raise awareness about breast cancer and the biggest event of the year, the Health-a-Thon in collaboration with Drs4Drs and the MOH. This mass health and screening event combined health

education and screening with health-related fun activities for the whole family. Activities included screening for hypertension and diabetes, HIV testing and eye tests.

It is relevant to note the PHC Conference of July 2019 as an example of community engagement. Indeed, a good part of the conference was aimed at engaging civil society and communities: there were presentations by community members, civil society was represented among participants, and district team action plans had community engagement as components.

2.5 PRIVATE SECTOR PARTICIPATION

The health sector values the contribution of the private sector to improve the health and wellbeing of the population, be it in the provision of health care and health care related services, contributions or donations.

Private sector contributions or donations to the health sector in 2019 amounted to SCR2.5M, SCR 1.8M of which was under the Corporate Social Responsibility Scheme. This was more than the SCR 0.4M in 2018, but short of the SCR 2.3M in 2017.

3. HEALTH STATUS



Morning in Bel Ombre.

The World Health Organisation (WHO) defines health as “a state of complete physical, mental and social well-being, and not merely the absence of disease”.¹¹ Health status is a multidimensional concept that can be defined as the measurement of health at a particular point in time against identifiable standards or indicators. In this chapter, we look at a number of different indicators of health status: vital statistics, main causes of mortality, key morbidity and fertility.

3.1 VITAL STATISTICS

The mid-year estimated population of Seychelles in 2019 was 97,625 (51% Males, 49% Females), an annual growth rate of 0.9% over 2018. Of the total population, 11% are aged 65 years and above.¹²

Live births

There were 1605 live births in 2019; for the last five years, the annual number of live births has remained below 1700. The average crude birth rate for 2015-2019 is 17/1000 population, however, it decreased to 16.4/1000 population in 2019 (Table 3.1).

TABLE 3.1. LIVE BIRTHS BY SEX, 2015-2019

	2015	2016	2017	2018	2019	Average (2015-2019)
Males	814	857	859	832	813	835
Females	778	788	792	818	792	794
Total (Both sex)	1592	1645	1651	1650	1605	1629
Crude birth rate /1000 population	17.0	17.4	17.2	17.1	16.4	17.0

¹¹ Preamble to the Constitution of WHO as adopted by the International Health Conference. New York, 19 June - 22 July 1946; signed on 22 July 1946. <https://www.who.int/about/who-we-are/constitution>

¹² National Bureau of Statistics. (2019). Statistical Bulletin: *Population and Vital Statistics, Mid- Year Population Estimates*. Catalogue Number: Population 2019/2. Seychelles. Retrieved from <https://www.nbs.gov.sc/downloads/mid-2019-population-bulletin/download>

Mortality by sex and age

In 2019, 795 deaths were recorded, the crude death rate decreased slightly from 8.5/1000 population in 2018 to 8.1/1000 population in 2019, but was slightly higher than the average for the last five years (Table 3.2).

TABLE 2.2. ANNUAL DEATHS BY SEX, 2015-2019

	2015	2016	2017	2018	2019	Average (2015-2019)
Males	401	454	426	470	437	438
Females	302	293	322	348	358	325
Total (Both sex)	703	747	748	818	795	762
Crude death rate /1000 population	7.5	7.9	7.8	8.5	8.1	8.0

Data source: NBS

Among the 795 people who died in 2019, 49 (42 Males, 7 Females) were foreigners, representing 6% of total deaths. As shown in Table 3.3, 27 infant deaths were registered in 2019, representing 3.4 % of total deaths. All deaths in the age group 15-24 years were among men, in fact, in the reproductive and productive age groups, there are more deaths in men than women.

TABLE 3.3. ANNUAL DEATHS BY AGE GROUP AND SEX, 2019

Age-group (years)	Male	Female	Total	% of total deaths	Age-specific mortality rate /1000 population
<1	14	13	27	3.4	16.6
1-4	1	0	1	0.1	0.2
5-14	0	2	2	0.3	0.2
15-24	13	0	13	1.6	1.7
25-44	54	24	78	9.8	2.7
45-64	140	74	214	26.9	7.1
65 & +	215	245	460	57.9	44.2
All Age-groups	437	358	795	100	

Mortality by Location

Looking at sub-national data can help support development of targeted interventions. In the 26 districts of Seychelles, 763 deaths were recorded representing 96% of total deaths (32 deaths occurred outside the country – abroad or at sea). The death rate per thousand population in each district (Annex 1) was less than 10 except for four districts (Table 3.4).

TABLE 3.4. ANNUAL MORTALITY BY SELECTED DISTRICTS, 2019

District	Deaths by Sex				Population in districts*	Deaths /000 Population
	Male	Female	Total	% of total deaths		
St Louis	26	19	45	6%	3241	13.9
Anse Aux Pins	37	18	55	7%	4236	13.0
Plaisance	16	33	49	6%	3974	12.3
Pointe Larue	15	20	35	5%	3082	11.4

*Data source- NBS.

Note. Age structure of population in district not reported.

3.1.1 MATERNAL AND INFANT DEATHS

One maternal death was reported in 2019 – this death occurred overseas but was registered in Seychelles. Since 1978, the annual number of maternal deaths has varied widely, from zero to three; however, the five-year average is increasing (Annex 2).

There were decreases in stillbirth, neonatal, infant, under-five and perinatal mortality rates compared to 2018 (Table 3.5), but despite these decreases, the country is still not reaching NHSP end-term targets for some of these indicators.

The infant mortality rate was 16.8/1000 live births in 2019, though a decrease compared to 2018, the country is still not reaching the NHSP target of <10/1000 live births. Deaths of 14 neonates (5 early, 9 late) were due mostly to respiratory distress, pneumonia and complications of prematurity. Five infants who were born in hospital and discharged home in healthy condition ‘were brought in dead’; their cause of death was reported as asphyxia on post-mortem. The stillbirth rate of 5.0/1000 total births in 2019 is the lowest recorded in the last five years.

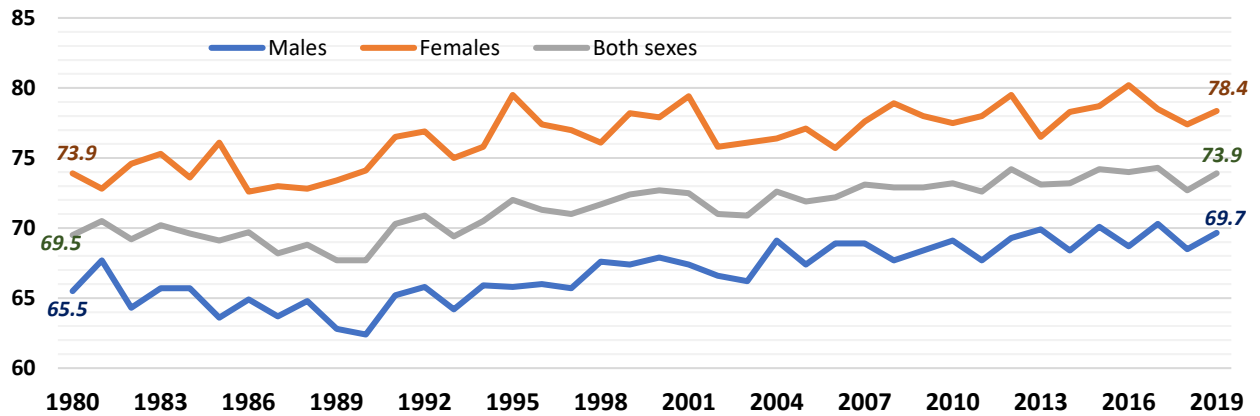
TABLE 3.5. MATERNAL AND INFANT DEATHS, 2018-2019

SDG	Indicator	2018 rates [No. of deaths]	2019 rates [No. of deaths]	NHSP End-term target (rates)
3.1.1	Maternal mortality ratio per 100,000 live births	121.2 [2]	62.3 [1]	0 [zero deaths/1600 live births]
3.2.2	Neonatal mortality rate per 1000 live births	14.6 [24]	8.7 [14]	<5
	Infant mortality rate per 1000 live births	18.8 [31]	16.8 [27]	<10
3.2.1	Under-five mortality rate per 1000 live births	20.6 [34]	17.4 [28]	< 12
	Perinatal mortality rate per 1000 total births	16.2 [27]	8.1 [13]	No target
	Still birth rate per 1000 total births	8.4 [14]	5.0 [8]	No target

3.1.2 LIFE EXPECTANCY

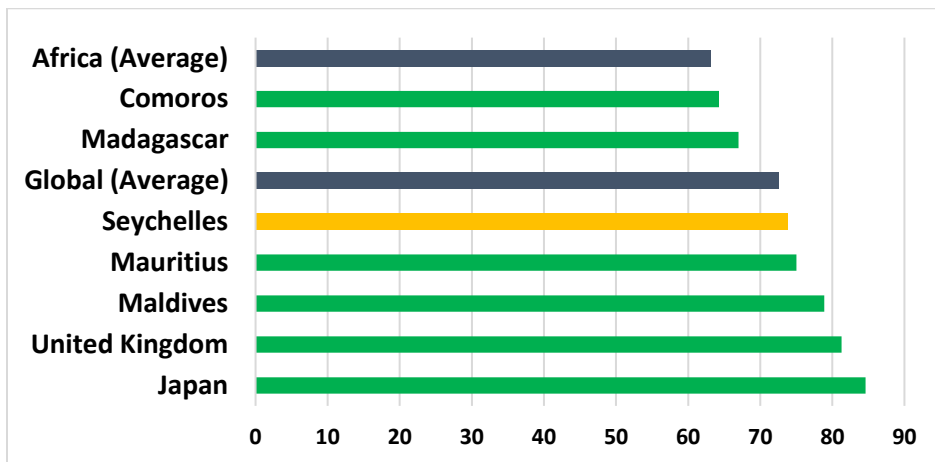
The life expectancy (LE) at birth for both sexes increased from 72.7 years in 2018 to 73.9 years in 2019 - an increase of more than one year. For males, LE at birth increased from 68.5 years in 2018 to 69.7 years in 2019, while for females it increased from 77.4 years in 2018 to 78.4 years in 2019. Despite increases in LE at birth in 2019, the country did not reach the NHSP end-term target of 74 years for males and 80 years for females. Additionally, the five-year (2015-2019) average LE at birth was 70 years for males and 79 years for females, both still below the NHSP end-term target. For women, the LE reached a peak of 80.2 years in 2016, but has since declined. Figure 3.1 shows a gain of four years only in LE at birth in the last 39 years.

FIGURE 3.1. LE AT BIRTH (IN YEARS), 1980 -2019



LE in Seychelles is slightly higher than global average but lower than the LE in two neighbouring countries, Mauritius and Maldives and LE in high- income countries (Fig. 3.2).¹³

FIGURE 3.2. COMPARISON OF LE AT BIRTH (IN YEARS) FOR SELECTED COUNTRIES

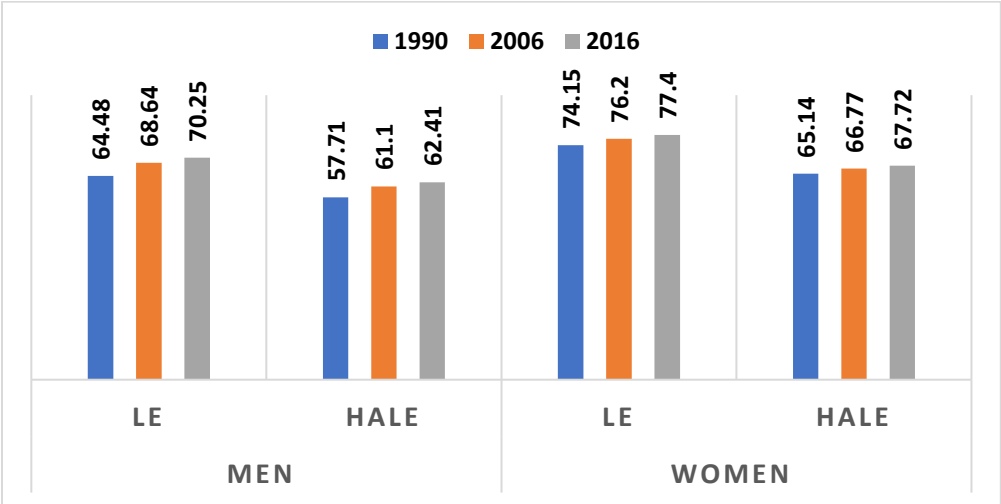


Health-adjusted life expectancy (HALE) or healthy life expectancy is a measure of population health, which takes into account mortality and morbidity. It adjusts overall life expectancy by the

¹³ United Nations, Department of Economic and Social Affairs, Population Division (2019). World Mortality 2019: Data Booklet (ST/ESA/SER.A/436).

number of years lived in ‘less than perfect health’. HALE is a good measure of the health status of a population because by dividing LE into different states of health (years of life in good and poor health), HALE adds a ‘quality of life’ measure to LE. Based on global data, HALE at birth for Seychelles for both sexes was 65.7 years in 2016, slightly above the global average of 63.3 years.¹⁴

FIGURE 3.3. HALE AND LE AT BIRTH, SELECTED YEARS



Source: Global, regional, and national disability-adjusted life-years (DALYs) for 333 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017; 390: 1260–344

There has been a gap of eight to ten years between the LE of men and women and a gap of about a five- year gap in HALE between the sexes, in fact the HALE for men in 2016 was less than the HALE of women in 1990 (Fig 3.3).

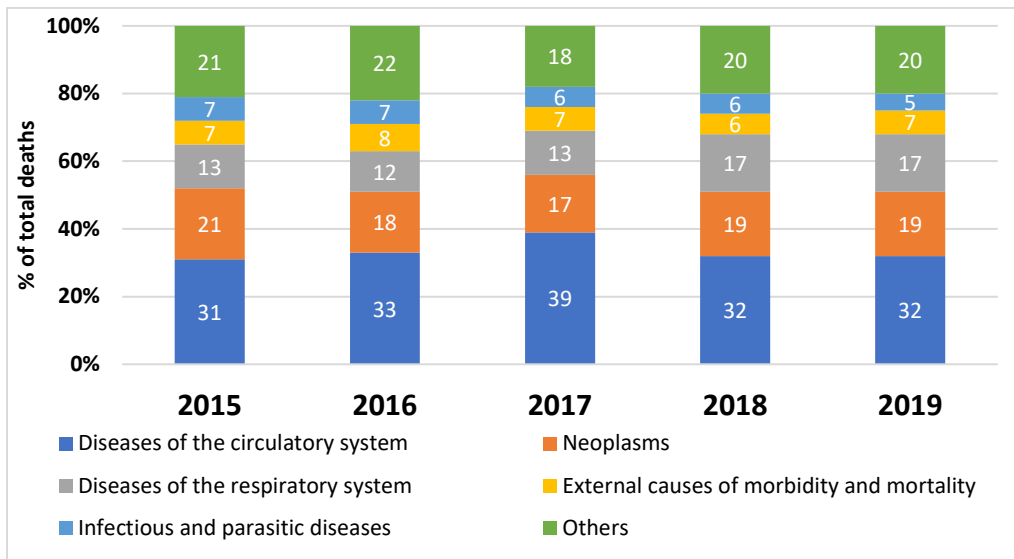
While LE and HALE are key health indicators, they are highly influenced by the socio-economic determinants of health, factors that are outside the purview of health. The gap between LE and HALE has implications for health services and social care.

¹⁴ World Health Organization. Global Health Observatory (GHO) data. Retrieved from <http://apps.who.int/gho/data/view.main.HALEXv?lang=en>

3.2 MAIN CAUSES OF MORTALITY

The main causes of mortality have remained the same for the last decade. The leading cause of death in the country is diseases of the circulatory system and in 2019 accounted for 32% of all deaths; this was followed by cancer, which caused 19% of all deaths (Fig. 3.4). This mortality pattern is similar to OECD countries.¹⁵

FIGURE 3.4. FIVE LEADING CAUSES OF DEATH IN SEYCHELLES, 2015-2019

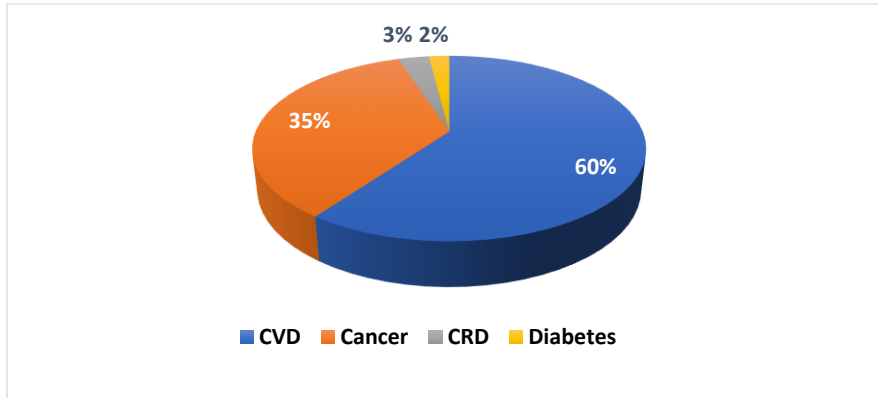


3.2.1 TOTAL NCD MORTALITY

Noncommunicable diseases (NCDs) include cardiovascular diseases (CVDs), neoplasms, diabetes and chronic respiratory diseases (CRDs). NCDs remain the major cause of mortality in Seychelles with 428 (219 Males, 209 Females) deaths in 2019, representing 54% of total deaths. Of the 428 NCD deaths, 257 were from CVDs, 151 from neoplasms, 12 from CRDs, and eight from diabetes (Fig. 3.5).

¹⁵ OECD (2019), Health at a Glance 2019: OECD Indicators, OECD Publishing, Paris, <https://doi.org/10.1787/4dd50c09-en>

FIGURE 3.5. TOTAL NCD MORTALITY (N=428), 2019



It is assumed that contribution of diabetes towards other mortality is not always captured in the causes of death written on death certificates.

