

Biennial Report 2018/19



Better Health Coverage
Better Protection
Better Health and Well-being



**World Health Organization
Country Office, Mauritius**

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FOREWORD



The World Health Organization Country Office (WCO) in Mauritius is honoured to share its biennial report, presenting the key achievements during 2018–2019 in improving, protecting and promoting the health of the Mauritian population and strengthening the health system through the involvement of a myriad of partners. Notable accomplishments include the first ever national assessment of the health system to improve noncommunicable disease outcomes, a situation analysis of primary health care, elaboration of the Health Sector Strategy Plan 2020–2024, strengthening of the national health workforce accounts, and publication of the national health accounts, as well as assessment of financial risks associated with health-related out-of-pocket expenditures. Others were the development of the national health laboratory policy and the first national blood policy to support the national health laboratory in attaining high standards and accreditations. WCO Mauritius recognizes the efforts of the Ministry of Health and Wellness to attain the WHO immunization standards by reviewing the national immunization programme, which culminated in the elaboration of the first comprehensive Multi-Year Plan on Immunization and the setting up of the National Immunization Technical Advisory Group.

WCO Mauritius strengthened its efforts in curbing noncommunicable diseases (NCDs), which are the leading cause of mortality and morbidity in the country. The strong and consistent high-level advocacy led to the country's agreement to develop both the national integrated NCD action plan and the national service

framework for NCDs in parallel. The first integrated mission of the Programme of Action for Cancer Therapy was also conducted during the biennium to consolidate national cancer prevention and control efforts.

WCO Mauritius congratulates the country on being awarded a certificate of appreciation by the WHO Director-General and the Regional Director for its political commitment to tobacco control. Continued efforts resulted in the country's accession to the Protocol to Eliminate Illicit Trade in Tobacco Products and the forthcoming implementation of plain packaging for tobacco products. WCO Mauritius is committed to playing its leadership role in addressing other NCD risk factors and determinants of health to reduce the NCD burden.

Renewed efforts were initiated to sustain the elimination of communicable diseases with several initiatives introduced to achieve the UNAIDS 90-90-90 targets, encourage early diagnosis and treatment of leprosy and tackle antimicrobial resistance. Considerable progress has been made regarding the preparedness and response of the country to health emergencies and disease outbreaks with the completion of the joint external evaluation of Mauritius' core capacities under the International Health Regulations (2005), introduction of integrated disease surveillance and response and implementation of the District Health Information Software 2.

As the WHO Representative in Mauritius, I express my gratitude to the Ministry of Health and Wellness for its extensive and long-standing collaboration and to the Government of Mauritius for its strong commitment to putting health on top of its agenda. My appreciation goes also to our wide range of partners, including the United Nations (UN) country team, UN agencies, bilateral and multilateral agencies, embassies, nongovernmental organizations, the private sector and research institutions. We look forward to deepening our collaboration and support to achieve better health coverage, better protection and better health and well-being for Mauritians in the years to come.

Dr Laurent Musango
WHO Representative in Mauritius



ABBREVIATIONS AND ACRONYMS

AFRO	WHO Regional Office for Africa	MOHW	Ministry of Health and Wellness
AIDS	acquired immunodeficiency syndrome	NCDs	noncommunicable diseases
AMR	antimicrobial resistance	NGO	nongovernmental organization
ARCC	Africa Regional Certification Commission	NHA	National Health Accounts
CADRI	Capacity for Disaster Reduction Initiative	NHL	National Health Laboratory
CCS	Country Cooperation Strategy	NHWA	National Health Workforce Accounts
CHE	catastrophic health expenditure	NIS	Nutrition Information System
cMYP	Comprehensive Multi-Year Plan	NITAG	National Immunization Technical Advisory Group
DHIS	District Health Information Software	OIE	World Organisation for Animal Health
DPG	Development Partner Group	PHC	primary health care
EQAAS	External Quality Assurance Assessment Scheme	PIM	potentially infectious materials
EU	European Union	PISA	Pandemic Influenza Severity Assessment
FAO	Food and Agriculture Organization of the United Nations	PPP	purchasing power parity (PPP)
GLASS	Global Antimicrobial Resistance Surveillance System	RMNCAH	reproductive, maternal, newborn, child and adolescent health
HIV	human immunodeficiency virus	SDGs	Sustainable Development Goals
HSSP	Health Sector Strategy Plan	SIDS	Small Island Developing States
IAEA	International Atomic Energy Agency	SLIPTA	Stepwise Laboratory Quality Improvement Process Towards Accreditation
IARC	International Agency for Research on Cancer	UHC	universal health coverage
ICOPE	Integrated Care for Older People	UN	United Nations
IDSR	Integrated Disease Surveillance and Response	UNAIDS	Joint United Nations Programme on HIV/AIDS
IHR	International Health Regulations	UNCT	United Nations Country Team
imPACT	Integrated Missions of Programme of Action for Cancer Therapy	UNSM T	United Nations Security Management Team
IST/ESA	WHO Intercountry Support Team for Eastern and Southern Africa	WCO	WHO Country Office
JEE	joint external evaluation	WHO	World Health Organization
KPIs	key performance indicators	WHO FCTC	WHO Framework Convention on Tobacco Control
LLB	low leprosy burden	WHO PEN	WHO Package of Essential Noncommunicable Disease Interventions
MACOSS	Mauritius Council for Social Services		
MOE	Ministry of Education, Tertiary Education, Science and Technology		

1. INTRODUCTION



1.1 Background

This report presents the achievements of the World Health Organization Country Office (WCO) for Mauritius for 2018 and 2019 and reflects the support provided to the Republic of Mauritius to improve health outcomes in the country. WCO Mauritius' work was conducted in accordance with the Country Cooperation Strategy 2015–2019, which provided the medium-term vision for WHO's technical cooperation with Mauritius. The six strategic priority areas of the strategy were aligned with national health priorities, policies and strategies and WHO's global mission.