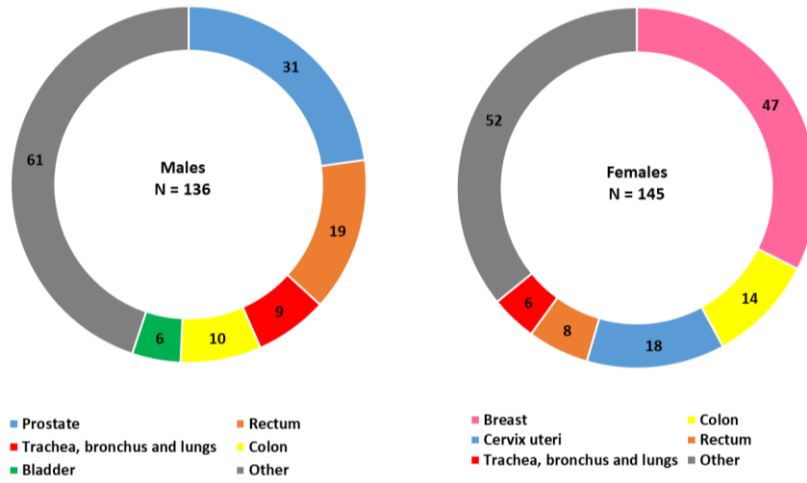
Cancer incidence and mortality

A total of 281 (136 Males, 145 Females) new cases of cancer were reported in 2019, representing an increase from the 222 new cases reported in 2018 and 216 new cases reported in 2017 (27%, and 30% respectively). In 2019, the cancer incidence was 274/100,000 population for men and 302/100,000 population for women; this is different from OECD countries where cancer incidence is higher in men.¹⁶ Prostate cancer was the most diagnosed cancer in males (31/136 cases) – incidence of 62.4/100,000 males, while breast cancer (47/145) was the most diagnosed in females – incidence of 98.0/100,000 females (Fig. 3.6).¹⁷

¹⁶ OECD (2019), Health at a Glance 2019: OECD Indicators, OECD Publishing, Paris, <https://doi.org/10.1787/4dd50c09-en>

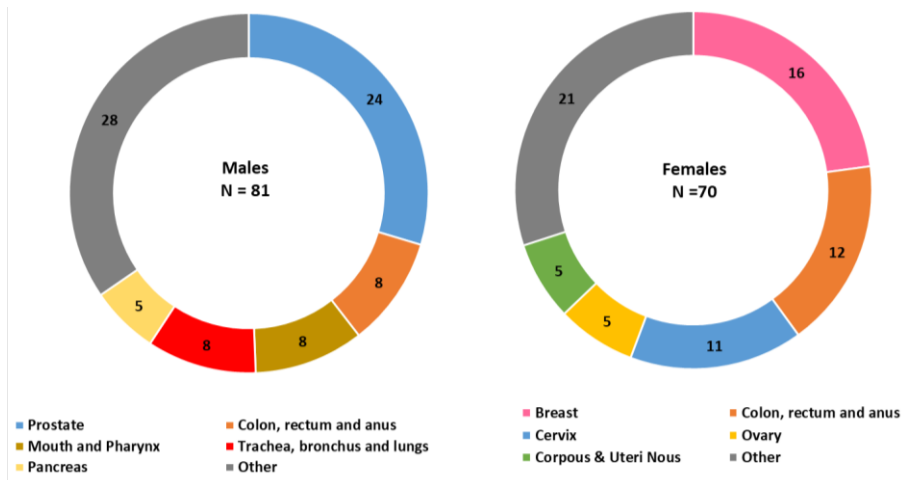
¹⁷ Seychelles Cancer Registry

FIGURE 3.6. NEW CASES OF CANCER, 2019



Cancer was the second leading cause of mortality in 2019 with 151 deaths (81 Males, 70 Females). Among cancer deaths in women, 23% (16/70) were due to breast cancer, while in men, 30% (24/81) were due to prostate cancer (Fig. 3.7).

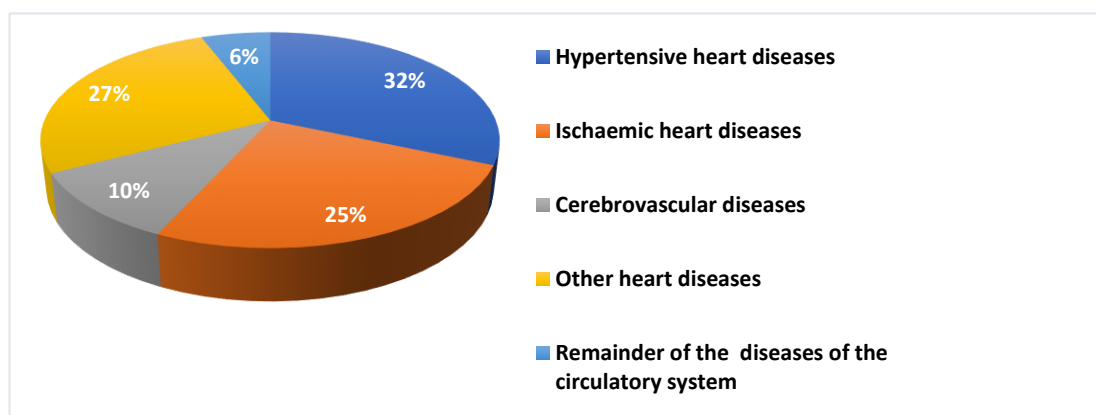
FIGURE 3.7. CANCER DEATHS, 2019



Mortality from diseases of the circulatory system

Diseases of the circulatory system was the main cause of death for 257 persons in 2019 (128 Males, 129 Females) representing 34% of all deaths (Fig. 3.8).

FIGURE 3.8. DEATHS DUE TO DISEASES OF THE CIRCULATORY SYSTEM, 2019



In 2019, 27 (Males 20; Females 7) patients were admitted to hospital with myocardial infarction; there were 133 cerebrovascular accidents (CVA), 10 more compared to 2018 (Table 3.6). The majority (66%) of CVA are reported in persons aged less than 65 years and this age group accounted for half of all deaths caused by CVA in 2019.

TABLE 3.6. CEREBROVASCULAR ACCIDENTS (INCLUDING DEATHS), SEYCHELLES HOSPITAL 2019

ICD 10 Code	Description	M	F	Total
I60	Subarachnoid haemorrhage	5	1	6
I61	Intracerebral haemorrhage	21	10	31
I62	Other non-traumatic intracranial haemorrhage	6	3	9
I63	Cerebral Infarction	26	17	43
I64	Stroke, not specified as haemorrhage or infarction	20	24	44
Total		78	55	133

Diabetes

Deaths due to diabetes and its complications are generally under reported: in 2019, only eight deaths (1 Male, 7 Females) were reported with three occurring in the age-group 30-70 years.

Diabetes contribute to NCD mortality, but this information is not always captured in registered causes of death.

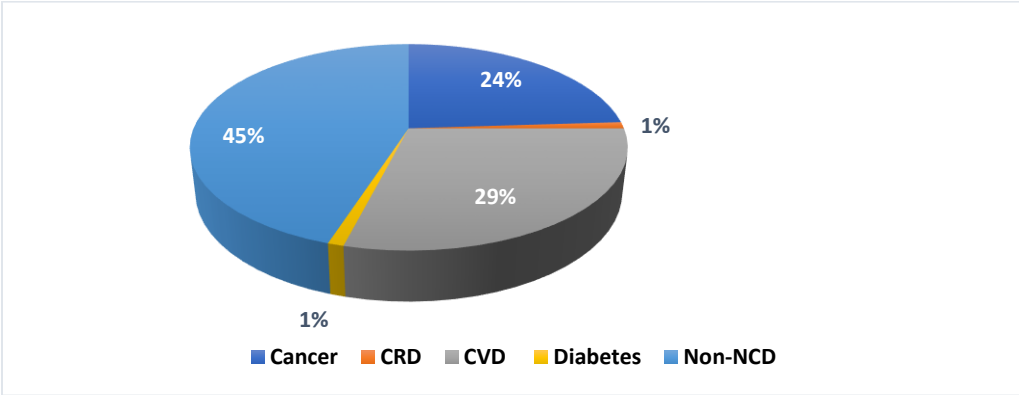
Chronic Respiratory Diseases (CRDs)

Twelve deaths (9 Males, 3 Females) due to CRDs were reported in 2019, with two deaths in the age group 30-70 years. It is difficult to report on the trend of CRD, because in previous years these deaths were erroneously grouped with pneumonia deaths.

3.2.2 PREMATURE NCD MORTALITY

Globally, in 2016, 71% (41M) of all deaths were due to NCDs, while the risk of a 30-year old person dying from NCD before reaching the age of 70 was 21.6% for men and 15% for women.¹⁸ SDG 3.4 calls for a reduction in premature NCD mortality. In Seychelles, 359 deaths were reported in 2019 in the age group 30-70 years, of which, 55% were due to NCDs (Fig. 3.9) – this is higher than the NHSP target of 40%. The probability of dying from any NCD between the age 30 and 70 years is 21.7% in Seychelles, this is slightly less than for Mauritius (22.6%) but higher than for Maldives (13.4%) and Japan (8.4%).¹⁹

FIGURE 3.9. PROPORTION OF NCDs DEATHS AMONG ALL DEATHS IN THE AGE-GROUP 30-70 YEARS



18 World health statistics 2019: Monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019.
19 World health statistics 2019: Monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019.

The target in the *Seychelles Strategy for the Prevention and Control of NCDs*²⁰ is a 25% relative reduction in the overall mortality from NCDs. Other causes of premature mortality were mainly deaths that could have been prevented or avoided by better interventions, namely, mortality following road traffic accidents (RTA), falls and suicides.

3.2.3 MORTALITY FROM KEY COMMUNICABLE DISEASES

Among infectious and communicable diseases, leptospirosis, pneumonia and HIV/AIDS are diseases of importance in Seychelles.

Pneumonia

Lower respiratory tract infections is ranked among the top 10 burden of disease for Seychelles (Table 3.7).²¹

TABLE 3.7. TOP 10 BURDEN OF DISEASE

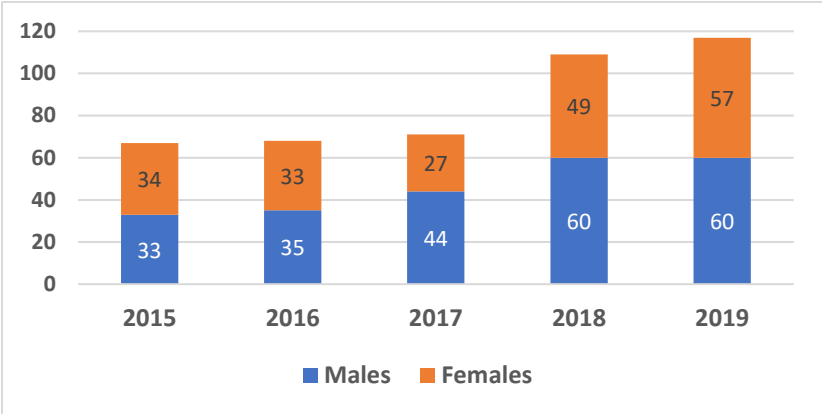
Rank	Condition Group
1	Ischemic heart Disease
2	Lower Respiratory Tract Infections
3	Hypertensive Heart Disease
4	Low back and neck pain
5	Stroke
6	Chronic kidney disease
7	Sense organ diseases
8	Diabetes
9	Skin and subcutaneous diseases
10	Road injuries

²⁰ Ministry of Health. *Seychelles Strategy for the Prevention and Control of non-communicable diseases 2016-2025*.

²¹ Global, regional, and national disability-adjusted life-years (DALYs) for 333 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories 1990–2016: A systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017; 390: 1260–344

Seychelles Hospital reported 363 admissions with pneumonia in 2019. There has been an increase in pneumonia deaths since 2015 (Fig. 3.10). In 2019, 15% of all deaths were due to pneumonia.

FIGURE 3.10. PNEUMONIA DEATHS, 2015-2019



There is no information on the type of pneumonia nor the causative agent; 73 % of pneumonia deaths occurred in persons aged 65 years and above in 2019.

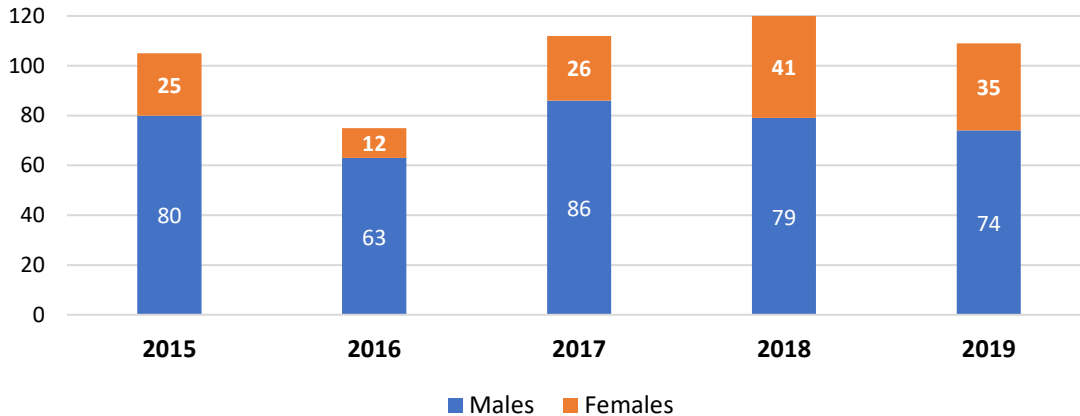
Leptospirosis

Seychelles reports leptospirosis mortality every year. Sixty-three patients were admitted to hospital with leptospirosis in 2019 and there were seven deaths (all males). Three of the seven persons who died from leptospirosis were migrant workers. The NHSP end-term target for leptospirosis mortality is a case fatality rate of <10%; this, however, was not calculated in 2019, as accurate data for the total number of cases of leptospirosis diagnosed was not available.

HIV/AIDS

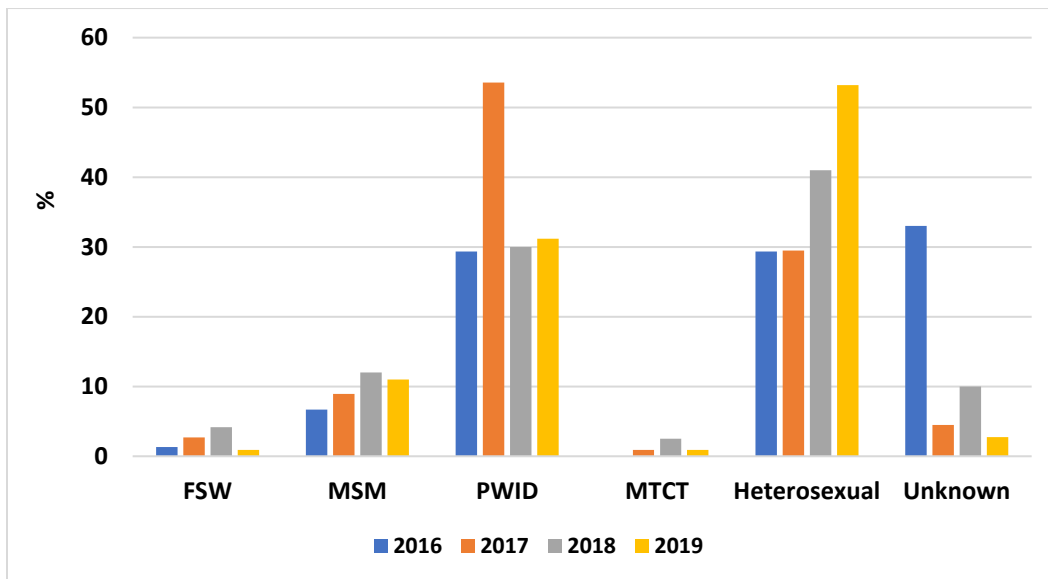
The NHSP end-term target for annual new HIV infections is < 60 cases. There were 109 (74 Males, 35 Females) newly diagnosed cases of HIV in 2019; a decrease from the 120 and 112 new cases diagnosed in 2018 and 2017 respectively (Fig. 3.11). The majority of new cases are detected in young people (aged < 35 years).

FIGURE 3.11. NEWLY DETECTED CASES OF HIV, 2015-2019



The HIV epidemic is concentrated among key populations, namely, people who inject drugs (PWID); men who have sex with men (MSM); and female sex workers (FSW). However, among the newly diagnosed cases in 2019, 53% were heterosexuals and 31% PWIDs (Fig. 3.12).

FIGURE 3.12. MODE OF TRANSMISSION AMONG NEWLY DETECTED CASES OF HIV, 2016-2019



Source: Communicable Diseases Control Unit (CDCU).

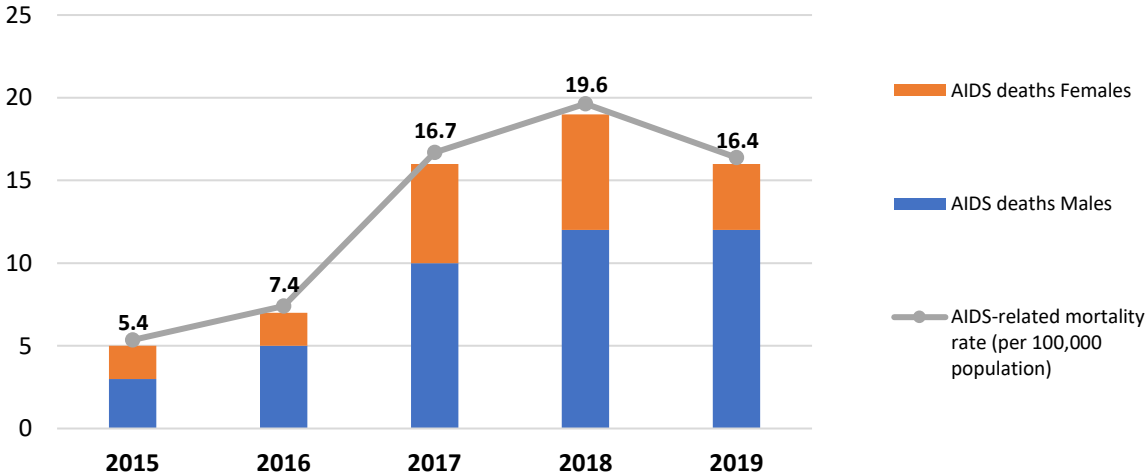
HIV testing is done in PHC facilities, hospital, private clinics and by some NGOs through outreach programmes. In 2019, the Clinical Laboratory reported doing 16,653 HIV tests (ELISA and Rapid Tests); there is no data on the number HIV tests done among different key population groups.

Prevention of Mother to Child Transmission of HIV (PMTCT)

The MOH provides a package of interventions to prevent MTCT of HIV. All pregnant women are offered HIV testing at booking and at 36 weeks of gestation and all HIV-infected pregnant women receive PMTCT interventions at the CDCU. Only 19 of the 23 women living with HIV who were pregnant in 2019 followed the PMTCT programme. The country has recorded MTCT of HIV every year for the last three years with one case reported in 2019.

The CDCU reported 18 new AIDS cases (12 Males, 6 Females) in 2019, representing a decrease from the 23 cases reported in 2018. There were 16 deaths (12 Males, 4 Females) from AIDS representing 2% of total deaths; higher than the NHSP end-term target of 0.5%. The AIDS mortality rate has more than doubled in the last three years compared to 2015 (Fig. 3.13).