Operating under the oversight of the World Health Organization Regional Office for Africa, WCO Mauritius' work is guided by the Africa Health Transformation Programme 2015–2020: A vision for Universal Health Coverage, for a more responsive, effective and transparent realization of the Sustainable Development Goals (SDGs). WHO's work in the country has been oriented toward the four focus areas of the

Transformation Agenda, namely pro-results values, smart technical focus, responsive strategic operations, and effective communications and partnerships.

WHO's Thirteenth General Programme of Work, 2019–2023 (GPW 13), adopted by the Seventy-first World Health Assembly in May 2018, reflects the global urgency to accelerate the attainment of the SDGs and reduce health inequity among all populations. WHO's interventions in the country have thus been conducted to match the three interconnected global strategic priorities that aim to ensure that one billion more people have universal health coverage, one billion more people are better protected from health emergencies and one billion more people enjoy better health and well-being through the attainment of the health-related SDGs. Figure 1 summarizes WCO's priorities and targets based on the Country Cooperation Strategy 2015–2019, the Africa Health Transformation Programme 2015–2020 and GPW 13.

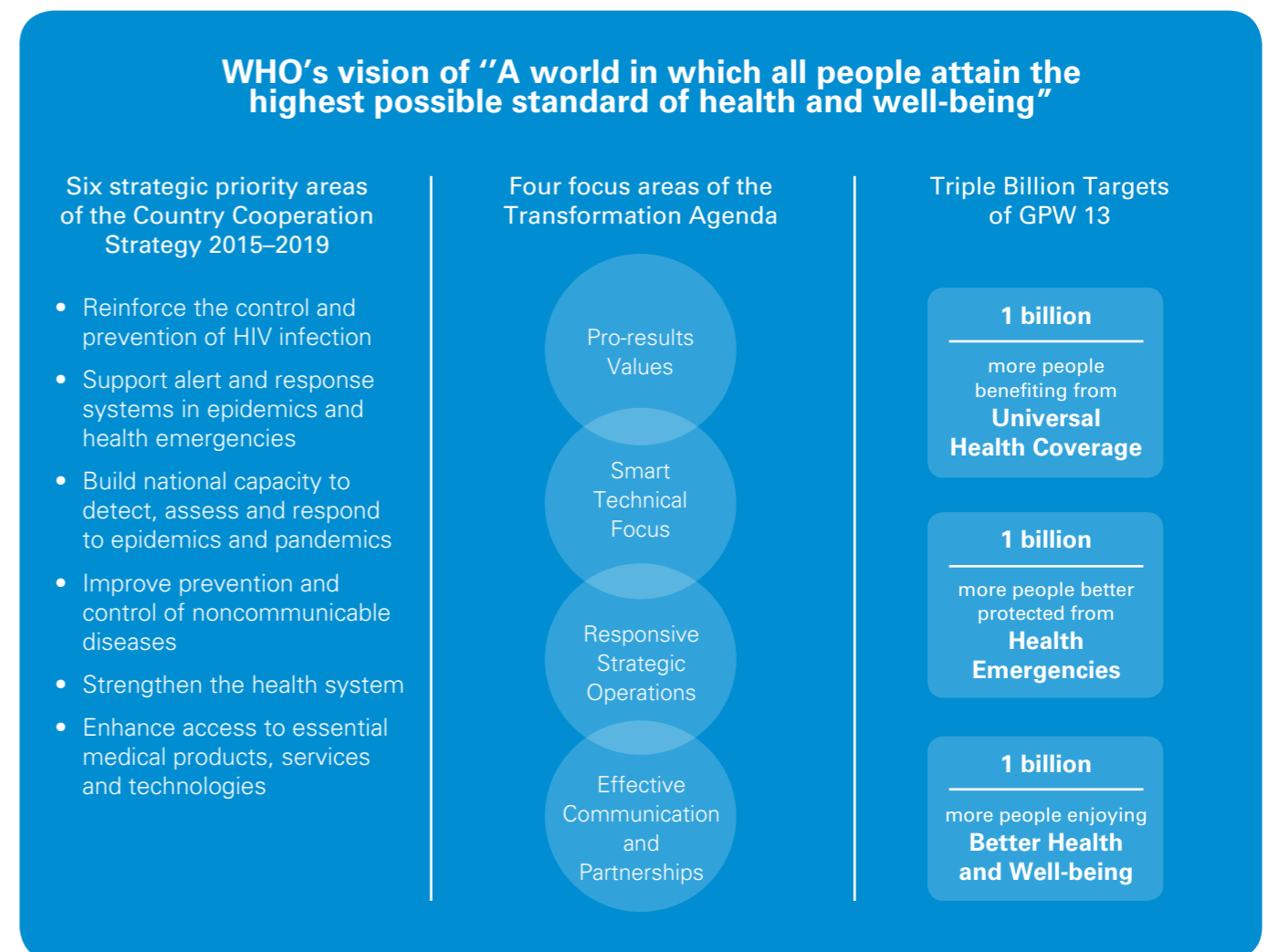


Fig. 1. Overview of WCO priorities and targets at local, regional and global levels



1.2 Mauritius at a glance

The Republic of Mauritius is located approximately 2000 km east of mainland Africa and 855 km east of Madagascar. Consisting of a group of islands and archipelagos, it is made up of the main island of Mauritius (1864 km²) and the two inhabited islands of Rodrigues (108 km²) and Agaléga (25 km²).¹ It has a population of 1,265,475 with a fertility rate of 1.4, an infant mortality rate of 14.5 and an average life expectancy at birth of 74.5 years.² In 2018, Mauritius was ranked 66th in the Human Development Index and had a gross national income per capita in purchasing power parity (PPP) of I\$ 26,410 at the current international dollar rate (2019).³

Mauritius has grown from a low income economy based on agriculture to a middle income economy based on tourism, financial services, retail and wholesale trade, and information and communications technology. Recently other sectors such as real estate and hotel development, tertiary education, health care and seafood have emerged and are attracting foreign and Mauritian investors. Currently, the country has one of the most prosperous and competitive economies in Africa with a gross domestic product per capita of I\$ 22,989 in PPP at the current international dollar rate (2019).⁴

Mauritius' total expenditure on health amounted to 5.7% of its gross domestic product⁵ in 2017. The country is a welfare state, and all public health care goods and services, including advanced medical procedures such as surgery, are free. The public health care system consists of 158 geographically well distributed primary health centres that handle common diseases and injuries, family planning and maternal and child health care, some of which also offer dental and Ayurvedic medicine services; five regional hospitals; two district hospitals; and six specialized hospitals dealing with otolaryngology, pneumology, ophthalmology, cardiology and psychiatry. These facilities had a bed capacity of 4,610 at the end of 2019. The country counts 3,920 medical practitioners and 4,494 nurses and midwives. The private sector has 19 health institutions with a total capacity of 724 beds.⁶

They offer paid services, which might be covered by mutual insurance companies.

Mauritius is in an advanced epidemiological transition. Over the last few decades it has experience high morbidity and mortality associated with noncommunicable diseases (NCDs) and a marked decline in communicable diseases. In 2019, the main causes of deaths were cardiovascular diseases (32%) and diabetes mellitus (22%). With the decreasing fertility rate and increasing average life expectancy, the country's demography is shifting towards an ageing population.

¹ <http://www.govmu.org/English/ExploreMauritius/Geography-People/Pages/GeographyPeople/Location.aspx>

² https://statsmauritius.govmu.org/Pages/Statistics/By_Subject/Other/SB_Other.aspx

³ <https://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD?locations=MU&view=chart>

⁴ <https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD?locations=MU&view=chart>

⁵ <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?locations=MU>

⁶ <https://health.govmu.org/Documents/Statistics/Health/Mauritius/Documents/HEALTH%20STATS%20REPORT%202018.pdf>

2. FOSTERING STRATEGIC PARTNERSHIPS AND COLLABORATION



2.1 Strengthened UN Country Team

The 2018–2019 biennial saw a renewed momentum in the work of the UN Country Team (UNCT) aligned with the Delivering as One agenda on efficient delivery of development results. Despite its multicountry status associated with its responsibility for both Mauritius and Seychelles and oversight of many non-resident UN agencies, UNCT was successful in coordinating its activities, with regular quarterly coordination meetings and two yearly UNCT retreats for strategic reflection. During the two years, WCO Mauritius, together with other UN agencies, focused on the formulation of the annual workplans, the Integrated Regional Framework, and the government's Strategic Partnership Framework, along with the establishment of a development partner group (DPG) for each country. WCO Mauritius, jointly with other UNCT teams, took the lead in developing strategies for strategic partnerships, resource mobilization and communications, and in mapping the UN agencies' initiatives. With its strong team leadership, UNCT supported several other initiatives such as the SDG scoping mission of UNDP, the Global Compact Sustainability Forum in Mauritius and the Capacity for Disaster Reduction Initiative (CADRI) mission. In addition, the team organized UN Day celebrations in both years.



Celebrating UN Day 2018 with UNCT

Extension of the UNCT annual retreat 2019 to a regional scale

The 2019 UNCT annual retreat held in Seychelles took a regional dimension, welcoming high level officials from UN agencies, governments and the private sector from four countries of the sub-region namely Comoros, Madagascar, Mauritius and Seychelles. Spread over one week, the event consisted of several essential side events, high level panel discussions and presentations to foster capacity building efforts, policy dialogue, advocacy, regional integration, innovation and the sharing of best

practices. There was active participation from the WHO representatives for the respective countries, including Mauritius. The presentation on the UN reform was a key item on the agenda.

The UNCT retreat resulted in the adoption of a sub-regional framework covering the four abovementioned countries and Zanzibar to strengthen the UN family and the initiation of a joint project proposal for the SDG Fund. The UNCT joint action plans and programmes for 2019 were endorsed. The retreat consolidated the collaboration of UN organizations, public and private sectors and multilateral and bilateral agencies to develop strategies to achieve the SDGs. The UNCT delegation made a courtesy visit to His Excellency the President of Seychelles, Mr Danny Faure, at the State House of Seychelles. Above all, the retreat tightened the bond among the key stakeholders in the subregion.

“There has never been an attempt to meet as a group before and this is a first endeavour for RAs in the region who may have common issues to come together. This retreat also allows heads of agencies to understand the regional dynamics and move forward as a family while taking into consideration the most vulnerable.”