FIGURE 3.13. AIDS-RELATED MORTALITY RATE, 2015-2019

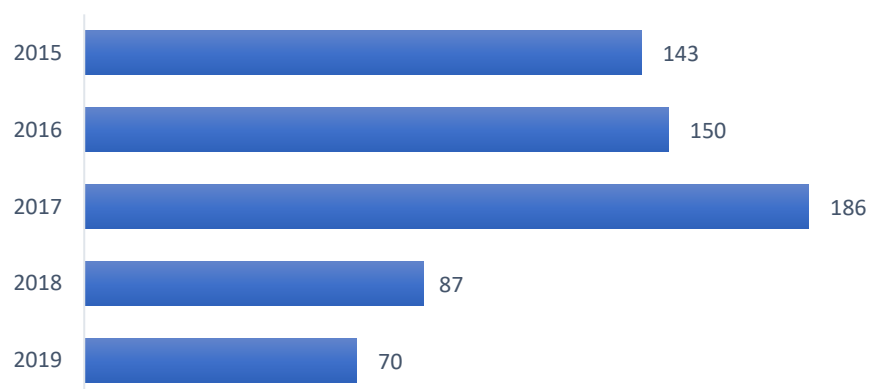


Viral Hepatitis

The Clinical Laboratory did 13, 466 viral hepatitis C (HCV) tests in 2019; the number of new cases of HCV has decreased in the last two years. In 2019, 70 new cases (66 Males, 4 Females) were diagnosed – a significant reduction from the 87 and 186 new cases detected in 2018 and 2017 respectively (Fig. 3.14), and lower than the NHSP end-term target of 120. The majority of people diagnosed with HCV in 2019 are aged less than 35 years and 23 out of the 70 cases are co-infected with HIV. The majority of cases of HCV were detected at CDCU, Prison Clinic and facilities that offer services to people who use drugs, however, six cases were detected at the Seychelles People Defence Force Clinic.

Forty-four (44) new cases of viral hepatitis B (HBV) were detected (32 Males, 12 Females) in 2019, compared to 23 cases in 2018. HBV is a vaccine preventable disease and the country included HBV vaccine in its EPI schedule in 1995.

FIGURE 3.14. NEW CASES OF HCV, 2015-2019

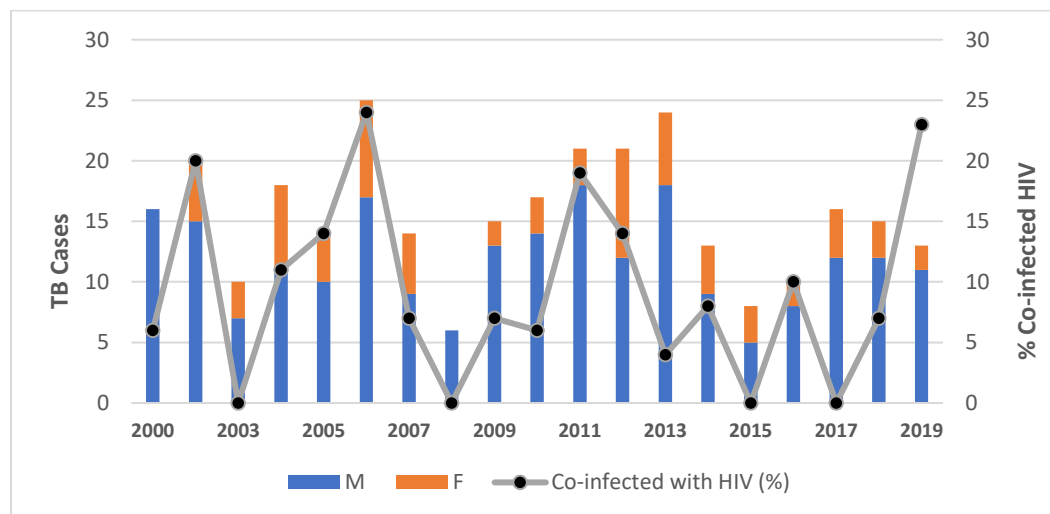


Tuberculosis (TB)

Thirteen TB cases were reported by CDCU in 2019: 12 pulmonary TB and one extra-pulmonary TB case. Of the 13 cases, three were co-infected with HIV (Fig. 3.15). Six cases of TB were

diagnosed among expatriates. One TB death (a male in the age group 55-64 years) was reported in 2019, making it the first TB death recorded since 2015.

FIGURE 3.15. HIV/TB CO-INFECTION, 2000-2019



Data source: CDCU

3.2.4 OTHER CAUSES OF MORTALITY

Falls

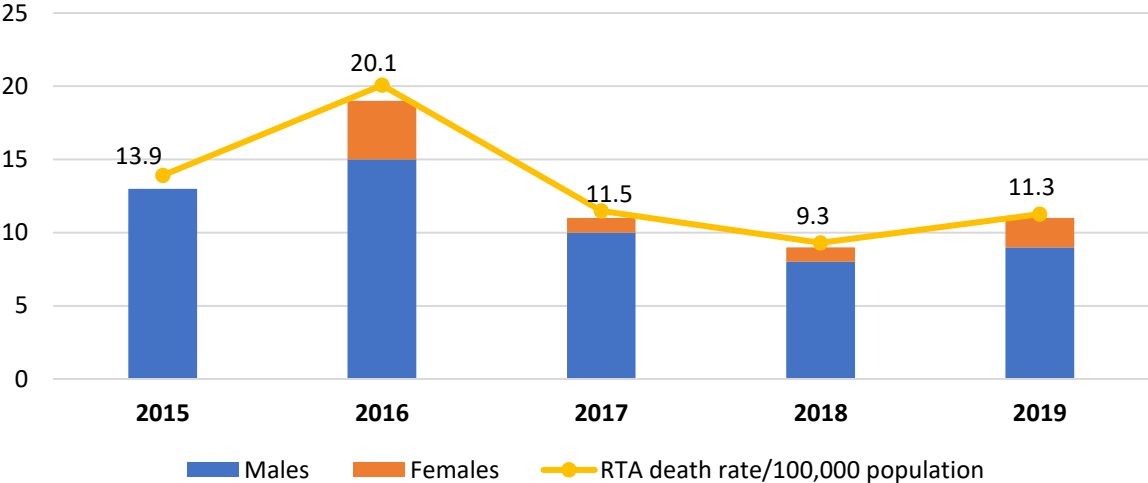
In 2019, there were 14 deaths (11 Males, 3 Females) due to falls; three men in the age-group 25-44 years, eight men in the age-group 45-64 years, two women in the age-group 45-64 years and one aged more than 65 years. It appears that some of these deaths happened in the work place, but complete information is not available.

RTA

In the last five years, 63 people died following RTA; the majority (87%) were men. There were 11 deaths (9 Males, 2 Females) from RTAs in 2019; people dying following RTA are young, in the reproductive and productive age groups. From a peak in 2016, the death rate from RTA [SDG 3.6.1] decreased in 2017 and 2018 but increased in 2019 to 11.3/100,000 population (Fig. 3.16).

RTA was responsible for 1.4% of all deaths in 2019, slightly higher than NHSP end-term target of less than 1%.

FIGURE 3.16. DEATHS DUE TO ROAD TRAFFIC ACCIDENTS, 2015-2019



Drowning

There was a reduction in deaths due to drowning or accidental submersion from 16 in 2017 and 2018 to 11 in 2019 with foreigners making up the majority of the reported deaths (Table 3.8). All nine foreigners who died from drowning were males, while the two Seychellois were female.

TABLE 3.8. DEATHS DUE TO DROWNING, 2017 – 2019

Nationality	2017	2018	2019
Foreigners	11	6	9
Seychellois	5	10	2
Total	16	16	11

Homicide

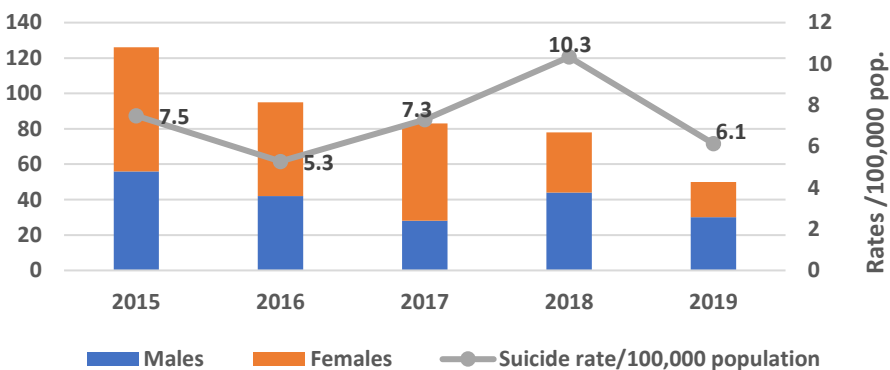
There were two homicide deaths reported in 2019, giving a homicide mortality rate of 2.0/100,000 population [SDG 16.1.1], both were men.

Intentional self-harm

There is a decrease in reported cases of intentional self-harm since 2016 (Fig. 3.17). There were 50 reported cases (30 Males, 20 Females) of intentional self-harm in 2019 and six suicides, among which was a 12-year-old girl. Except for 2018, the suicide rate has remained below 10/100,000 for the last five years.

In addition to suicide deaths, 10 deaths in young men reported last year were due to use/abuse of psychoactive substances.

FIGURE 3.17. CASES OF INTENTIONAL SELF-HARM AND SUICIDE RATE, 2015-2019



3.3 MORBIDITY

There were 11,339 admissions at Seychelles Hospital in 2019. CVD and pneumonia are common causes for admission on medical wards, whereas injuries and cancer are common for surgical wards. Only 9% of all admissions on medical wards are related to diabetes. Table 3.9 shows some common causes of admissions on selected wards (Annex 2 for more data).

Data on notifiable diseases and outbreaks is collected and reported by the DSRU.

TABLE 3.9. COMMON CAUSES OF ADMISSIONS

	Male	Female	Total
Leptospirosis	57	6	63
Dengue	37	20	57
Neoplasms	177	165	342
Diabetes Mellitus	107	82	189
Hypertension	56	40	96
Pulmonary Embolism	66	19	85
Cerebrovascular diseases	78	55	133
Pneumonia	164	199	363
Acute lower respiratory tract infections	34	56	90
Fractures	239	96	335

Sexually Transmitted Infections (STI)

Cases of STI are reported only by the CDCU. It is believed that some people with STI are also managed in primary health care and private health facilities, but currently, these cases were not captured by the Statistics Unit. The CDCU reported 662 (284 Males, 378 Females) new cases of STIs in 2019, compared to 891 cases in 2018. The NHSP end-term target for STIs is 250 cases; however, in the last five years reported cases of STI has been consistently much higher. The high number of annual cases of STI attest to unsafe sexual practices.

The number of gonorrhoea cases diagnosed in 2019 (190) is higher than cases reported in both 2018 (186) and 2017 (117). Resistance to antibiotics is alarming for gonorrhoea: 60% of tested cases are resistant to Ciprofloxacin, 16% resistant to Ceftriaxone and 24% resistant to Cefixime.

Only 35 cases of Chlamydia were detected in 2019 compared to 219 and 230 cases in 2018 and 2017 respectively. The decrease in number of chlamydia cases was due to unavailability of testing kits during 2019.

3.4. FERTILITY

The fertility rate is determined by births in relation to the size and age structure of the female population. The total fertility rate (TFR) is the total number of children a woman is expected to have in her lifetime and is computed as the sum of age-specific fertility rates divided by 1000. The TFR was 2.3 in 2019, a decrease compared to 2018 (2.4) this is still above the average replacement fertility of 2.05 births per woman²², which is the TFR at which a population replaces itself from generation to generation assuming no migration. The NHSP targets a TFR of 3.0.²³

The number of recorded abortions in 2019 was 431, a reduction compared to 2018 (502). There were 73 medical termination of pregnancies (TOP) and 186 incomplete abortions (Table 3.10).

TABLE 3.10. ABORTIONS BY AGE GROUP, 2019

TYPE	Age-group								Total
	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Incomplete abortion	3	27	45	41	31	25	11	3	186
TOP	3	16	11	13	13	12	4	1	73
Complete abortion	0	9	8	10	8	5	2	1	43
Missed abortion	0	3	6	9	7	7	7	0	39
Ectopic pregnancy	0	1	8	6	9	5	0	0	29
Anembryonic gestation	0	2	2	7	9	7	1	1	29
Inevitable abortion	0	4	5	5	3	2	2	0	21
Septic abortion	0	2	2	1	2	3	0	0	10
Molar pregnancy	0	0	0	0	0	1	0	0	1
TOTAL	6	64	87	92	82	67	27	6	431

A total of 237 live births were delivered by females aged 10-19 years in 2019, of which, 228 were delivered by females aged 15-19 years, while nine were delivered by females aged 10-14 years. The number of live births to teenage girls was higher in 2019 compared to 2018 (Table 3.11). The contribution to total births by teenagers increased by 2% in 2019 compared to 2018.

²² Institute for Health Metrics and Evaluation (IHME). Findings from the Global Burden of Disease Study 2017. Seattle, WA: IHME, 2018

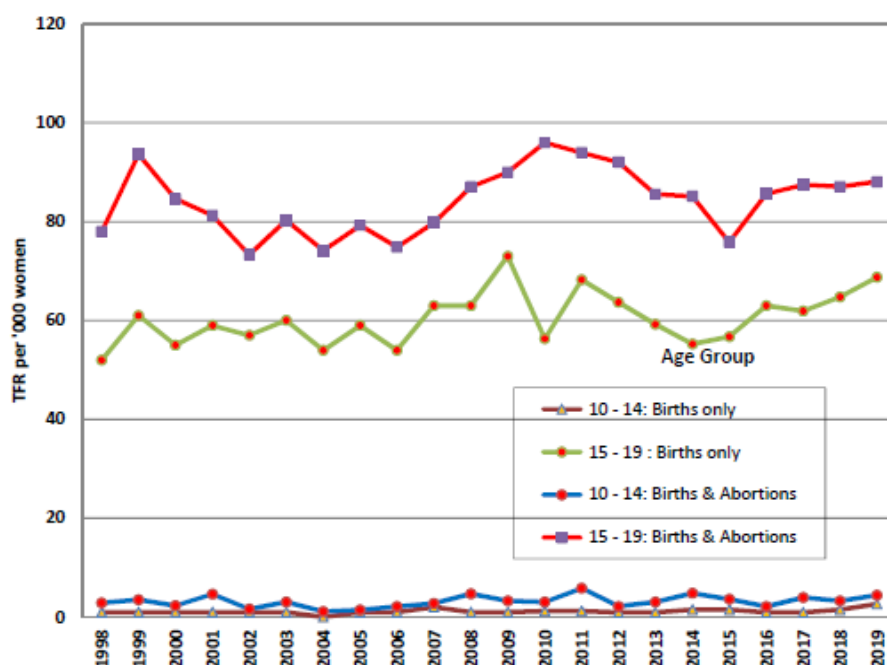
²³ Ministry of Health, *Seychelles National Health Strategic Plan 2016-2020*

TABLE 3.11. REGISTERED LIVE BIRTHS TO TEENAGE GIRLS, 2014-2019

	2014	2015	2016	2017	2018	2019
10-14 yrs.	5	5	3	3	5	9
15-19 yrs.	183	187	206	201	212	228

The adolescent birth rate (ABR) for girls aged 15-19 years was 69/1000 girls in 2019 (Fig.3.18), this is much higher than the rate in OECD countries²⁴ and some neighbouring countries²⁵. The ABR reported in previous annual health reports were above 80/1000, this is because the population of girls in the given age groups has been modified (excluding out-migration) by the National Bureau of Statistics²⁶ which recorded a decrease in net migration in the last three years in young age groups.

FIGURE 3.18. TOTAL FERTILITY RATE TEENAGE, 1998-2019



Source: NBS

²⁴ OECD (2019), Health at a Glance 2019: OECD Indicators, OECD Publishing, Paris. <https://doi.org/10.1787/4dd50c09-en>.

²⁵ World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019

²⁶ Statistical Bulletin .Population and Vital Statistics December 2019. NBS, March 2020.

4. RISK FACTORS FOR HEALTH



Physical activity, school children.

Several behavioural risk factors increase disease burden of both communicable and non-communicable diseases. WHO defines a risk factor as ‘...any attribute characteristic or exposure of an individual that increases the likelihood of developing a disease or injury’.²⁷

4.1 NCD RISK FACTORS

Globally, in 2017, the leading risk factors for early death and disability were smoking, high blood pressure and high blood sugar.²⁸

The burden of NCDs is largely attributable to four “physiological” main risk factors namely overweight, high blood pressure, elevated blood lipids and diabetes which are themselves largely associated with four major modifiable risk behaviours: smoking, insufficient physical activity, unhealthy diet, and excess alcohol intake. NCDs result in a large burden of disability and has important social and economic impact.

At the population level, NCD risk factors are assessed through periodic surveys. The four national NCD surveys²⁹ conducted in 1989, 1994, 2004, and 2013 for the adult population aged 25-64 showed the following:

- a marked 25-year downward trend for smoking (due to the strict implementation of the WHO FCTC measures);
- slightly downward trends for high blood pressure and high blood cholesterol; and
- marked upward trends for diabetes and obesity.

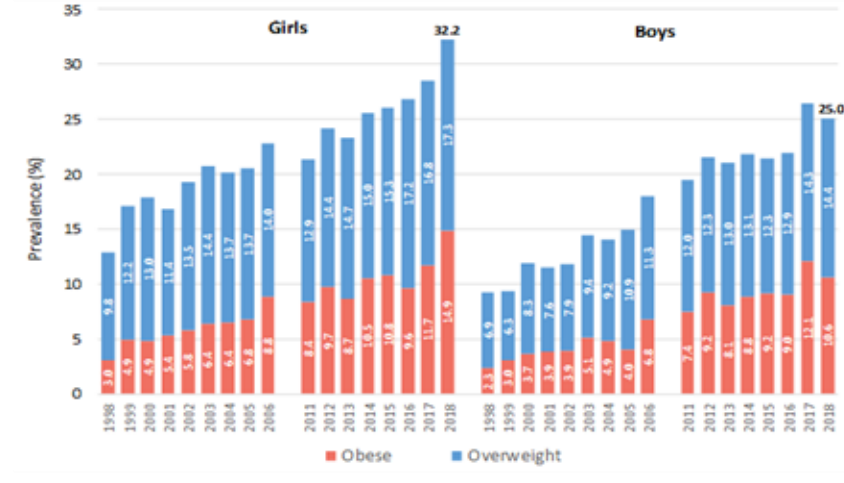
Data available from School Health Programme shows that the prevalence of overweight and obesity in children aged 9-16 years increased monotonically between 1998 and 2018 and reached 32.2% in girls and 25.0% in boys in 2018 (Fig. 4.1).