Her Excellency Ambassador Christine Umutoni, UN Resident Coordinator for Seychelles and Mauritius

Government of Mauritius and the UN Strategic Partnership Framework 2019 – 2023

In view of the interest to build a partnership for sustainable development, the Government of Mauritius and the UN joined hands in the elaboration of the Strategic Partnership Framework, a five year plan that was to be implemented from 2019. WCO Mauritius provided both financial and technical input to this initiative. An overview of the framework and its implementation plan were presented to relevant stakeholders from the Government of Mauritius, key ministries, civil society, academia, private sector, and bilateral and multilateral agencies during a workshop in March 2019. Following



the feedback from the stakeholders, the framework, consisting of six outcomes, was validated, with the following outputs being specific to health: elaboration of a national NCD integrated strategy, strengthening of the public-private partnership framework within the sector, enhancing disease surveillance, prevention and control of communicable diseases due to climate change, monitoring financial risk protection, and strengthening the National Health System and e-health initiatives.

Establishment of the Development Partner Group

The Development Partner Group (DPG), consisting of the key actors in the development sector in Mauritius, namely UN agencies, regional organizations, embassies and other development agencies, was established in late 2018 by UNCT. Since then, it has been meeting quarterly to improve coordination among development partners. WCO Mauritius worked with its DPG partners on mapping of their various activities and projects to identify areas of possible collaboration and to avoid duplication. The main discussions at the DPG meetings were around defining the structure, functions and funding of their group; drafting a concept note for its functions and developing thematic sub-working groups for harmonized responses. Currently chaired by the UN Resident Coordinator, the DPG is being set up in a phased and systematic manner, with the aim of having the Government of Mauritius as its co-chair once it matures into a formal structure. This will allow for a focused, efficient and coordinated multisectoral development approach to accelerate the achievement of SDGs in Mauritius.

2.2 Resource mobilization from the European Union

WCO Mauritius' meeting with the Delegation of the European Union (EU) in 2018 to gain understanding of the nature of their support resulted in positive outcomes in resource mobilization. After examining the ways in which WCO Mauritius, the Ministry of Health and Wellness (MOHW) and the Mauritius Council for Social Services (MACOSS) could coherently collaborate with the EU to promote health for all in Mauritius, the parties agreed that the development of a joint action plan for NGOs would be a catalyst in improving synergies. The alignment of the Joint Action Plan for NGOs with the Mauritius Vision 2030 (government level), the Health Sector Strategic Plan (ministry level) and GPW 13 (WHO level) was recognized as its main strength and the main reason for EU's undertaking to mobilize resources for its implementation.

2.3 Collaborating with the World Bank

The WHO Representative and the World Bank Country Representative for Mauritius and Seychelles explored possible collaboration opportunities between their institutions during a visit to WCO Mauritius in August 2018. Two areas of common interest were identified, namely monitoring and evaluation of key performance indicators for the implementation of the Mauritius Vision 2030 and data analysis of the national household survey to measure poverty impact on health expenditure. Issues critical for Mauritius such as disease outbreaks, traffic accidents and drug use were also discussed. Following the meeting, WCO Mauritius and the World Bank agreed to review their methodology to avoid duplication of work while focusing on maximizing on their complementarity.

2.4 Support from the Japanese Embassy

WCO Mauritius attended a half-day seminar on the "Challenges of social welfare, long-term care and insurance system in hyper-aged Japan" organized by the Embassy of Japan in Mauritius. This event was significant in creating a global partnership and encouraging the sharing of experiences in addressing health and social challenges among countries. With its ageing population growing, for example 15.6% of the population is aged 60 years or more, Mauritius is taking a demographic path very similar to that of Japan, whose population aged 65 years or more is expected to reach 31.6% in 2030 as mentioned by the presenter, an associate professor at Nagasaki University. The latter shared Japan's strategies to address ageing population, notably the mandatory national health insurance for all and the community-based integrated care system involving public services and informal health care service providers including the community and the family. The WHO Representative enquired about effective solutions to address low fertility and strengthen health insurance in Mauritius and solicited for Japanese expertise to assess the local demographic trends and review the national population policy. The Japanese Government has been supporting the employment of a junior professional officer at WCO Mauritius to offer technical assistance in priority action areas.

2.5 Funding of the NCD Prevention and Control Project by the Government of France

WCO Mauritius has benefitted from the financial support of the Government of France in NCD prevention and control, with the total funding amounting to

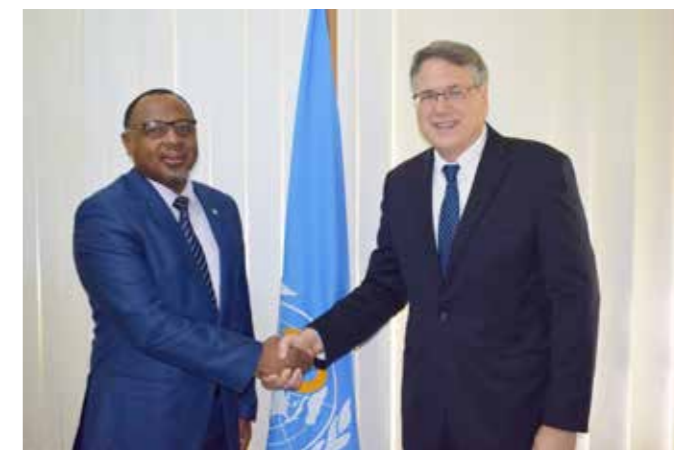
110 000 USD. This funding allowed WCO Mauritius to support capacity building for NCD personnel through three-week training of nursing officers from Rodrigues island on diabetic foot care. The 'Awareness, Education, Diabetes and Cardiovascular Disease Prevention Project for Vulnerable Communities in Black River District in partnership with local NGOs' is being implemented by Association pour la Promotion de la Santé and other NGOs under this funding. Furthermore, the collaboration with the Government of France facilitated the provision of technical support by the French international NGO Santé Diabète in building the capacity of NCD-related NGOs, which was co-organized by WCO Mauritius, MOHW and Mauritius Council for Social Services (MACOSS).



WHO Representative meeting with the Regional Global Health Advisor from the French Embassy, Mrs Deze

2.6 Exploring collaboration avenues with the embassy of the United States of America

WCO Mauritius engaged in an ongoing joint effort with the United States Ambassador Extraordinary and Plenipotentiary to the Republic of Mauritius and Republic of Seychelles to find avenues for collaboration. Both parties agreed that support from the United States embassy to WCO Mauritius would be direct, since the United States Agency for International Development was not present in the country. Discussions pertained to the areas of support, particularly in regard to health, climate change, capacity building and sharing of experience between the countries. WCO Mauritius and the United States embassy agreed on implementing joint activities in the areas identified.



WHO Representative, Dr Laurent Musango, and David Reimer, United States Ambassador Extraordinary and Plenipotentiary

2.7 Coordinating activities with the Indian Ocean Commission

Partnering with the Indian Ocean Commission has been fruitful for WCO Mauritius, particularly in coordination of activities in epidemiologic surveillance, their common area of work. WCO Mauritius, with its joint external evaluation of the International Health Regulations, and the Indian Ocean Commission with its Réseau de Surveillance des Épidémies et de Gestion des Alertes (SEGA-One Health), shared information on their activities and came to a consensus on the need to avoid duplication. WCO Mauritius agreed to support the Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLITPA) framework to improve the quality of public health laboratories, while the Indian Ocean Commission would undertake laboratory assessment in the area of zoonoses.

2.8 Active contribution within the Small Island Developing State community

WCO Mauritius continued its work within the Small Island Developing States (SIDS) community of the WHO African Region – which comprises Cabo Verde, Comoros, Madagascar, Sao Tome and Principe and Seychelles – to increase the collective resilience against the specific challenges and vulnerabilities of SIDS. The WHO Representative participated in the 7th meeting of the ministers of health from the SIDS in the African Region held in Cabo Verde in December 2019 to strengthen collaboration within the SIDS network. The meeting resulted in establishing a mechanism for documenting and promoting the sharing of best practices



and positive experiences from the SIDS; accelerating the setting up of the SIDS network secretariat, including defining its operational modalities; and formally inviting Madagascar and Guinea Bissau to join the network. The implementation process for SIDS' pooled procurement of medicines and vaccines was discussed. The Regional Office was requested to finalize the survey on price and availability of medicines and medical products in Madagascar, initiate such a survey in Guinea Bissau, provide a cost estimate for running a secretariat for the pooled procurement initiative for endorsement by the World Health Assembly, and map the local production capacities of medicines within the SIDS.

2.9 Promoting global cooperation on NCDs

Owing to its robust integrated response to NCDs in Mauritius, WCO Mauritius was designated by the Regional Office to share the country's recognized best practices and experience with Saint Helena island to strengthen its capacity in addressing NCD challenges. In January 2019, WCO Mauritius facilitated a two-week mission of a delegation from Saint Helena consisting of the Chief Secretary and Head of Government and high level health officials. WCO Mauritius' technical team made a presentation to the Saint Helena team on the local NCD situation and the measures to reduce the NCD burden. The Saint Helena delegation benefited from advisory sessions with the technical experts from the NCD prevention and control programme of MOHW and from visits to NCD clinics. They gained insights on local NCD management approaches with potential replicability in Saint Helena.

The delegation explored with the WHO Representative and the political leadership at MOHW the possibility of more sustained collaboration. The two countries agreed on drawing up a memorandum of understanding to facilitate cooperation, including specialist exchange visits, overseas medical referrals, joint research on NCDs, and capacity building in collaboration with the Mauritius Institute of Health. As an extension of this partnership, a visit of a Mauritian delegation to Saint Helena composed of the WHO Representative and three high level officers from MOHW was planned for January 2020.

"NCD management is an ongoing process and for this reason Saint Helena is eager to learn from our Mauritian and WHO colleagues the approaches to change public behaviours to achieve health improvements. Communication and collaboration among stakeholders are essential in NCD management."

Ted Rayment, Director of Health, Saint Helena Island



The delegation from St Helena during a visit at WCO in 2019

2.10 Deepening collaboration with civil society

During the biennium, WCO Mauritius largely encouraged the work of NGOs and collaboration among civil society organizations, MOHW and other key actors to meet the health goals of the country. Owing to the increasing health needs in the country, WCO Mauritius invested in strengthening capacity and partnership building among NGOs to boost their engagement and allow for more efficient coordination with public services. Together with MACOSS, WCO Mauritius identified 77 active NGOs in the health sector, which were classified into six clusters in an NGO profiling report. A joint action plan for these NGOs was put on course, the process of which began with capacity building for NGOs from the NCD cluster facilitated by the international French NGO Santé Diabète.