²⁷ Risk Factors. https://www.who.int/topics/risk_factors/en/

²⁸ Institute for Health Metrics and Evaluation (IHME). *Findings from the Global Burden of Disease Study 2017*. Seattle, WA: IHME, 2018.

²⁹ Ministry of Health. National Survey of Non-Communicable Diseases in Seychelles 2013-2014 (Seychelles Heart Study IV): methods and main findings. Seychelles : 2015. http://www.who.int/chp/steps/Seychelles_2013_STEPS_Report.pdf

FIGURE 4.1. PREVALENCE OF OVERWEIGHT AND OBESITY IN STUDENTS, 1998-2018



Source: Mangroo G, Viswanathan B, Bovet P. School screening programme: update of the prevalence of overweight and obesity between 1996 and 2018. PHA, 2019.

The high and persistently increasing prevalence of excess weight emphasizes the need to implement, in addition to health education programmes, strong public health measures both in schools and in other sectors to address the societal causes of the obesogenic environment in Seychelles. This include measures to:

- Ensure that healthy meals (with plenty of vegetables) are available in all school canteens;
- Ensure that water fountains are present in all schools, sport premises and public settings, and promote their use;
- Ensure that all children have 3 hours of physical activity per week as part of the school curriculum;
- Ban or limit advertisement and promotion of junk foods and sugar beverages seen by the youth;
- Implement fiscal and other measures to ensure that bottled water is affordable;
- Conduct awareness programmes on the mass media to promote water drinking, including tap water, as a main, safe and inexpensive source of water; and

- Strengthen the School Screening Program by ensuring that school nurses have sufficient time to perform screening and related counselling on healthy behaviours and nutrition.

4.2 PREVENTION OF NCDs

‘Promoting and protecting health’ is one of the five strategic investment priorities identified in the NHSP. Within the MOH, several units implement interventions to promote healthier lifestyles and prevent NCDs. The Unit for Prevention and Control of Cardiovascular Diseases (UPCCD) provides leadership, expertise and capacity at the national level for the surveillance, prevention and control of CVD/NCD through surveillance, education, programs and policy formulation. In 2019, UPCCD led the implementation of key interventions of the National NCD Strategy 2016-2025³⁰. The strategy is in line with the WHO recommendations and focuses mainly on the four main NCDs – cardiovascular diseases, cancer, chronic respiratory diseases and diabetes and their four common behavioural risk factors – tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol.

The National NCD Strategy³¹ adopts the nine national voluntary targets agreed by the WHO member states:³²

1. 25% reduction of NCDs
2. 10% reduction in alcohol use
3. 10% reduction in prevalence of insufficient physical inactivity
4. 30% reduction in mean population salt intake
5. 30% reduction in the prevalence of tobacco use
6. 25% reduction in the prevalence of high blood pressure
7. 0% increase in obesity and diabetes

³⁰ Ministry of Health. Seychelles Strategy for the Prevention and Control of non-communicable diseases 2016-2025.

³¹ Ministry of Health. Seychelles Strategy for the Prevention and Control of non-communicable diseases 2016-2025.

³² Global strategy for the prevention and control of noncommunicable diseases. Resolution (WHA 53.14) was adopted by the World Health Assembly. https://www.who.int/nmh/publications/wha_resolution53_14/en/

8. At least 50% of eligible people receiving drug therapy and counselling to prevent heart attack and stroke
9. At least 80% availability of the affordable technologies and essential medicines, including generics, required to treat major NCDs on both public and private facilities.

A high-level national multisectoral committee for the prevention of NCDs involving principal secretaries and CEO was set up by the MOH in November 2016 to guide the implementation of the NCD strategy. The following measures were implemented in 2019:

Sugar tax

- A sugar tax of SCR 4 per litre on all sugar-sweetened beverages (SSB) with more than five grams of sugar per 100 ml came into force on 1st April 2019
- A Regulation on food content labelling for effective implementation of sugar tax was published in the Official Gazette in 2019
- Several sensitization sessions on the SSB to various stakeholders including; news item on National TV and Radio on SSB tax and continuous dissemination of A2 size posters depicting importance of water intake and dangers of sugar intake to schools, workplaces and public places.

Regulation of alcohol advertising and sale

In order to tackle the growing alcohol advertisement, the National NCD Committee submitted a cabinet memorandum with recommendations since 2017. This included bans on alcohol advertising in all national radio/TV programmes, in all national newspapers including the government and private newspapers, posters and billboards in all public events when a large proportion of participants is likely to be under-age (e.g. community fairs, Festival Kreol, Regatta, sports events, etc.). A high-level committee chaired by the President was set up in 2019 with members including the Public Health Commissioner (also chair of the NCD committee), APDAR

and other stakeholders. An alcoholic drinks bill 2019 was developed and approved by the National Assembly and gazetted on 23rd December 2019.

Tobacco Control

The Tobacco Control Act³³ complies with the measures of the WHO Framework Convention on Tobacco Control (WHO FCTC).³⁴ It includes several measures such as: a total ban on smoking in selected public places and in all enclosed work places and public transports; mandatory health warnings and other matters to be displayed on cigarette packets; a total ban on direct and indirect tobacco advertising, promotion and sponsorship; a total ban of sales of tobacco products to and by minors; and the setting up of a multisectoral National Tobacco Control Board (the executive secretary is the manager of UPCCD); and several other measures.

In 2019, the National Tobacco Control Board discussed the implementation of several regulations and the development of new regulations. This includes:

- From January 2019, a 10% increase on excise tax on all tobacco products was implemented. This brings the total tax to over 70% of the retail price of cigarettes. The total excise is currently 60% and WHO is recommending countries to adopt more than 65% of the excise tax on tobacco products.
- As per section 27 (f) and (g) of the Tobacco Control Act, a regulation on Sale of Packages and Individual Cigarette was drafted by the Board and gazette on 20th May 2019 and implemented as from 1st of July 2019. The regulation includes mandatory sale of cigarettes by packets of not less than 10 sticks and a ban on the sale of individual cigarettes. The regulations shall not apply for the sale of cigars. The regulation also includes a spot fine for anyone who fails to comply.
- As part of the WHO FCTC, a protocol to eliminate illicit trade of tobacco products was adopted by parties to the Convention including Seychelles. Following the

³³ Seychelles Tobacco Control Act, 2009. <https://seylli.org/sc/legislation/act/2009/14>

³⁴ World Health Organization. Framework Convention on Tobacco Control. Geneva: WHO; 2005.

adoption, parties were requested to ratify the protocol. The protocol aims to eliminate all forms of illicit trade in tobacco products. It provides legal tools for preventing illicit trade by securing the supply chain of tobacco products, including the establishment of an international tracking and tracing system and enabling international cooperation. So far, 50 countries have ratified the protocol, including the European Union and 11 from the African Region.

- The Cabinet approved a memorandum submitted by the Tobacco Control Board in 2018. The National Assembly approved the ratification of the protocol on 29th October 2019, assented by the President, and related documents were deposited to UN. As confirmed by UN, the Seychelles ratification to the protocol will come in to force on 1st April 2020.

Seychelles took part in a WHO pilot project along with five other countries on a compliance survey to assess the implementation of the smoke free law and the ban on tobacco advertising promotion and sponsorship. The survey monitors the compliance of the ban on smoking in indoor public places and public transports and the ban in Tobacco Advertising Promotion and sponsorship as part of the Seychelles Tobacco Control Legislation. The survey, developed by the WHO was conducted in Seychelles for a period of two months and 829 randomly selected governmental and private offices, point of sale and the media participated and the report will be released in 2020.

Partnership with key stakeholders

UPCCD collaborated with the Campaign for Awareness, Resilience and Education (CARE) in the implementation of a healthy lifestyles campaign project since 2018. The project is aimed at exposing all primary school children to basic information on tobacco, substance use as well as life skills tips. During 2019, two primary schools (Port Glaud and Grand Anse Mahe) participated in the project, which included:

- Activities on heart health, substance use, diet and physical activity conducted by both the staff of UPCCD and CARE members attended by 714 students

- A half-day training for teachers of both schools in order to equip them with various life skills related to healthy lifestyles including healthy eating habits
- Dissemination of IEC materials including a guidebook on sugar-sweetened beverages
- A half-day session organized for parents of the primary school children on the importance of promoting healthy lifestyles at home

Nutrition Programme

The Nutrition Programme promotes nutritional wellbeing across the life cycle and provides leadership and expertise at the national level for the promotion of healthy lifestyles in order to reduce the burden of nutrition related diseases through education, programmes and policy formulation. The Unit also provides outpatient and inpatient services targeting various groups including pregnant women, obese children and adults and those with high risks such as those with diabetes, hypertension etc.

In 2019, there was an increase in the number of pregnant women attending prenatal nutrition session and the number of inpatients receiving nutritional therapy. In addition, the total number of obese children attending the nutrition clinic almost doubled in 2019 (115) compared to 2015 (59).

A School Nutrition Pilot Study with the aim of identifying eating patterns and types of food eaten by school-aged children was conducted among students of Bel Eau primary and English River secondary schools.

The programme also led the formulation of policy, supported by WHO to ban advertising of foods and non-alcoholic beverages to children to support the implementation of the Nutrient Profile Model (NPM) and the same will be finalized in 2020. A steering committee for the development of the national nutrition policy was set up.

Cancer Control

The Cancer Control Programme promotes early detection, prevention and treatment of cancer in order to reduce cancer incidence and mortality in Seychelles. The Seychelles National Cancer Registry is a population-based registry, which was set up in 2008, in order to register all cancer cases on a regular basis and provides regular update to the ministry and policy makers.

During 2019, an impact assessment of the Cancer Programme was conducted in Seychelles by the WHO-IAEA and work has started to develop a national cancer control strategy.

Health Promotion

Health promotion activities in Seychelles are decentralised, and are carried out as part of routine responsibilities of health professionals across all programmes within health, as well as other sectors. Health promotion activities are coordinated at the national level by the Health Promotion Unit. They are typically targeted at priority diseases and risk factors for health, namely, NCDs, sexual reproductive health, HIV/AIDS, and substance abuse. In 2019, the Health Promotion Unit produced numerous IEC materials and the following media programmes:

- TV Programmes (52 presentations on *Bonzour Sesel* and 13 on *Alo Dokter*)
- Radio Programmes (50 presentations on *K- Radio*, 30 on *SBC AM Radio*)
- MOH Webpage (53 postings)
- MOH Facebook page (103 postings)

Additionally, in 2019, the Health Promotion Unit, in partnership with WHO conducted a situation analysis of health promotion interventions in the country and following a consensus building workshop developed a draft policy on health promotion.

A Workplace Wellbeing Programme (WWP) was launched in 2018 under the Health Of Our Nation movement aimed at building in-organisation capacity for workplace health promotion and disease prevention. WWP focuses on building knowledge on relevant aspects of health promotion and disease prevention, assisting organisations in setting-up relevant infrastructure for health promotion and screening for NCDs. Five training workshops have been held since

September 2018, and 112 participants from 15 different organisations trained. In 2019, the WWP was launched in the MOH. The programme is still new, evolving, and based on feedback, content and service delivery platforms are reviewed regularly; there are plans in future to include more content on cancer prevention and screening.

5. HEALTH SYSTEM



Pharmaceutical Analyst, National Drug Quality Control Laboratory.

Health systems consist of all the people and actions whose primary purpose is to improve health.³⁵ Health systems thus, have three fundamental objectives:

- improving the health of the population they serve;
- responding to people's expectations; and
- providing financial protection against the costs of ill-health

While the main goals of a health system are clearly defined, it is more difficult to assess whether these goals are being achieved and the extent to which progress can be attributed to the health system alone or to other factors. For this report, assessment of the performance of the health system is done according to the WHO building blocks framework:³⁶ health-financing, workforce, service delivery, information system, access to essential medicines, financing, and leadership/governance (addressed in chapter 2).

5.1 FINANCING FOR HEALTH

The government invests considerable inputs in health and services are provided free of charge at the point of delivery in the public sector. Total health expenditure as a percentage of nominal Gross Domestic Product (GDP) increased from 3.8% in 2013 to 6% in 2019; the NHSP³⁷ end-term target is > 4% of GDP spent health. Seychelles is spending less on health than OECD countries which spent an average of 8.8% of GDP on health care in 2018³⁸, while globally, in 2016, the mean proportion of total government expenditure from domestic sources devoted to health was 10.6% (< 2% - > 20%)³⁹.

Budget allocation to the health sector continues to grow every year. In 2019, 12% of total government budget was allocated to the health sector, and for the first time in the history of Seychelles, the health budget was above one billion Seychelles rupees (SCR) or \$746.79 per

³⁵ WHO. Health System Strengthening Glossary.https://www.who.int/healthsystems/hss_glossary/en/index5.html

³⁶ World Health Organization (WHO). Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies. Geneva, Switzerland: WHO, 2010.

³⁷ Ministry of Health. Seychelles National Health Strategic Plan 2016-2020.

³⁸ OECD (2019), Health at a Glance 2019: OECD Indicators, OECD Publishing, Paris. <https://doi.org/10.1787/4dd50c09-en>.

³⁹ World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2018.

capita. There was 12% increase (SCR 110, 854,607) in the 2019 health budget compared to 2018. Most of the health budget was allocated to HCA (Table 5.1). While MOH secretariat and PHA also saw a slight increase in their budget, the 2019 budget for NAC decreased by 29%.

TABLE 5.1. MOH BUDGET BREAKDOWN, 2017-2019

MOH Budget Breakdown, 2017-2019						
	2017		2018		2019	
	Budget	% of total.	Budget	% of total.	Budget	% of total.
MOH	49,012,050	5.47%	76,157,520	8.35%	77,613,576	7.59%
HCA	800,934,410	89.43%	771,020,580	84.52%	878,858,596	85.90%
PHA	42,071,000	4.70%	59,496,390	6.52%	62,674,403	6.13%
NAC	3,562,840	0.40%	5,575,000	0.61%	3,957,522	0.39%
Total	895,580,300	100%	912,249,490	100%	1,023,104,097	100%

The government also funds the three professional health councils to support implementation and monitoring of regulatory work; in 2019, the budget to professional councils increased compared to the two previous years with the largest share going to the SNMC (Table 5.2).

TABLE 5.2. NATIONAL HEALTH COUNCILS BUDGET BREAKDOWN, 2017-2019

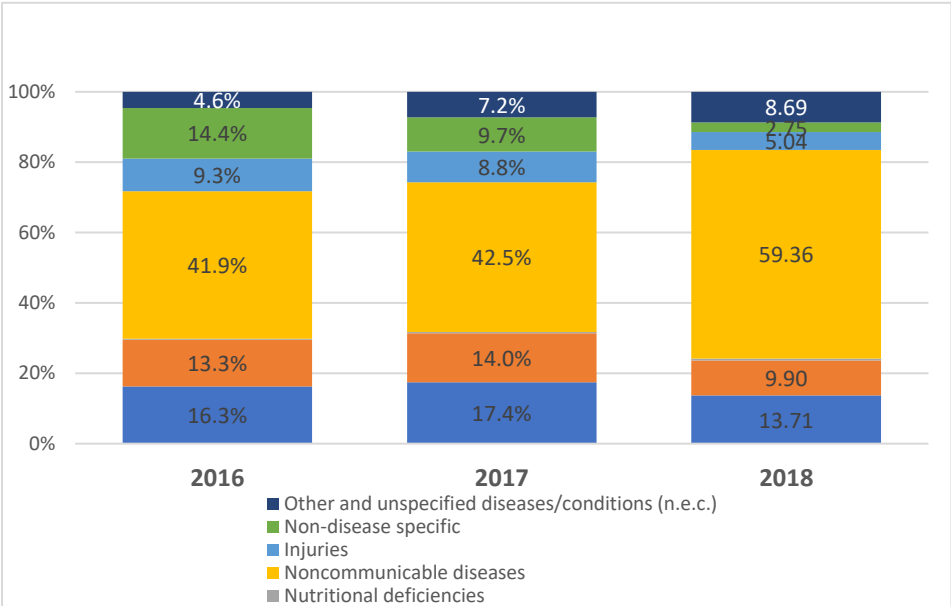
National Health Councils Budget Breakdown, 2017-2019						
Health Councils	2017		2018		2019	
	Budget	% of total.	Budget	% of total.	Budget	% of total.
SNMC	1,096,680	37.91%	1,138,050	35.31%	1,349,330	37.80%
SMDC	751,800	25.99%	969,300	30.07%	978,150	27.40%
HPC	1,044,149	36.10%	1,115,696	34.62%	1,103,922	30.92%
Total	2,892,629	100%	3,223,046	100%	3,570,020	100%

The Seychelles Government moved to full Performance Programme Based Budgeting (PPBB) in 2018 and the health sector budget is allocated according to specific PPBB programmes, with allocations linked to key performance indicators.

The National Health Account (NHA) has been a major undertaking of the MOH since 2009, providing a framework for measuring total public and private health expenditures. The NHA exercise has improved over the years with capacity building of staff and the use of standard WHO tools.

The majority of health expenditure goes towards NCDs with higher distribution towards neoplasms and cardiovascular diseases. This is an actual reflection of Seychelles disease burden where these two conditions are the leading causes of deaths (Fig. 5.1); however, it is not known how much is spent on health promotion and prevention.

FIGURE 5.1. DISTRIBUTION OF TOTAL HEALTH EXPENDITURE BY DISEASE CLASSIFICATION, 2016-2018



Source: NHA Report 2018.

The NHA over the last three years has shown that the private health sector is expanding rapidly and there is evidence that out of pocket spending on health is also increasing. Non-governmental

health expenditure as a share of current health expenditure for the years 2016, 2017 and 2018, was 25.3%, 23.8% and 23.2% respectively.

One of the seven strategic investment priorities outlined in the NHSP is partnership and coordination within the health sector and beyond. To achieve the NHSP goals, MOH collaborates with a number of local and international partners and received several donations in 2019 (Table 5.3).

TABLE 5.3. DONATIONS, 2019

Donor	Amount
WHO	USD 542,680
Local	SCR. 2,488,387.19 (US\$ 178,571)

WHO has been an important partner in health since 1980; in 2019, Seychelles received WHO assistance under the 2018-2019 programme activity for a number of projects.

Several local companies donated a variety of goods and funds to MOH in 2019, the value of total local donations was SCR 2.4M, a considerable increase compared to 2018 (SCR 521,825). The biggest local donor was Constance Ephelia and Resorts Hotel who donated SCR 1.3M for a project to screen babies for inborn errors of metabolism.

5.2 HEALTH WORKFORCE

Human resources for health is identified as one of the six strategic investment priorities in the NHSP.⁴⁰ The objective is to ensure that the MOH has institutional mechanisms in place to ensure that the health sector is staffed with adequate, highly-competent, motivated and equitably distributed health workforce.

⁴⁰ Ministry of Health, Seychelles National Health Strategic Plan 2016-2020.