In the area of NCDs, WCO Mauritius worked directly with the Association pour la Promotion de la Santé to implement the 'Awareness, Education, Diabetes and Cardiovascular Disease Prevention Project for Vulnerable Communities in Black River District in partnership with local NGOs'. Moreover, WCO Mauritius participated in the regional workshop of the Alliance for Rights Africa Towards Disability Inclusion organized by EDYCS Epilepsy Group, which advocates for adoption and implementation of the protocol on disability in Mauritius. In the context of the World No-Tobacco Day 2018, WCO Mauritius participated in a roundtable organized by VISA Mauritius, an NGO working on tobacco control, and talked about the global tobacco epidemic, marketing strategies of the tobacco industry and progress in the implementation of WHO FCTC in Mauritius. Moreover, WCO Mauritius supported a research project to understand the impact of tobacco taxation on tobacco prevalence undertaken by VISA Mauritius and conducted in collaboration with the University of Cape Town, the University of Mauritius and Cancer Research UK.



WHO Representative, Dr Laurent Musango, during a meeting with members of EDYCS Epilepsy Group

2.11 Allying with the private sector

WCO Mauritius participated in the AfrAsia Bank Sustainability Summit 2018 on fostering Mauritian companies' commitment towards achieving the SDGs. The WHO Representative was part of a discussion panel where he made a presentation on 'Climate change and health: how the private sector can contribute to achieve the SDGs'. Guidance was provided to the businesses and other stakeholders present on the measures that could be adopted to have significant impact in driving the sustainability agenda, for example the incorporation of the SDGs in corporate strategies.



3. ACCELERATING PROGRESS TO ACHIEVE UNIVERSAL HEALTH COVERAGE



WCO Mauritius' efforts were deployed towards accelerating progress in attaining universal health coverage (UHC) so that everyone in the country would have access to quality and essential health services without suffering financial hardship. Primary health care (PHC) and strengthening of health systems are the important pillars for UHC. However, despite being a welfare state offering free health care, Mauritians has high out-of-pocket expenditure on health care. Consequently, WCO Mauritius collaborated with its key partners, namely MOHW and civil society, under the guidance and support of the Regional Office and WHO headquarters, in consolidating PHC services and strengthening health systems.

3.1 Reinforcing the health care system

National assessment of the health system for improved NCD outcomes

For the first time ever, with the technical and financial support of WHO, Mauritius embarked on a national assessment of its health system with the goal of improving NCD outcomes. This was a joint initiative of WHO, EU and MOHW and was carried out within the framework of the EU project Health Systems Strengthening for Universal Health Coverage, which deals with promotion of UHC in 20 African countries.

WCO Mauritius ensured the participation of all the national stakeholders in the validation workshop held in October 2018. The draft country report was reviewed and consensus built around the policy recommendations, which were grouped around seven action areas:

- Strengthened intersectoral coordination
- Consolidation of the role of PHC as the centre of care for NCDs
- Community empowerment
- Improved quality of health care with people-centred health services
- Strong integrated health management information systems
- Adequate and prioritized financing for NCDs
- Improved distribution and mix of human resources

The outcomes of the assessment were crucial in the formulation of the Health Sector Strategy Plan 2020–2024 and will be vital in the development of the national integrated NCD action plan. The assessment led to the sustaining of societal dialogues for health, an inclusive stakeholder participatory approach, and the setting up of a stakeholder dialogue forum. Since Mauritius was the first African country to undertake this assessment,

its experience on the process and the outcome of its assessment will be valuable for countries facing a similar NCD burden at both the regional and the international levels.



Dr Maryam Timol, Director Health Services; Dr Laurent Musango, WHO Representative; and Honourable Dr Anwar Husnoo, Minister of Health and Wellness during the validation workshop for the National Assessment of the Health System

Formulation of the Health Sector Strategic Plan 2020–2024

WCO worked closely with MOHW to draw up the comprehensive Health Sector Strategy Plan (HSSP) 2019–2023 and ensured its alignment with the Mauritius Vision 2030 on health; the government's programme for 2020–2024, titled 'Towards an Inclusive, High Income and Green Mauritius', and 'Forging Ahead Together'; GPW 13; and other partnership frameworks such as the Country Cooperation Strategy 2015–2019 and the Strategic Partnership Framework 2019–2023 between the Government of Mauritius and the UN. A steering committee constituted at the MOHW level guided the development of this key policy document. Thematic working groups were formed around the key strategic priority areas, seven of which were drawn from the national assessment of health systems for improving NCD outcomes conducted in 2018. To ensure wide participation and to capture Rodrigues island's uniqueness, two policy dialogue workshops and focus group discussions were held in the island. WCO Mauritius supported MOHW in organizing a national consultation for wider stakeholder involvement in synthesizing the plan. The plan will act as a strategic enabler to transform priorities into concrete actions in the medium to long term to avoid fragmentation of the health sector and to improve coordination among programmes and plans. HSSP will be a reference tool for the proper alignment and monitoring and evaluation of health programmes. Figure 2 presents the key strategic priority areas of HSSP in no particular order.



Fig. 2. Key strategic priority areas of HSSP

Situation analysis on PHC

A deep examination of PHC services was needed after the National Assessment of Health Systems revealed key challenges in their use, quality and position in the wider service delivery network. WCO Mauritius undertook a comprehensive assessment of PHC through an international consultancy. The strengths and weaknesses and a set of evidence-informed policy options to close the gaps were identified. Policy options for family medicine training and the possibility of shifting patients attending hospitals for emergency care and unsorted outpatients to PHC facilities were particularly explored. The assessment involved a review of existing policy and status documents, field visits and interaction with patients, health care providers and policy-makers.

Table 1. Priority and recommended timing for the introduction of policy options for strengthening of PHC

	Short term (months)	Medium terms (< 3 years)	Long term (> 3 years)
High Priority	<ul style="list-style-type: none"> • Select family medicine partner organization(s) • Introduce e-health system • Expedite facility upgrade processes 	<ul style="list-style-type: none"> • Start training family physicians • Long term doctor postings for community and area health centres • Develop guidelines for common conditions • National Standards for PHC and facilities • Strengthen clinical appraisal systems • Data analysis at local level 	<ul style="list-style-type: none"> • Train and empower PHC doctors to manage local facility staff, budgets and services
Medium Priority	<ul style="list-style-type: none"> • Widely disseminate existing clinical guidelines • Customer services improvements 	<ul style="list-style-type: none"> • Mass media/sensitization • Inter-sectoral action on social determinants of health • Deepen community engagement with PHC local service planning • Better access to investigations and results • Mandatory patient registration 	<ul style="list-style-type: none"> • Train and empower PHC doctors to manage local facility staff, budgeted and services
Low Priority		<ul style="list-style-type: none"> • Increase community exposure to PHC facilities • Consider demand for more specialties holding clinics in PHC 	<ul style="list-style-type: none"> • Consider if any of the disincentives for using the unsorted hospital OPD are appropriate • Consider extended hours if demand has increased for PHC



The report identified PHC access, surveillance and financial coverage as some of its strengths, while lack of responsiveness to people owing to low community engagement, weak organization and management, and low effectiveness and quality were its weaknesses. The report was shared with MOHW, which acknowledged the value of its recommendations. MOHW gave its go-ahead for the second phase of the exercise, which would lead to the development of a PHC policy brief guiding the family doctor programme and its related components.

Integrating a people-centred approach via societal dialogue for health

During the development of HSSP 2019–2023, WCO Mauritius advocated for the introduction of “societal dialogue for health” as an innovative, participatory governance mechanism to engage and empower citizens and frontline staff in the health policy-making and decision-making process. A taskforce for this new process led by MOHW was set up and capacity building and working sessions were organized to produce a roadmap and timeline. The societal dialogue for health approach was successfully adopted during the revision of HSSP 2019–2023, the situational analysis on PHC and the development of the action plan for NCDs. It enriched the situational analysis and allowed for the assessment of the relevance, feasibility and acceptability of the recommendations and to prioritize them. The approach ensured that the health system became more responsive to the needs and expectations of the people.

The societal dialogue provided a powerful platform for continuous dialogue among the government, decision-makers, other health stakeholders and the population. Through it, unmet needs of the population and a gap in the communication between MOHW and health-related NGOs were uncovered. To close the communication gap and create optimum synergy, a draft concept note for a partnership between MOHW and the NGOs was developed by WCO Mauritius. The concept note was validated in August 2018 by MACOSS, the umbrella organization of NGOs, and was discussed with MOHW.

Capacity building on implementation of the National Health Workforce Accounts

In June 2019, WCO Mauritius and a representative from MOHW participated in advanced training on National Health Workforce Accounts (NHWA) in Zimbabwe organized by the Regional Office in line with the Global Strategy on HRH: Workforce 2030 adopted by the Sixty-ninth World Health Assembly. WCO Mauritius coordinated this mission.

During this five-day training the Mauritian delegation was familiarized with concepts and methodologies of

NHWA to improve the availability, quality and use of data on health workforce through monitoring of a set of indicators. Capacity was also built on the in-country implementation of NHWA and the development of a roadmap. A draft Mauritius roadmap was presented at the training and feedback from experts gathered. This training allowed WCO Mauritius to support MOHW to finalize its roadmap, which will allow compilation of relevant data on the human resources for health and provide a comprehensive account of the situation. It will facilitate evidence-based policy-making and planning for the national health workforce to drive efficiency and improve health outcomes, as well as the achievement of SDGs and other health objectives and the advancement of UHC.



Production of National Health Accounts

In the preparation of the National Health Accounts (NHA) 2017 report, WCO Mauritius built the capacity of the national team at MOHW on the health accounts production tool and supported the recruitment of a local consultant for data preparation and report writing and dissemination. In Mauritius, this reporting has been carried out every biennium since 2014, which is the WHO recommendation. It monitors trends in health care spending for all sectors, whether public or private, for health care activities, providers and diseases. For the first time, this round of NHA, the fourth one, included the expenditure disaggregated by the classification of diseases, providing critical information on the commensuration of expenditure on diseases to the country’s burden of NCDs.

Launched in 2018, the NHA 2017 report indicated persistently high out-of-pocket expenditure on health within Mauritian households despite the free public health service, challenging progress towards health equity and UHC. Thus, the recommendations stressed the need to increase the budgetary allocation for health, focus on disease prevention in PHC, regulate fees in

private institutions and implement civil servant health insurance schemes. Consequently, the national public health sector budget for 2019–2020 was increased from 310 million to 330 million USD and provision was made for the launching of the civil servant medical insurance scheme. WCO Mauritius continues to support MOHW in preparing new NHA rounds and to build national capacity around health financing assessments to support evidence-based policy-making.