5.2.1 WORKFORCE DENSITY

The public sector employs 213 doctors, while private registered health facilities reported 49 doctors, of which nine were visiting specialists and 40 practising resident doctors. Head count revealed 253 active doctors: 223 (88.1%) are practising doctors; 14 (5.5%) are professionally active, i.e. they are not directly involved in patient care; and 16 (6.3%) are on postgraduate training (Table 5.4). The latter two categories are all employed in the public sector.

TABLE 5.4. ACTIVE DOCTOR STOCK, 2019

	Practising	Professionally active	On post-graduate Training	Total
Private	40	0	0	40
Public	183	14	16	213
Total	223	14	16	253

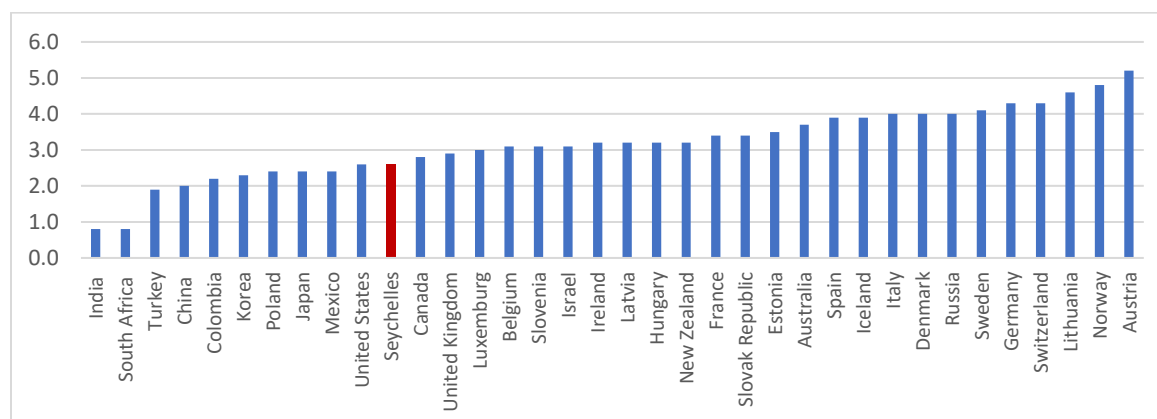
The active Doctor Density is 2.59 per 1000 population based on the 2019 mid-year population of 97 625.⁴¹ Our health system is dependent on foreign doctors and dentists, with about two thirds of the workforce (66% of doctors and 65% of dentists).

Fig. 5.2 shows Seychelles ranking for physician density compared to selected countries according to OECD statistics.⁴² Note that statistics for most countries include only practising doctors. However, for some countries (Canada, France, the Netherlands, Slovakia and Turkey), due to lack of comparable data, the figures corresponding to "professionally active" doctors, includes doctors working in the health sector as managers, educators, researchers, etc.

⁴¹ National Bureau of Statistics Statistical Bulletin, Catalogue Number: Population 2019/2

⁴² OECD (2020), Doctors (indicator). doi: 10.1787/4355e1ec-en (Accessed on 30 January 2020)

FIGURE 5.2. DOCTOR DENSITY (PER/ 1000 POPULATION), 2019



The doctor density in Seychelles is well above global figures; according to WHO, 40% of all countries have fewer than 10 medical doctors per 10 000 people, and the average global density of medical doctors in 2017 was 15 per 10 000 people.⁴³

There are more than 700 registered allied health professionals in the country and 78% of them are employed in the public sector. The dental field, with 114 employees makes up the largest group of allied health professionals.

There are 951 nursing professionals currently registered in the country, of which, 640 are currently practising. Among health care professionals in the public sector, there is a concentration of doctors and nurses working in hospital (Table 5.5) compared to primary health care.

TABLE 5.5. DISTRIBUTION OF PRACTISING DOCTORS AND NURSES MOH, 2019

Cadre	Hospital	Community
Nurses	303	187
Midwives	60	53
Doctors	144	61

⁴³ World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019.

5.2.2 HEALTH WORKFORCE PRODUCTION

The National Institute of Health and Social Science (NIHSS) is an independent entity within the MOH, which provides pre and in-service training. The institute is led by a director and has an executive board, which provides oversight. NIHSS is fully accredited by the Seychelles Qualifications Authority and it offers quality training and education in health and social studies at tertiary level. In 2019, there was an increase in the number of graduates for both pre and in-service training for some courses, however, for diploma in nursing only five graduated (Table 5.6)

TABLE 5.6. NIHSS GRADUATES, 2017-2019

Programme of service	2017	2018	2019
Bachelor of Dental Therapy (In partnership with KwaZulu Natal University, South Africa)	0	0	19
Bachelor of Science in Nursing (In partnership with Chamberlain University, USA)	0	0	21
Master of Science in Nursing (In partnership with Chamberlain University, USA)	0	0	12
International Paediatric Post Graduate Certificate (In partnership with Sydney Children’s Hospital Network, Australia)	0	10	2
Advanced Diploma in Midwifery	7	0	0
Diploma in Nursing	14	13	5
Diploma in Biomedical Sciences	11	11	1
Diploma in Pharmaceutical Sciences	0	6	0
Diploma in Emergency Medical Care	0	0	3
Diploma in Dental Hygiene	8	0	0
Diploma in Physiotherapy	0	0	5
Diploma in Social Work	0	0	23
Diploma in Environmental Health Sciences	8	0	6
Advanced Certificate in Oral Health Care	19	14	0
Certificate in Health Care	0	24	17

Source: NIHSS

Doctors are trained overseas in a number of countries, and in 2019, there were 56 students in undergraduate training at nine training institutions in 12 countries in Europe, Asia, Latin America and Australasia. Eighteen doctors and dentists are currently on postgraduate training.

Continuous professional development is organized for all professional cadres. The allied health professionals organize annual symposiums; the theme for the 2019 edition was data quality and use.

5.2.3 HEALTH WORKFORCE REMUNERATION AND RETENTION

Councils and professional associations advocate for regular revision of scheme of service for health professionals; in the last three years, the schemes of service for both doctors and nurses have been revised.

In an effort to better understand the health workforce strength and to build capacity of health workers, in 2019, HCA with the support of WHO conducted a job evaluation exercise for all the cadres of services. The exercise reviewed and evaluated all technical positions in HCA and determine their relationship to each other as well as ensuring alignment of their structures and functions. During the evaluation, existing job description were analysed and new job profiles/description were developed. The exercise also designed a grade and pay structure. Assessment of HR capacity also showed an urgent need for mechanisms to strengthen human resource production.

5.3 SERVICE DELIVERY

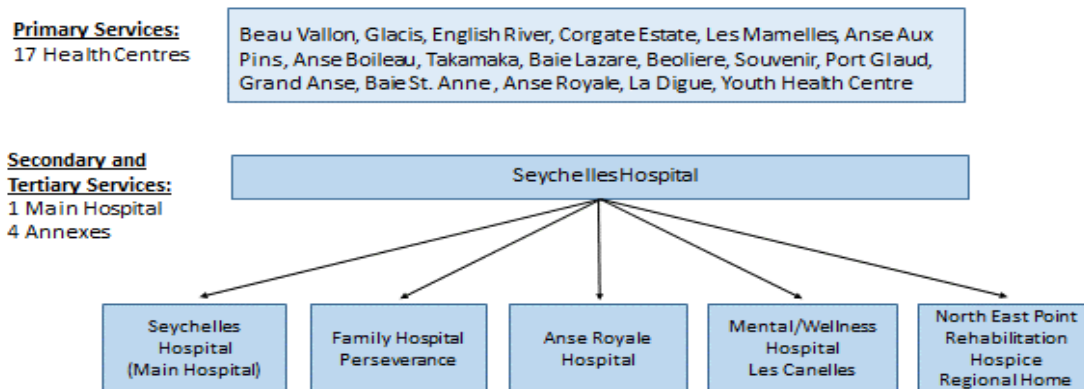
Improving service delivery is a key priority for the MOH; the aim is to provide integrated services ensuring clients receive quality care for holistic well-being in line with their expectations. Improving all aspects of service delivery was also a key recommendation of the Primary Health Care Conference held in 2019.

5.3.1 ACCESS TO AND UTILISATION OF SERVICES

Access

The MOH provides comprehensive primary, secondary and tertiary care. There is a network of 17 primary health care facilities and one main hospital – Seychelles Hospital (Fig. 5.3). Access to services is very good with the majority of the population living within 15 to 30 minutes of a health facility, additionally; services are free at the point of delivery.

FIGURE 5.3. SEYCHELLES HOSPITAL AND ANNEXES



MOH offers a comprehensive package of preventive, curative and rehabilitative services. Fifteen programmes offer services at the PHC level; following a national conference on PHC in July 2019, a task force was set up to review the objective, components and reach of PHC programmes.

A service readiness assessment was done in 2017 and a repeat assessment is planned for 2020. The new harmonized health facility assessment will include two new modules to assess health facilities further; this will include a module on quality of care and a second module on management and finance.

At the moment, MOH is not measuring some important indicators that can help further to understand access to services like waiting time to see a specialist after referral from PHC and waiting time for elective surgery.

Utilisation of services

Outpatient doctor consultation is provided in PHC facilities, outpatient departments and for some elderly and disabled patients at home. Traditionally, specialist outpatient services were provided at Seychelles Hospital, however, for the last three years, some specialty outpatient consultations are done in regional PHC facilities.

During 2019, more than 400,000 doctor consultations were recorded by the MOH (Table 5.7) giving approximately four doctor consultation/per capita, meeting the NHSP end-term target of <5/capita. Compared to OECD countries where there is an average of almost seven consultations per person per year, utilisation of services appear less in Seychelles, however, the Statistics Unit reports data from public facilities only.⁴⁴

Data capture in the MOH is still mostly paper-based and only aggregate data is submitted to the Statistics Unit. There is often no information on the sex and age of persons using services. The MOH Statistics Unit does not capture the number of doctor consultations in the private sector.

TABLE 5.7. OUTPATIENT DOCTOR CONSULTATION IN PUBLIC FACILITIES, 2019

	During normal working Hrs.	After normal working Hrs.	Total
Casualty	22,993	23,757	46,750
PHC	244,533	57,683	302,216
SOPD	73,552	N/A	73,552
Grand Total	341,078	81,440	422,518

⁴⁴ OECD (2019), Health at a Glance 2019: OECD Indicators, OECD Publishing, Paris, <https://doi.org/10.1787/4dd50c09-en>.

Seychelles Hospital provides acute care and also long-term and palliative care. In 2019, there were 11, 339 admissions to acute wards giving a bed occupancy rate of 67% (Table 5.8).

TABLE 5.8. BED OCCUPANCY SEYCHELLES HOSPITAL, 2019

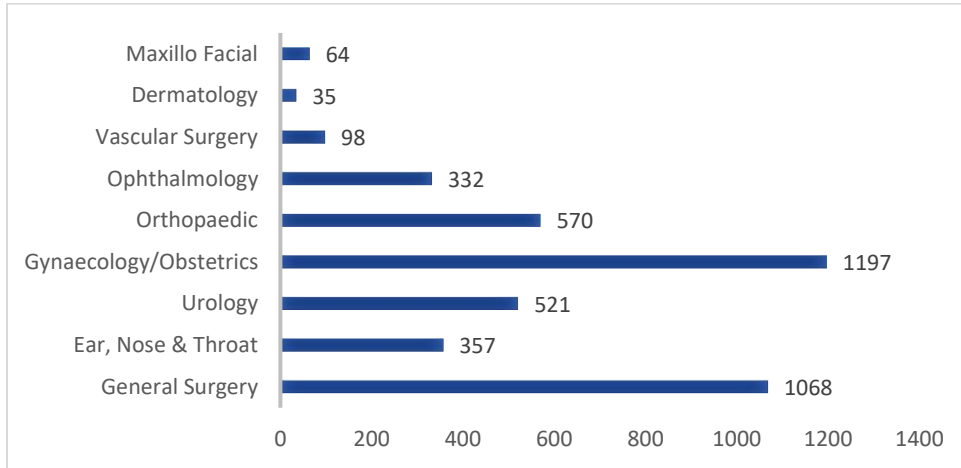
Ward	# of beds	Bed Occupancy Rate	Average length of stay (days)	Throughput*
Male Medical	26	89%	6.17	52.92
Female medical	30	53%	7.15	26.80
Paediatric	26	66%	3.64	66.69
N.I.C.U.	10	39%	13.95	10.30
Maternity	30	76%	4.24	65.17
Male Surgical	41	66%	5.31	45.29
Female Surgical	43	62%	5.07	44.42
Gynaecology	14	50%	2.50	72.29
I.C.U.	6	75%	5.66	48.33
Psychiatric	18	87%	19.14	16.56

*Cases per bed per month

There were 11,338 admissions to Seychelles Hospital in 2019, a 10% decrease compared to 2018. The decrease was mostly in admissions to medical wards, which were under renovation in 2019. The highest bed occupancy like in previous years was on Male Medical Ward, while the Psychiatric Ward had the longest average length of stay. During renovation of the Female Medical Ward in 2019, some patients were admitted to Female Surgical Ward.

There are three main operating theatres, one maternity operating room and two procedural rooms in Seychelles Hospital. A total of 4242 surgical operations were done in 2019, with the majority in general surgery and obstetrics/gynaecology (Fig. 5.4).

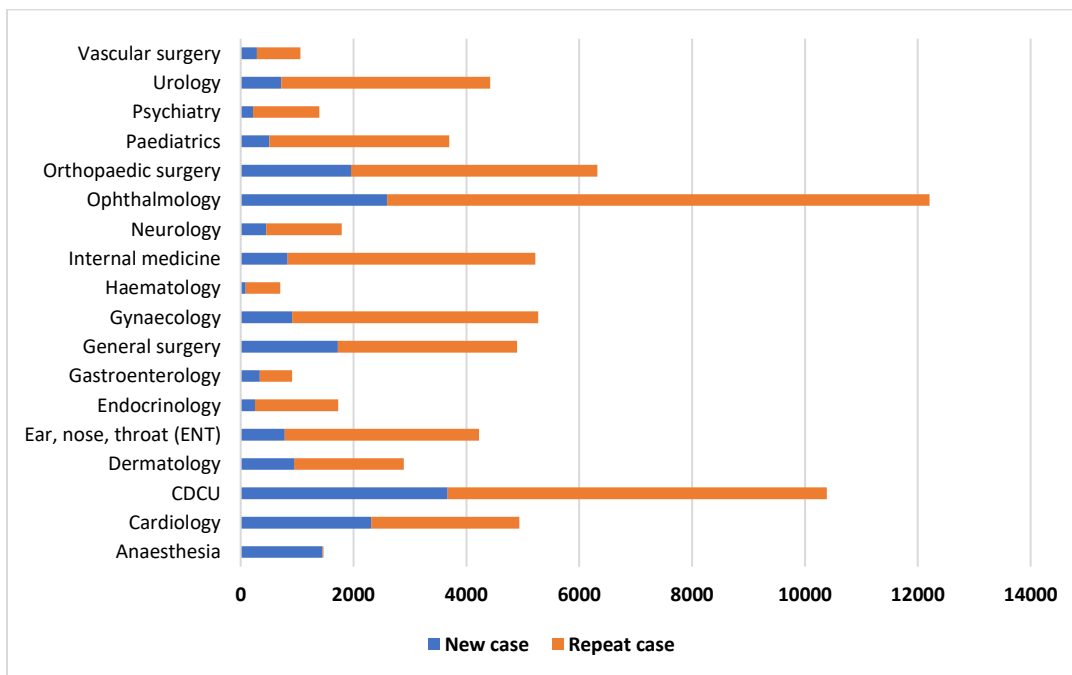
FIGURE 5.4. NUMBER OF SURGERIES BY SPECIALTY, 2019



5.3.2 SPECIALIST OUTPATIENT SERVICES

A number of specialists offer services on an outpatient basis; patients are referred to these services through their PHC provider, private clinics or as part of follow up after discharge from hospital. In 2019, 73,552 consultations were reported, and only 37% of all consultations were newly referred patients (Fig. 5.5).

FIGURE 5.5. ATTENDANCE TO SPECIALIST OUTPATIENT CLINICS, 2019



In 2019, there were new specialist services that were added to the lists of services delivered by HCA. This included posterior eye surgery as part of the eye clinic services and screening for inborn metabolic disorders as part of post-natal care.

Oncology Unit

A dedicated team of doctors and nurses provide specialized outpatient services to cancer patients. In 2019, the Oncology Unit reported 4918 consultations; 236 new patients started chemotherapy, the majority were women with breast cancer.

Overseas Treatment

The MOH provides overseas treatment, with the approval of a medical board for patients who require specialized treatment and diagnostic interventions that are not available locally. In 2019, 209 patients (165 adults/44 children) travelled for treatment overseas (some patients travelled more than once); a decrease of 18% compared to 2017 (Table 5.9). Twenty-one percent of the 2019 cohort were aged 65 years and above. Cancer was the most common disease (44%) requiring overseas treatment, 12% of patients had cardiac surgery, and 12 infants with congenital malformations underwent corrective surgical procedures.

TABLE 5.9. OVERSEAS TREATMENT, 2017-2019

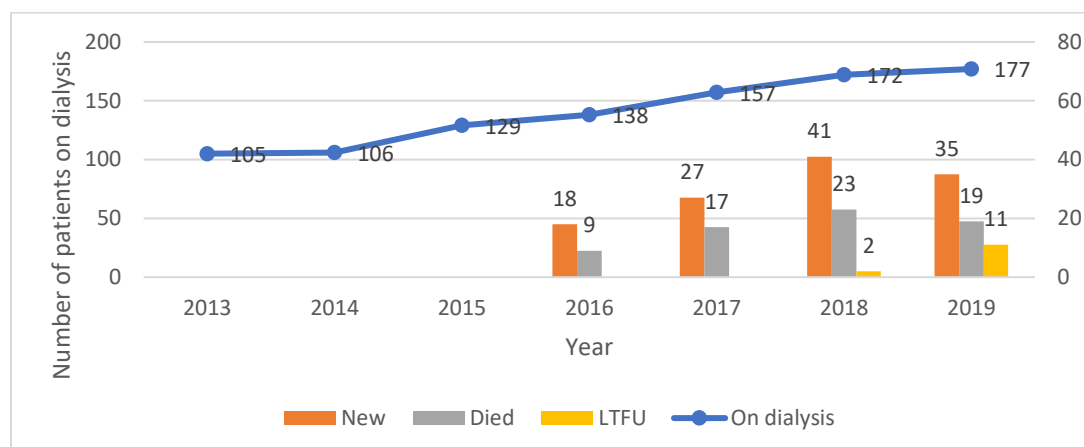
	2017	2018	2019
Number of patients	255	211	209
Cost (SCR) M	43.9	40.9	42.8

Haemodialysis Services

MOH provides haemodialysis services, free at the point of use, on Mahe and Praslin. A total of 177 patients were on chronic dialysis in 2019; 35 new patients started dialysis, 19 died and 11 decided to discontinue dialysis (Fig. 5.6) mostly because of loss of vascular access.

In 2019, more dialysis sessions were reported (25,008) compared to 2018 (22,624), however, the net increase in the number of patients on chronic dialysis was five only.

FIGURE 5.6, PATIENTS ON HAEMODIALYSIS, 2013-2019



Source: AMSA. LTFU-Lost to follow -up.

5.3.3 REHABILITATIVE SERVICES

The MOH offers several rehabilitation services at PHC level and in special institutions, in some instances, care is offered at domiciliary level. The following services are available: physiotherapy; occupational therapy; audiology; orthotic/prosthetic services; and acupuncture. In 2019, the Physiotherapy Unit reported conducting more than 64, 000 physiotherapy sessions, mostly for backache, inflammatory joint pain and for rehabilitation following injuries and fractures, whereas, the occupational therapy unit worked mostly with patients with mental disorders and cerebrovascular accidents (Table 5.10).

TABLE 5.10. TOP SIX CAUSES OF ATTENDANCE FOR OCCUPATIONAL THERAPY, 2019

Diagnosis	Male		Female		Total
	NP	RC	NP	RC	
Cerebral Vascular Accident	23	773	47	232	1075
Fractures	36	109	13	164	322
Polyneuropathy	8	225	3	26	262
Developmental Disorders	24	461	8	148	641
Autism	13	375	2	49	439
Mental Disorders	33	2661	35	2070	4799

Notes: NP- New Patient; RC- Repeat consultations

Other rehabilitative services include acupuncture, podiatric services and audiology (Table 5.11).

TABLE 5.11. ATTENDANCE FOR REHABILITATIVE SERVICES, 2019

	New Referrals	Repeat Consultations	Total Consultations
Acupuncture	166	2534	2700
Audiology	6	11	17
Podiatric services			2691

5.3.4 LONG TERM AND PALLIATIVE CARE

The WHO defines long-term care as systems that enable older people who experience significant declines in capacity to receive the care and support of others consistent with their basic rights, fundamental freedoms and human dignity. The Home Care Programme/Service as a key element of the social Protection System is the largest programme providing long-term care in Seychelles.

Long-term care can be received in institutions and at home. It focuses on assisting and enabling persons with a reduced degree of functional capacity – physical or cognitive and who are consequently dependent for an extended period on assistance with Activities of Daily Living.

Full-time and part-time care providers alongside community health nurses, Occupational therapists and Physiotherapists deliver the programme. The professional home health services provided include wound care, pain management, medication and disease education and management, physical, speech and occupational therapies.

MOH supported capacity building of home care providers in order to ‘professionalise’ the services, in 2019:

- 129 home carers were trained in several aspects of health and care activities to support continued living at home.
- 56 home carers were trained in basic First Aid
- 45 home carers followed refresher training in First Aid and were registered as First Aiders.

Training programmes are ongoing and will continue to equip all home carers with the necessary skills to support elderly persons and those living with disabilities to allow them to remain in their home and community settings.

MOH provides inpatient care in two main institutions (Table 5.12); Hospice provides end-of-life care mostly to cancer patients, whereas North East Point Hospital admits patients in need of rehabilitative care.

TABLE 5.12. BED OCCUPANCY LONGTERM CARE FACILITIES

	# of beds	Number of Admissions	Occupied bed-nights	Average length of stay	Bed occupancy rate
Hospice	6	22	2061	93.7 days	94%
North East Point Hospital	28	175	7267	41.5 days	71%

5.3.5 DIAGNOSTIC SERVICES

Clinical Laboratory

The clinical laboratory performed 838,829 tests during 2019, a 17% increase compared to 2018; 68% of these tests were biochemistry analysis (Table 5.13). A new algorithm for confirmation of HIV diagnosis, discontinuing use of Western Blot test, was adopted in 2019 based on new national HIV testing guidance, additionally, early infant diagnosis of HIV using DNA PCR test is now done locally.

TABLE 5.13. TESTS DONE IN CLINICAL LABORATORY, 2019

Unit	Number of tests	%
Biochemistry	573,246	68.34
Haematology	159,356	19.00
Blood transfusion Unit	61,833	7.37
Microbiology	34,858	4.16
Surgical Pathology	9,536	1.14
Total	838,829	100

Radiological imaging

The Radiological Diagnostic Centre performed 59,476 tests in 2019, a 10% increase from the previous year (Table 5.14) with X-rays the highest diagnostic test performed. An extra 307 mammograms were done in 2019 – an increase of 60% compared to 2018, however, the country is still falling short of the NHSP target of 15,000.

TABLE 5.14. RADIOLOGICAL IMAGING, 2018 AND 2019

Type of examination	2018	2019
MRI	1759	1930
C.T. Scan	6834	6792
X-Ray	32,555	37,167
Ultrasound	12,015	12,508
Special Screening	274	261
Mammogram	511	818
Total	53,948	59,476

In 2019, there was an upgrade of the Picture Archiving and Communication Systems (PACs) software as well as hard ware for the imaging facility located in the Sheik Khalifa Diagnostic Centre. This upgrade now allows for easy storage and retrieval of data.

5.3.6 QUALITY OF CARE

Health care quality is defined as services that are safe, appropriate, clinically effective and responsive to patient needs.⁴⁵ In 2017, a survey found that there was an increase in the patients' satisfaction with health care services compared to previous years. However, when assessing for indicators for selected quality of care and benchmarking against OECD countries, results showed that there are weaknesses in certain areas to provide quality services and standard of care. At the moment, facilities providing health services do not routinely report on quality of care indicators. A High-level Dialogue on Quality of Care in post-primary institutions was held in

⁴⁵ Institute of Medicine. Medicare: A strategy for quality assurance, volume I. Washington (DC): National Academies Press; 1990 (<https://doi.org/10.17226/1547>)

November 2019. During his opening address, the Minister for health pointed out several areas where more work is needed to improve quality of care:

- Training and continuous professional development of health workers
- Evidence - based decision making
- Mechanisms to recognise and reward improvement in care quality
- Revision of workflows and practices

Following the High- Level Dialogue, the Paediatric Ward started a quality improvement project focusing on infection control, patient safety and communication.

5.4 ESSENTIAL MEDICINES

The MOH has a National Essential Medicines List with 480 medicines (unique molecules) including formulations specifically for children; the list is regularly updated to include new products. More than 400,000 prescriptions were filled in 2019 (Table 5.15). A nominal prescription fee was introduced in 2019; the elderly, children and patients with chronic medical conditions are exempted. Analysis of prescriptions filled from PHC facilities on Mahe shows that 81% of prescriptions were exempted from the fee.

TABLE 5.15. PRESCRIPTIONS FILLED IN MOH FACILITIES, 2019

	Number of prescriptions filled
Primary Health Care Facilities	332, 559
Inner Islands	52, 519
Hospital	101, 953
Total	487, 031

Among key achievements in 2019, the Pharmaceutical Services developed standards for pharmacy staff and patient information leaflets for several products.

The MOH does not collect data on the number of prescriptions filled in the private sector where there are more than 30 pharmacies.

5.5 HEALTH INFORMATION

The MOH collects a lot of routine data, but at the moment, data capture is mostly paper-based. Data collation and processing is done mainly by the Statistics Unit, the Diseases Surveillance and Response Unit (DSRU) and the National Cancer Registry. These units are based in different entities and agencies and do not form part a unified health information system.

The Statistics Unit collects vital statistics and a variety of data from community health facilities; Seychelles Hospital (wards, laboratories, radiology, outpatient department, pharmacies); one private clinic and one NGO health facility. In 2019, two statisticians from Nigeria joined the unit under a bilateral cooperation programme.

The DSRU reports notifiable diseases from all public clinical services, laboratories and some private clinics. In 2019, DSRU developed new Integrated Disease Surveillance and Response (IDSR) guidelines to help build the country's capacity to prevent, detect, and respond to public health emergencies.

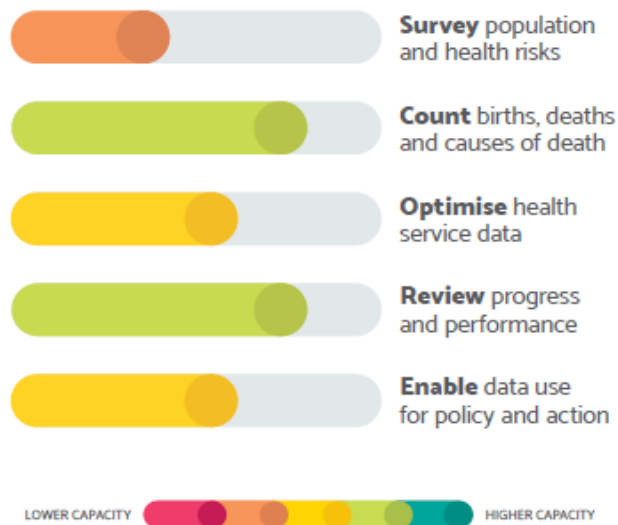
Transitioning to an electronic health information system (eHIS) has been on the agenda of the MOH for over a decade. In 2019, a contract was signed between the HCA and Manomara Software Company for the introduction of an eHIS and work is planned to start soon. Several sessions to sensitize health workers on the introduction and expectations of a new HIS system were organized by the HCA.

An independent assessment of the maturity of the health data system was done by WHO based on available data; this was done as part of an exercise to strengthen country data systems and capacity to monitor progress towards the health-related SDGs, including UHC, and other national and sub-national health priorities and targets. The assessment (SCORE) looks at five different interventions:

- **Survey population and health risks**

- Count births, deaths and causes of death
- Optimize health service data
- Review progress and performance
- Enable data use for policy and action

FIGURE 5.7. SEYCHELLES SCORE, 2019



Source: WHO

Seychelles final SCORE (Fig. 5.7) was shared by WHO in 2019 and showed that there are gaps and weaknesses in all five areas especially in availability and quality of health service data and use of data for accountability and to inform policy.

Performance Monitoring and evaluation (PM&E)

PM&E is one of four pillars of results-based management adopted by the government. There is no dedicated PM&E unit in the MOH; however, monitoring is conducted for different programmes and diseases. In 2018, in line with the *National Performance Monitoring and Evaluation Policy*⁴⁶, MOH set up a PM&E steering committee that conducted a readiness

⁴⁶ Department of Public Administration Government of Seychelles. Seychelles Performance Monitoring and Evaluation Policy, 2018.

assessment to determine whether the prerequisites were in place for building and/or strengthening a results-based PM&E system. The readiness assessment identified several gaps and weakness relating to data availability, quality and use. Unfortunately, in 2019, work on PM&E did not progress beyond the development of a PM&E roadmap.

Research

Under the PHA, there is a dedicated Research Unit as well as a Health Research and Ethics Committee. Eleven research proposals were submitted to the Health Research and Ethics Committee in 2019 of which seven were approved and four needed amendments before approval. The proposals submitted, mostly surveys on diverse topics e.g. Assessing health policy compliance, knowledge, attitude and behaviours for several risky health behaviours. Additionally, there are also more basic science projects such as testing for biological markers for developmental outcomes.

The Seychelles Child Development Study remains an active international collaboration and published a number of scientific papers through the year. The Seychelles team conducted a study on fish knowledge among households and school children, in collaboration with the National Bureau of Standards. The Public Health Authority, in collaboration with the Seychelles Fishing Authority, the University of Seychelles, the National Institute for Science Technology and Innovation, the Environment Department, the National Bureau of Statistics and the Seychelles Bureau of Standards held an international conference “From Ocean to Health” in November.

WHO AFRO Health Observatory

Seychelles developed and submitted its first health profile report to the WHO AFRO Health Observatory.

5.6 NEW DEVELOPMENTS

SEY-PEN Project

The SEY-PEN pilot was launched on 29th November 2019, with pilots in two primary care health centres on the main island of Mahe, namely, Anse Aux Pins and Beau Vallon. The SEY- PEN tool is adapted from the WHO Package of Essential Non-communicable Disease interventions for primary care and has the following main objectives: early detection; scale up of cost-effective clinical management; and improvement of the control of diabetes mellitus and hypertension. It is expected that implementation of SEY-PEN will be scaled up in 2020 after review of key information from the pilot sites.

Men's Clinic

In an effort to reach men, increase their awareness on several health issues, and influence health-seeking behaviour, a new clinic specifically for men was launched at Anse Aux Pins Clinic. The clinic offers dedicated services to men once in a week.

6. ORAL HEALTH SERVICES

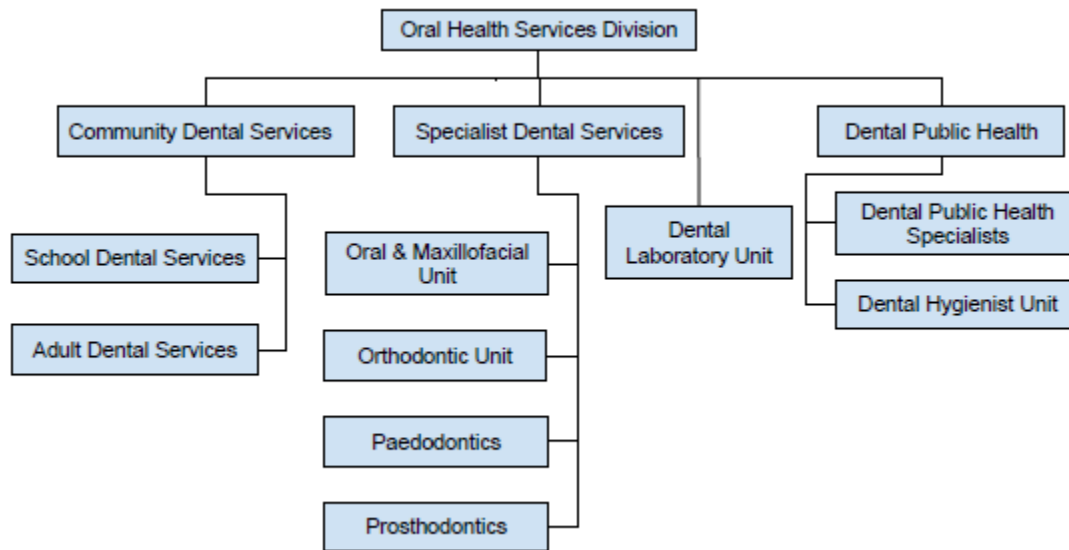


Raising oral health awareness in the community.

6.1 INTRODUCTION

The Oral Health Services Division (OHSD) within the HCA provides preventive, restorative and rehabilitative dental services to the population. The division is headed by a Director and is organised in Community Dental Services, Specialist Dental Services and Dental Public Health, supported by the Dental Laboratory Unit (Fig. 6.1).

FIGURE 6.1. ORGANISATIONAL STRUCTURE OF ORAL HEALTH SERVICES DIVISION



Oral health facilities:

- 10 community dental clinics
- 11 school-based dental clinics
- One centrally located dental clinic in the Yellow Roof Building at the Seychelles Hospital
- Montagne Posee Prison

The community dental clinics are not stand-alone facilities, but are located in the community health centres. OHSD also provides dental services to the Prison Department on a part time basis.

TABLE 6.1. STAFFING IN OHSD, 2019

Cadres	Number
Dental officers	16
Dental specialists	8
Dental surgery technicians	63
Dental therapists	23
Dental hygienists	14
Dental technologists	1
Dental laboratory technicians	4
Dental laboratory assistants	2

The dental (Table 6.1) is complemented by a volunteer German dentist under the terms of a longstanding memorandum of understanding between the Government of Seychelles and the German Dentist Association. The dentists rotate every three months and provide adult dental services at the Baie Lazare Health Centre. In 2019, there were five general dentists and two dental technicians on overseas training. Eighteen dental therapists completed their Bachelor Degree in Dental Therapy with the University of KwaZulu- Natal.

Uptake of dental services

OHSD recorded 79,405 attendances in 2019, a 5% reduction compared to 2018. This reduction is mainly attributed to reduced School Dental Services attendance. OSHD also noted that 25% of all appointments in 2019 were not kept, compared to 23% in 2018.

6.2 COMMUNITY DENTAL SERVICES

Community Dental Services provide care for adults and children in all 22 dental clinics and provides oral health promotion interventions.

6.2.1 ADULT DENTAL SERVICES (ADS)

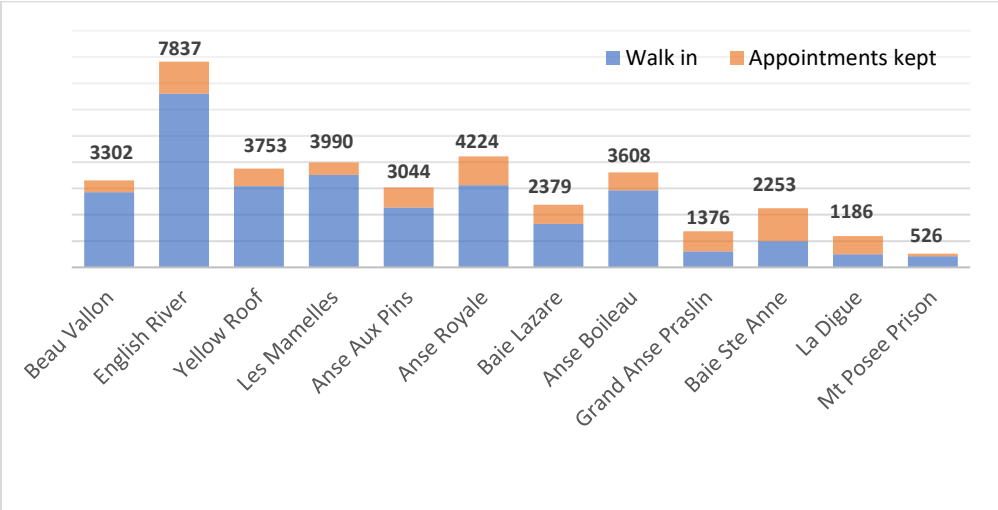
ADS provides community-based preventive, restorative and rehabilitative dental care to persons aged sixteen years and above and also deals with referrals from the School Dental Services.

Fifteen dental officers at 10 community health centres on Mahe, Praslin and La Digue and at the Yellow Roof Seychelles Hospital deliver services.

Service Uptake

ADS recorded 37,478 attendances in 2019, 76% of which were walk-ins, with females accounting for 60% of all visits. Of the patients who booked or were given appointments, 68% kept their appointments. Only 13% of visits were for preventive clinical care, i.e. dental check-ups. Fig. 6.2 shows attendance by facility in 2019; English River Health Centre is the busiest facility, followed by Anse Royale and Anse Boileau.

FIGURE 6.2. ADULT DENTAL SERVICE PATIENTS ATTENDANCE BY DENTAL CLINICS, 2019



After Hours Dental Service

The dental on-call or after-hours service caters for patients with emergency dental conditions and is available between 4pm and 8am on week days and 24 hours during weekends and on public holidays. On-call service is offered on Mahe and Praslin.

A total of 156 cases were registered after hours on Mahe in 2019. Almost half of all attendances were for dento-alveolar and/or maxillofacial trauma. It is interesting to note that a minority of patients who consult after hours (1%) refused treatment last year.

6.2.2 SCHOOL DENTAL SERVICES (SDS)

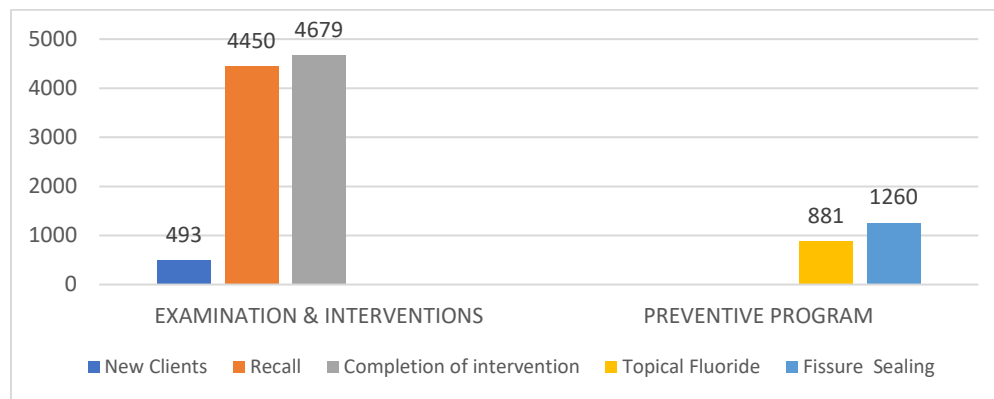
SDS provides Oral Health Care services targeting the population under 16 years of age. The SDS provides preventive and therapeutic oral health care to improve the oral health status and the quality of life of children in Seychelles. Dental therapists run the service.

Service uptake

There were 18,293 attendances during 2019 with attendance slightly higher for girls (53%). Contrary to ADS, where most contacts are walk-ins, attendance is mostly by appointment (55%). In 2019, 26% of children did not keep their appointments. For preventive services, students can be called in from the classroom where the SDS has a facility on the school premises.

A number of preventive interventions were done in 2019, (Fig. 6.3); 'NEW' represents the first 'check-up' as of 2019 and 'RECALL' are follow-up 'check-up' appointments in 2019.

FIGURE 6.3. PREVENTIVE INTERVENTIONS PERFORMED BY SDS, 2019



While dental therapists are primarily engaged in SDS, management of adults was a requirement for the cohort completing their Bachelor's Degree in Dental Therapy. Almost 600 adults were seen under this programme, this was done under the supervision of dental officers.

6.3 SPECIALIST DENTAL SERVICES

Specialist dental services include oral /maxillofacial, dental surgery, orthodontics and paediatric dentistry.

6.3.1 ORAL AND MAXILLOFACIAL SERVICES

Oral and Maxillofacial Services (OMFS) offers hospital based and community-based treatment to the public on a referral basis. In 2019, the Unit comprised of four surgeons managing a wide range of cases involving the cranium, face, jaws and neck.

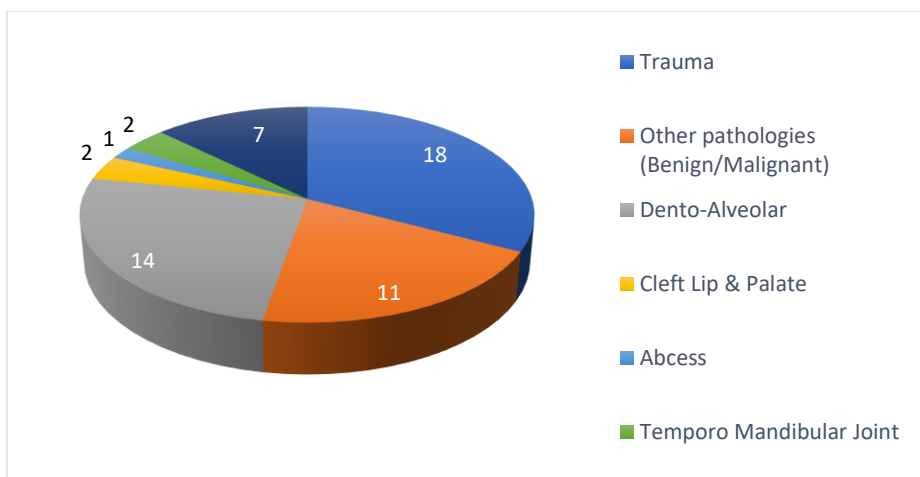
Outpatient clinic attendance

Services are offered primarily at the Yellow Roof Dental Clinic (6,536 attendances, of which 1616 were new cases). Clinics were also held at English River, Anse Royale and Baie Ste Anne. Anse Royale and English River Health Centres recorded a total of 354 and 547 attendances respectively. In 2019, a pilot was conducted at Anse Boileau Health Centre with the aim to further decentralize services, however, this was discontinued after only two clinics because of very poor utilisation - only three cases were seen.

Surgical Activities

OMFS performed 1302 surgical interventions in 2019, 55 (4%) of which were major surgeries, of which the majority was for trauma (Fig. 6.4); other pathologies included benign and malignant lesions (soft and hard tissue) of the craniofacial and neck region.

FIGURE 6.4. BREAKDOWN OF MAJOR SURGERIES, 2019



Minor surgeries accounted for 96% of all surgical activity, mostly for surgical or invasive tooth extraction. Four patients were diagnosed with cancer and eight cases were under follow up. No patients were referred for overseas specialised treatment.

6.3.2 ORTHODONTIC SERVICES

Orthodontics is a specialized branch of dentistry concerned with facial growth, development of the dentition and occlusion. It includes monitoring the development of teeth and providing interceptive measures with appliances where appropriate. The majority of orthodontic work is carried out with removable and fixed appliances. Orthodontic care also encompasses the provision of advice and education to patients, caregivers of minors and other health-care professionals such as speech pathologist and ENT surgeon.

There were 7029 attendances, of which 699 were new cases. The Unit screened the 447 patients who were on a waiting list for orthodontic services since 2018. The Unit prescribed 490 removable functional appliances and 141 fixed appliances.

6.3.3 PAEDIATRIC DENTAL SERVICES

Paediatric Dental Services are yet to be fully developed. OHSD has one paediatric dental specialist currently employed as a general dentist. Since July 2019, the paediatric dental specialist has been helping the School Dental Services with several cases (34 children) such as the dental rehabilitation of special needs children, cleft patients and children with behavioural problems.

6.4 DENTAL PUBLIC HEALTH SECTION

The Dental Public Health Section focuses on prevention, monitoring, and evaluation.

6.4.1 DENTAL HYGIENIST UNIT

The Dental Hygienist Unit is a unit of the Dental Public Health Section providing clinical dental hygiene services and oral health promotion activities. The Unit has 14 dental hygienists; however, delivery of care is dependent on availability of dental surgery space

Service uptake

Attendance is by appointment only; 9477 attendances were recorded in 2019 (40% male) this represents 66% of all appointments given and 82% of visits were for the management of plaque-induced gingivitis.

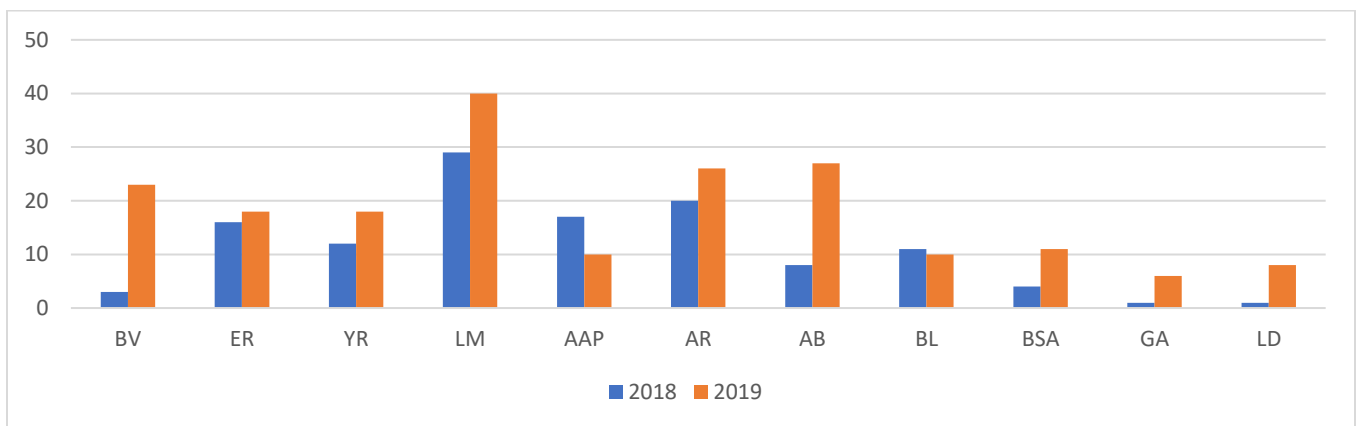
The Dental Hygienist Unit also conducted oral health education sessions. The majority of these sessions were on a one-to one basis. Some sessions were held outside dental facilities and targeted pregnant women, patients on haemodialysis, patients with diabetes and other individuals with special needs. Some patients are also seen in the home, on the wards or in long-term care facilities.

6.4.2 ORAL HEALTH PROGRAMMES

ANC Dental Programme

The ANC dental programme is a prevention program targeting pregnant women, with the aim of improving maternal and child oral health. Fig. 6.5 shows uptake by district for 2018 and 2019. Although facilities reported an increase in uptake compared to 2018, the number of pregnant women seen (197) is very low compared to the average number of pregnancies annually (1600).

FIGURE 6.5. UPTAKE OF ANC DENTAL PROGRAMME PER DISTRICT, 2018 AND 2019



Notes: BV-Beau Vallon; ER: English River; YR: Yellow Roof Clinic; LM: Les Mamelles; AAP: Anse Aux Pins; AR: Anse Royale; AB: Anse Boileau; BL: Baie Lazare; BSA: Baie Ste Anne; GA: Grand Anse Praslin, LD: La Digue

Tooth brushing Programme Crèche Year 2

In an effort to re-vamp the crèche tooth-brushing program in schools, the Oral Health Services, with the support of IECD, re-introduced a modified crèche tooth-brushing programme in public schools. The project was piloted in three schools and participation rate was excellent (Table 6.2). The programme for Crèche Year 2 will be extended to all Public Schools in 2020.

TABLE 6.2. PILOT TOOTH BRUSHING ACTIVITY, SDS 2019

Schools	Number of Participants			Number of children Per Crèche	% participation
	Boys	Girls	Total		
Au Cap	23	25	48	48	100
Bel Ombre	6	18	24	24	100
Grand Anse Mahe	12	13	25	24	96
Total	41	56	97	96	98.9%

6.4.3 COMMUNITY-BASED ORAL HEALTH PROMOTION ACTIVITIES

The primary purpose of the Oral Health Promotion Committee (OHPC) is to empower and enable the people of Seychelles to better their oral health. The activities implemented are in line with the common risk factor approach of public health. The committee works in collaborations with other stakeholders to better integrate oral health into general health promotion activities.

A total of 65 oral health promotion/education activities were organized in 2019 and most of the activities were centred on specific themes such as the World Oral Health Day, Cancer Awareness Week, and World Diabetes Day. These included oral health screening, exhibitions, oral health talks, Dental Plaque Disclosing activities and Tooth Brushing Demonstrations amongst others. Other activities were organized on request from private and public-sector organisations who also provided support in kind for these activities. Additionally, to assist with oral health promotion efforts, the unit created a number of IEC materials and media programmes.

6.5 DENTAL LABORATORY SERVICES

The dental laboratory is responsible for the fabrication and repair of removable prostheses (dentures), and construction of orthodontic appliances and occlusal splints. In 2019, 672 new removable prostheses were constructed, representing an 80% increase from the 374 produced in 2018. Orthodontic laboratory work was completed for 405 patients compared to the 247 recorded in 2018.

In 2019, there was a plan to transition from plastic/acrylic to chrome-cobalt dentures and ceramic prostheses.

7. PROGRESS ON SDG3



Sustainable Development Goals.

In 2015, Seychelles, together with other United Nations Member States, committed to the 2030 Agenda of the Sustainable Development Goals (SDGs) – 17 Development Goals and 169 targets with the aim of ending poverty, protecting the planet and ensuring that all people enjoy peace and prosperity by 2030.⁴⁷

SDG 3, *good health and well-being* is associated with 13 targets and 27 indicators. Globally, there has been some progress in SDG 3: life expectancy is increasing; maternal and child mortality is decreasing; however, more efforts are needed to achieve universal health coverage (UHC) and address NCDs.⁴⁸

UHC underpins all the other SDG 3 targets – it is through ensuring that all people have access to quality health services they need that other SDG 3 targets can be reached.

According to the WHO, PHC is the most efficient and cost-effective way to achieve UHC around the world. It provides a platform for integrating previously separate services for communicable diseases with those for women and children’s health and NCDs, for addressing both the demographic and epidemiological challenges facing most countries, and for innovations such as digital health.⁴⁹

Universal Health Coverage (SDG 3.8) means that all people receive the health services they need, including services designed to promote better health prevent illness and to provide treatment, rehabilitation and palliative care of sufficient quality, while at the same time ensuring that the use of these services does not expose the user to financial hardship.

SDG indicator 3.8.1: Coverage of essential health services

SDG indicator 3.8.2: Financial protection

SDG 3.8.1: Coverage of essential health services

In Seychelles, physical and financial access to health services are guaranteed – all residents have easy access to a comprehensive package of health services, including oral health services, free at the point of delivery. Services are organized into primary, secondary and tertiary health care and 15 programmes offer services across the life course addressing communicable,

⁴⁷ <https://sustainabledevelopment.un.org/post2015/transformingourworld>

⁴⁸ Progress of Goal 3 in 2019. <https://sustainabledevelopment.un.org/sdg3>

⁴⁹ WHO. Universal Health Coverage Key Facts. [https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))

noncommunicable diseases, reproductive maternal and child health, as well as rehabilitative care needs.

Following recommendations made at the National PHC Conference in 2019, the MOH set up a task force to review the content of the package of health services at PHC level and to identify innovative service delivery approaches to further improve care.

Utilisation of health services is high with approximately four doctor consultations per capita in 2019 (Chapter 5).

All deliveries are institutional and the country has recorded high coverage (>95%) of childhood immunization for many years. Sexual and reproductive health services are available free of charge at the PHC level and also in some private and NGO clinics; there are no recent surveys of contraceptive prevalence, but it is assumed to be less than the NHSP end-term target of 55%.

The Cancer Programme in partnership with WHO is developing a national cancer strategy that will give new approaches to cancer prevention and screening. In 2019, the number of both mammograms (818) and pap smears (6170) done increased compared to 2018, but were short of the NHSP end-term targets (1500 and 15,000 respectively).

A multidisciplinary team (Doctors, Nurses, Psychologists, Social Worker and Nursing Assistants) of health care works delivers the following mental health services:

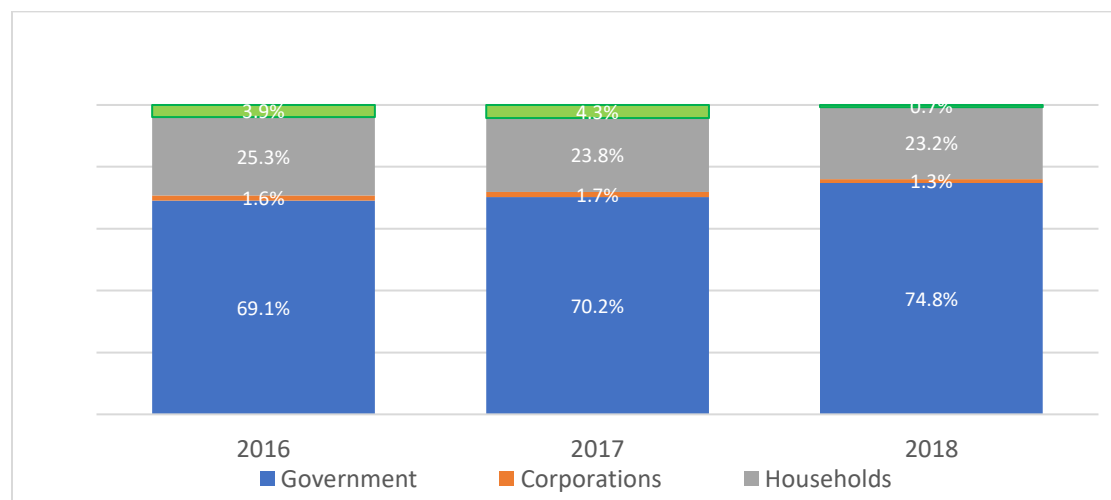
- Inpatient care (Acute Psychiatric Unit)
- Outpatient clinics (adult and children) community mental health services
- Domiciliary care

Among key achievements in 2019, the Mental Health Services introduced a tracking system to trace patients as soon as they miss scheduled appointments to ensure continuity of care, there was increased utilisation of psycho-geriatric services and reduction in re-admission rates.

SDG 3.8.2: Financial Protection

All health services at public facilities are free; however, out of pocket spending appears substantial in the last three years⁵⁰. Fig 7.1 shows distribution of current health expenditure (CHE) for 2016-2018 with households contributing more than 20%. It assumed that no household faces catastrophic health expenses in Seychelles, but there is a need to understand the high out of pocket spending at a time when government is spending more on health.

FIGURE 7.1. DISTRIBUTION OF CHE BY INSTITUTIONS PROVIDING REVENUES FOR FINANCING SCHEMES



Source: NHA 2017, 2018

To measure progress in UHC, WHO recommends using a service coverage index (SCI) which ranges between 0 and 100 and is based on 16 tracer indicators in four categories:

- Reproductive, maternal, newborn and child health (RMNCH)
- Infectious diseases
- NCDs
- Service capacity and access and health security

⁵⁰ National Health Accounts Report, 2016-2017.

Globally, many countries are making progress and the SCI improved from 2000 to 2017.⁵¹ In 2015, the global average SCI was 64, and in high-income countries SCI was 80 and above.⁵²

For Seychelles, the SCI was 70 in 2017⁵³ and 80 in 2018⁵⁴ but due to missing data was not calculated in 2019 (Table 7.1). According to the World Health Statistics Report 2019, the SCI in 2015, for Seychelles was 68, whereas for Mauritius it was 64⁵⁵; these calculations are based on comparable estimates, while primary data was used for calculations of SCI in the 2017 and 2018 APR.

There are several challenges in measuring all aspects of UHC; the MOH does not routinely measure and report on quality of care and due to data gaps (mostly lack of granular data), we cannot reliably report on equity and identify ‘who is left behind’. There is therefore an urgent need to understand “who is left behind” so that targeted services can be developed and implemented.

For countries like Seychelles, with high service coverage and low financial hardship, WHO recommends working on efficiency, quality and equity.⁵⁶

⁵¹ Primary Health Care on the Road to Universal Health Coverage 2019 GLOBAL MONITORING REPORT. Geneva, Switzerland: WHO, 2019

⁵² World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019.

⁵³ Annual Health Performance Report, 2017.

⁵⁴ Annual Health Performance Report, 2018.

⁵⁵ World health statistics 2019: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2019

⁵⁶ Primary Health Care on the Road to Universal Health Coverage 2019 GLOBAL MONITORING REPORT. Geneva, Switzerland: WHO, 2019.

TABLE 7.1. SCI, 2019

UHC Components	Year and Source	2018	2019
RMNCH		72.04%	
Family Planning coverage	2018, Sexual and Reproductive Health Programme Data; based on # reported, as percentage of total women aged 15-49 years.	38.1%	ND
Antenatal Coverage (4+ Visits)	2018/2019, Maternity Ward Data	99.1%	99%
Immunisation Coverage (DPT3)	2018/2019, EPI Data	99%	99%
Care Seeking for Pneumonia in children <5years.	Not measured. All children with pneumonia treated in hospital.	-	-
Infectious Diseases		82.22%	
ART Coverage (of known PLHIV)	2018/2019, CDCU Data	72%	81%
Tuberculosis Treatment	2018/2019, CDCU Data	83%	70%
WASH (Water Access, Sanitation and Hygiene)	2010, Population census, NBS Access to treated water 93% and improved sanitation 97%.	93%	93%
Malaria Prevention	Not Applicable to Seychelles Context	-	-
NCDs		72.83%	
Prevalence of normal Blood Pressure	2013, Seychelles Heart Study IV.	77%	77%
Prevalence of normal Fasting Plasma Glucose	2013, Seychelles Heart Study IV.	63.5%	63.5%
Prevalence of Tobacco Non-Smoking	2013, Seychelles Heart Study IV.	79%	79%
Service Capacity		95.83	
Hospital Access	2018, 2019 MOH. (WHO recommendation of >18 beds/10,000 population)	100	100
Health Workers Density	2018, 2019 MOH (WHO recommendations of >90 physicians, >14 surgeons and >1 psychiatrist per 100,000 population)	100	100
IHR Core Capacity Index	2017, Joint External Evaluation.	88%	88%
Overall UHC Index	(72.04*82.22*72.83*95.83)	80	

ND- No data; EPI: Expanded Programme of Immunization; PLHIV- People living with HIV.

Note: Calculations done based on guidance from *tracking universal health coverage: 2017 global monitoring report*. World Health Organization and International Bank for Reconstruction and Development / World Bank; 2017.

In 2019, Seychelles developed a national baseline SDG report taking stock of where the country was in relation to all SDG targets, this exercise was led by the Ministry of Finance Trade Investment and Economic Planning. During a consensus-building workshop, all ministries agreed that Seychelles need to invest more resources in timely, quality and granular SDG data, including real-time data. Modern technologies present opportunities for real-time monitoring of many goals.

The country is on track to achieve several SDG 3 (RMNCH); however, it is stagnating for a few targets e.g. reducing premature NCD mortality (Table 7.2). Data for the following indicators is currently not available:

- 3.3.1 Number of HIV infections/1000 uninfected population
 - No recent surveys but diagnosed cases increasing in last four years
- 3.3.4 Hepatitis B incidence per 100,000 population
 - No recent surveys, high coverage of HBV vaccination in children but diagnosed cases increasing in young adults
- 3.5.1 Coverage of treatment interventions for substance use disorders
 - Data with APDAR, the agency responsible for the prevention, treatment and rehabilitation of drug addiction
- 3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied, satisfied with modern methods
 - No survey data. For 2019, only number of women attending family planning services is available.
- Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)
 - No data, but presumed to be very low

Table 7.2. PROGRESS ON SDG 3, 2019

SDG	SDG 3 Good Health and Well-being Indicators	Source	2019 Value	Rating	Trend	Comments
3.1.1	Maternal Mortality Rate (per 100,000 live births)	Statistics unit, DOH	62.3	■	↑	On track for SDG target but increasing trend last five yrs.
3.1.2	Births attended by skilled health personnel (%)	Statistics unit, DOH	98.8%	■	↑	Traditionally, all women deliver in hospital. Very few birth before arrival
3.2.1	Under-5 mortality rate (per 1,000 live births)	Statistics unit, DOH	17.4	■	↑	On track for SDG but still not achieving NHSP target
3.2.2	Neonatal Mortality Rate (per 1,000 live births)	Statistics unit, DOH	8.7	■	↑	On track for SDG but still not achieving NHSP target
*	PLHIV receiving ART	CDCU, PHA	81%	■	↑	Denominator is based on known cases of HIV
3.3.2	Incidence of Tuberculosis (per 100,000 population)	CDCU, PHA	13.3	■	↗	TB incidence in last four yrs. higher than 2015 baseline.
3.4.1	Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease in populations aged 30-70yrs.	Africa SDG index and Dashboards	21.2	■	↗	NCDs contributed to 55% of all deaths among persons aged 30-70 yrs.
3.4.2	Suicide mortality rate	Statistics unit, DOH	6.1	■	↗	Global target not specified. Decreasing trend for last 5 years
3.6.1	Deaths due to road traffic injuries	Statistics unit, DOH	11.3	■	↗	Lower than 5 yr. average but higher 2018 value
3.7.2	Adolescent birth rate (births per 1,000 women aged 15-19)	NBS	69	■	↓	Increasing trends.
3.8.1	Coverage of essential health services (Service Coverage Index (0-100))	Statistics unit, DOH	80	■	↑	UHC calculated in 2018 (APR 2018).
3.9.3	Mortality rate attributed to unintentional poisoning	Statistics unit, DOH	0.0	■	↑	No deaths in 2019, one death in 2018.
*	Healthy life-expectancy at birth (years)	Global Health Observatory	65.3	■	↗	Increasing slowly for women, slowdown in gains for men

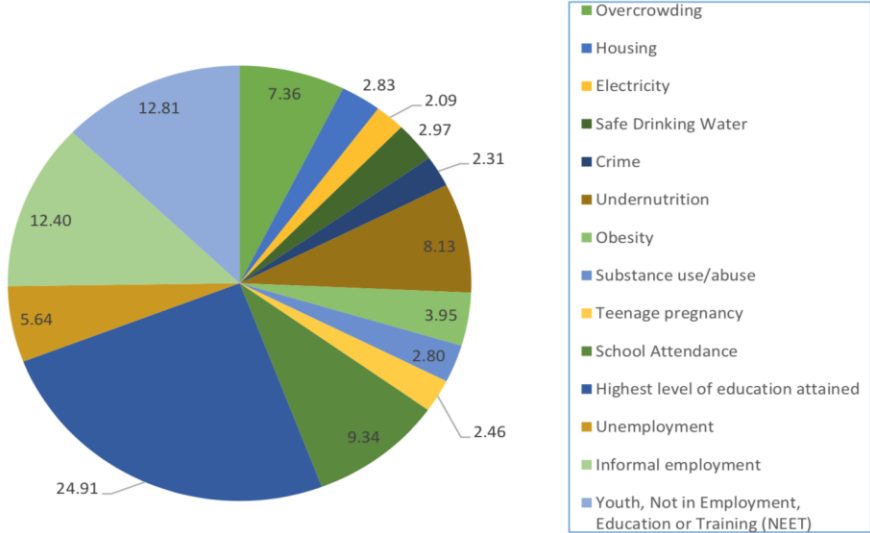
Rating based on global thresholds. Trends: ↑ – maintaining achieved target or on track to achieving SDG target; ↗- improving moderately, but will fall short of SDG targets; ↓ worsening trend.

Notes: * Included in Africa Index Indicator Profile. SDG Centre for Africa and Sustainable Development Solutions Network (2019): Africa SDG Index and Dashboards Report 2019. Kigali and New York: SDG Centre for Africa and Sustainable Development Solutions Network https://sdsna.github.io/2019AfricaIndex/2019_africa_index_indicator_profiles.pdf

According to the Sustainable Development Report, 2019, the world needs deep transformations in order to achieve to 2030 goals.⁵⁷ The transformations, underpinned by the principle of ‘leaving no one behind’ should address major synergies and trade-offs across the interventions required to achieve SDG goals. For SDG 3, *Health and Well-being*, there is a need for an integrated strategy and group interventions for SDG 1, 2, 3, 4, 5, 8, 10 to build synergy and ensure UHC, promote healthy behaviours and address social determinants of health and well-being.

The latest publication on Multidimensional Poverty Index (MPI)⁵⁸ shows that in the third quarter of 2019, the poverty incidence (H) was 11.88%, and the average intensity (A) was 33.26%. The MPI which is the product of H and A (H*A) was 0.040 – meaning that multidimensionally poor people in Seychelles experience 4% of the total deprivations that would be experienced if all people were deprived in all indicators. Deprivations contributing the most to overall multidimensional poverty are level of education attained, lack of employment, living in overcrowded households etc. (Fig.7.2).

FIGURE 7.2. PERCENTAGE CONTRIBUTION OF EACH INDICATOR TO NATIONAL MPI, 2019 Q3



⁵⁷ Sachs, J., Schmidt-Traub, G., Kroll, C., Lafortune, G., Fuller, G. (2019): *Sustainable Development Report 2019*. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

⁵⁸ National Bureau of Statistics. *Multidimensional Poverty Index, 2019*. NBS, May 2020.

It is important to understand 'who is left behind' and what interventions are needed to ensure equitable health outcomes. The SDG goals, and consequently the implementation challenges are integrated and interconnected and therefore call for joint and integrated solutions. In 2017, recognizing the interconnectedness of all the SDGs and the influence of socio-economic determinants of health on disease burden and health outcomes, all members of the Cabinet of Ministers signed a Health in All Policy Declaration pledging to mainstream health in all policies. There has been limited formal or concerted implementation or follow-up action since.

LIMITATIONS/CHALLENGES

Information from the PHA and several programmes is not included in this report as many health care workers were redeployed at the beginning of 2020 to support the national Covid-19 response and could not submit their annual reports.

The statistics Unit does not capture data from the private health sector; this report is largely a MOH, rather than a health sector report.

Unfortunately, a data verification workshop organized in February 2020 was cancelled, the objectives were to present and share 2019 data from all data processing units; to review/verify shared data; and to build consensus around data for core health indicators.

There are several challenges with the quality of cause of death reporting.

RECOMMENDATIONS

The 2019 performance of the health sector will be discussed with leadership and implementers to acknowledge success, understand gaps and decide on remedial actions. The writing team proposes a few key recommendations for discussion and consideration.

- **Governance**
 - Set up formal mechanisms to improve communication within and across agencies
 - Develop accountability framework for each agency
 - Use data to inform decisions

- **Health Status**
 - Develop joint programme with other sectors to support healthy ageing to increase HALE
 - Set up a technical working group (TWG) to review high pneumonia morbidity and mortality
 - Understand the increase in HBV cases, relook at HBV vaccination policy (which at- risk groups need vaccination)
 - Create a community of practice to address NCDs
 - Allocate more resources for health promotion and prevention
 - Occupational Health Unit to review deaths due to 'falls' in the workplace
 - Sexual Reproductive Health Programme and Health Promotion Unit to develop interventions to address high number of STI

- **Risk factors for health**
 - Address increasing obesity among school children as a public health emergency

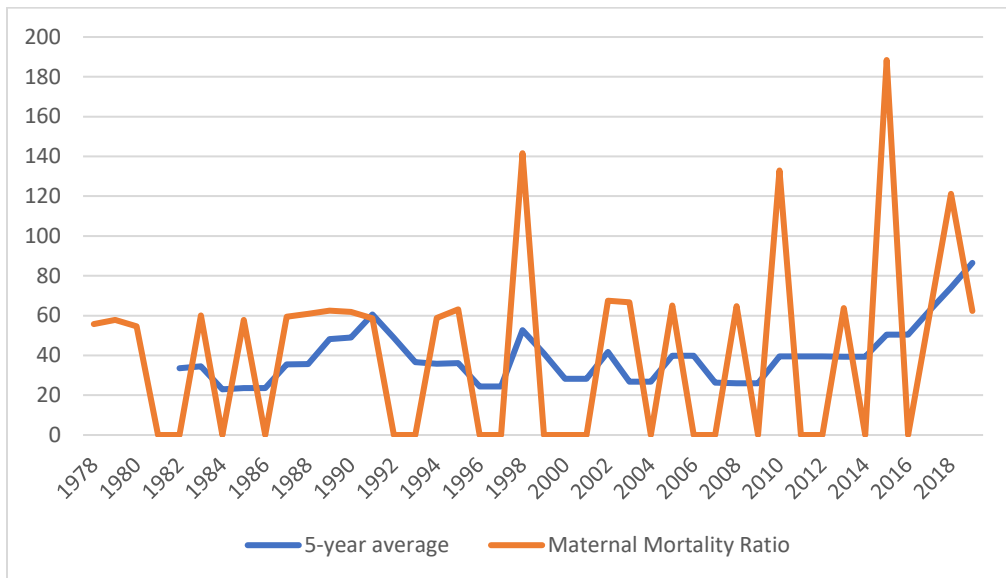
- **Health System**
 - Address low number of nurses graduating from NIHSS
 - Sensitize doctors about high request for laboratory tests in Clinical Lab and increased investigations in Radiology Department. CME on responsible use of diagnostics
 - All units to work on QI initiatives learning from the Paediatric Ward experience

- Assess implementation of new initiatives – Diabetic Passport, SEYPEN
 - AMSA to develop and maintain a comprehensive renal register
 - Accelerate implementation of eHIS
 - Develop formal mechanisms for improved collaboration among Statistics Unit, DSRU and Cancer Registry
 - Improve quality of data
 - The Chief Medical Officer to implement measures to improve quality of cause of death data
- **Oral health services**
 - Improve uptake of ANC dental programme
 - Report attendance data to Statistics Unit
 - Develop initiatives to reduce missed appointments
- **Progress on SDG 3**
 - Programmes to submit coverage data on time
 - TWG to review UHC and who is 'left behind' by each programme
 - PS to revitalize the HiaP Pledge

ANNEX 1. MORTALITY BY DISTRICT, 2019

District	Deaths by Sex				*Population in districts	Deaths per 1000 Population in District
	Male	Female	Total	% of total deaths		
Anse Aux Pins	37	18	55	7%	4236	13.0
Anse Boileau	15	16	31	4%	4093	7.6
Anse Etoile	17	10	27	4%	4935	5.5
Anse Royale	19	17	36	5%	4665	7.7
Au Cap	13	9	22	3%	4312	5.1
Baie Lazare	13	15	28	4%	3951	7.1
Baie Ste Anne	21	15	36	5%	4786	7.5
Beau Vallon	25	16	41	5%	4020	10.2
Bel Air	13	4	17	2%	2963	5.7
Belombre	11	12	23	3%	3996	5.8
Cascade	16	16	32	4%	3810	8.4
English River	15	10	25	3%	3737	6.7
Glacis	21	15	36	5%	4016	9.0
Grand Anse Mahe	21	12	33	4%	3568	9.2
Grand Anse Praslin	12	8	20	3%	3876	5.2
Ile Perseverance	4	7	11	1%	4586	2.4
La Digue	11	14	25	3%	2926	8.5
Les Mamelles	11	7	18	2%	2720	6.6
Mont Buxton	15	10	25	3%	3169	7.9
Mont Fleuri	17	16	33	4%	3419	9.7
Other Islands	0	0	0	0%	574	0.0
Plaisance	16	33	49	6%	3974	12.3
Pointe Larue	15	20	35	5%	3082	11.4
Port Glaud	11	10	21	3%	3215	6.5
Roche Caiman	8	11	19	2%	2905	6.5
St Louis	26	19	45	6%	3241	13.9
Takamaka	10	10	20	3%	2850	7.0
Total	413	350	763	100%	97,625	7.8

ANNEX 2. TREND IN MATERNAL MORTALITY, 1978-2019



ANNEX 3. LEADING CAUSES OF ADMISSIONS SEYCHELLES HOSPITAL, 2019 (SELECTED WARDS)

Leading causes of admissions in Male Medical Ward, 2019

ICD-10 codes	Cause	Number of admissions
Total Admissions in 2019 = 1376		
I00-I99	Diseases of the Circulatory System	312
J12-J18	Pneumonia	107
C00-D48	Neoplasms	62
E10-E14	Diabetes	61
A27	Leptospirosis	44

Leading causes of admissions in Female Medical Ward, 2019

ICD-10 codes	Cause	Number of admissions
Total Admissions in 2019 = 804		
I00-I99	Diseases of the Circulatory System	180
J40-J47	Chronic respiratory diseases	73* (Asthma 52)
J12-J18	Pneumonia	86
C00-D48	Neoplasms	45
E10-E14	Diabetes	31

Leading causes of admission in Male Surgical Ward, 2019

ICD-10 codes	Cause	Number of admissions
Total Admissions in 2019 = 1857		
S01-S96	Fractures (Rib, neck, femur, etc.)	212
L02-L03	Cellulitis, Cutaneous abscess, furuncle and carbuncle	150
C00-D48	Neoplasms	121
K40-K56	Hernia (inguinal, umbilical, ventral, etc.)	115
K35-K38	Appendicitis	43

Leading causes of admission in Female surgical ward, 2019

ICD-10 codes	Cause	Number of admissions
Total Admissions in 2019 = 1734		
I00-I99	Diseases of the Circulatory System	208
C00-D48	Neoplasms	126
J40-J47	Chronic respiratory diseases	35
S01-S96	Fractures	91

L02-L03	Cellulitis, Cutaneous abscess, furuncle and carbuncle	90
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Note: In 2019, some medical patients were admitted on Female Surgical Ward

Leading causes of admission in Paediatrics Ward, 2019

ICD-10 codes	Cause	Number of admissions
Total Admissions in 2019 = 1734		
J45	Bronchial Asthma	70
A09	Diarrhoea and gastroenteritis of presumed infectious origin	236
J06	Acute upper respiratory tract infections of multiple and unspecified sites	153
J35	Chronic diseases of tonsils and adenoids	118
A08	Viral and other specified intestinal infections	109

Leading causes of admission in ICU, 2019

ICD-10 codes	Cause	Number of admissions
Total Admissions in 2019 = 290		
I00-I99	Diseases of the Circulatory System	64
S06	Intracranial injury	19
C00-D48	Neoplasms	16
E10-E14	Diabetes	10
A27	Leptospirosis	10