Mr Cor Van Moosveldt, international WHO consultant on NHA; Dr Ramen, Acting Director of General Health Services of MOHW; and Dr Laurent Musango, WHO Representative during the training workshop on the NHA production tool

Assessing financial risk protection

Financial protection from the risks associated with household out-of-pocket expenditure on health care is today a core component of national health strategies in several middle income countries, including Mauritius. The aim of UHC is to ensure that every individual and community, irrespective of their circumstances, is financially protected and receives the gamut of quality health services required without suffering financial hardship. In this regard, Mauritius was among the five countries in Africa to pilot the assessment of financial risk protection. A research article, titled “Impact of out-of-pocket payments on financial risk protection indicators in a setting with no user fees: the case of Mauritius”, was published in the International Journal for Equity in Health.⁷

This research, conducted in Mauritius, examined out-of-pocket health expenditure trends to assess their impacts through an analysis of key indicators of financial protection, namely catastrophic health expenditure (CHE) and impoverishment associated with out-of-pocket health spending. It also aimed at identifying the core determinants of catastrophic health expenditure. For the

10% threshold, household CHE increased from 5.78% in 2001/02 to 8.85% in 2012, while for the 40% threshold it rose from 0.61% in 2001/02 to 1.25% in 2012. The incidence of CHE was highest among retired household heads, rising from 1.62% in 2001/02 to 3.71% in 2012 for the 40% threshold, followed by widowed household heads for whom it went from 2.29% in 2001/02 to 2.63% in 2012. Next were homemakers, who saw their CHE rise from 2.12% in 2001/02 to 2.57% in 2012. The share of households pushed below the poverty line due to out-of-pocket expenditure dropped from 0.4% in 2001/02 to 0.2% in 2006/07 before rising to 0.34% in 2012. The overall poverty gap dropped from 0.08% in 2001/02 to 0.05% in 2012. The odds ratio of facing CHE were significant only among households with a retired head and an elderly family member.

Finalization of the national laboratory policy

After several years of formulation, the national laboratory policy for Mauritius was reviewed and finalized in December 2019. WCO Mauritius continued its ongoing assistance to MOHW with the recruitment of an international consultant and the organization of a stakeholder consultation. A situational analysis was conducted by the consultant, including visits to the key public health laboratories. During the finalization workshop, a draft policy with 12 main policy areas was presented to about 65 participants at the workshop, consisting of key stakeholders and high level MOHW officials, whose feedback was also gathered. The policy’s purpose was to guide the provision of quality, equitable and accessible laboratory services that promote health outcomes via patient management and disease surveillance and control within an integrated health care delivery system. It would ensure the safety and reliability of health laboratories through improvements in infrastructure and support systems and provide a framework for coordination of laboratory services across disease control programmes. Additionally, it would provide for the monitoring and evaluation of health laboratory services to enhance their quality and efficiency and to meet international standards. The national laboratory policy was welcomed positively and the subsequent development and implementation of a national laboratory strategic plan would be the next steps.

⁷ <https://doi.org/10.1186/s12939-019-0959-5>



Debriefing session among MOHW senior officials and the consultant following the elaboration of the national laboratory policy

Improving the quality of the National Health Laboratory services via SLIPTA training

The National Health Laboratory Services (NHL) have a critical role in assisting in the prevention, diagnosis, treatment and management of diseases. However, the advent of the growing NCD burden and threat of disease outbreaks and emergencies have created a great need to improve the NHL quality management system. WCO Mauritius assisted MOHW in implementing the Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA), which is a framework for improving the quality of public health laboratories in developing countries to meet the requirements of ISO 15189 standard. A one-week training event was organized jointly by WCO Mauritius and MOHW with the support of the African Society of Laboratory Medicine, WHO's Training partner for SLIPTA. Some 26 participants from various departments of laboratory services were trained on the accreditation and quality improvement processes.

The training in Mauritius marked an important step in the SLIPTA process and led to the accreditation of NHL services. This accreditation recognizes NHL's ability to detect, identify and promptly report all diseases of public health significance that may be present in clinical specimens. Through the SLIPTA training, NHL was linked to the Regional Office's National Health Laboratory Service Networks for support in diagnosis and surveillance of disease at national, regional and global levels.

Participation of NHL in the external quality assurance assessment scheme

Upon the request of MOHW, WCO Mauritius facilitated NHL's participation in the External Quality Assurance Assessment Scheme (EQAAS), a coordination mechanism for evaluating the performance of WHO Member States' laboratories by external agencies for all tests performed. Since 2008, NHL has been participating in an established quality control assessment scheme with the *Quality Control Center Switzerland* for the haemoglobin A1c test, an essential test for measuring the average level of blood sugar over two to three months, which is crucial in diabetes diagnosis. This scheme was gradually extended to the other laboratories of the five regional hospitals, the New Souillac Hospital and the district hospital in Rodrigues island. Following its participation in all the required six rounds of testing, NHL's overall performance was rated as good in 2019 and to be in compliance with ISO/IEC 17043.

NHL undertook a virology quality assessment for the National Blood Transfusion Services using South Africa's National Blood Transfusion Services. The increasing workload for microbiological testing of food samples accelerated the need for better quality assurance. A proficiency testing scheme for food microbiology was carried out by the National Laboratory Association of South Africa. Areas were identified for improvement in order for NHL to satisfy EQAAS standards and further improve its quality assurance and ensure that its test results are comparable with those of laboratories around the world, for accurate global surveillance of epidemics.

Development of the first national blood policy

The Government of Mauritius is committed to including blood-related matters among its health strategic goals in its effort to improve access to health for all. The need for blood in Mauritius is on the rise owing to the requirement to respond to the growing burden of NCDs such as cardiovascular diseases, cancer and injuries and the challenges arising from a shrinking donor pool due to the ageing of the population. To address this issue and to adhere to WHO recommendations, the elaboration of the first national blood policy was begun in 2018. WCO Mauritius facilitated the recruitment of a WHO expert in blood and blood products to draft the policy, a strategic framework for action and the related standards. Key stakeholders were consulted in this process.

Adopted in early 2019, the national blood policy defines the requirements for a quality system to maintain the highest possible standards in all aspects of blood transfusion; provide for an adequate supply of safe blood and promote safety and health of blood donors, recipients of blood and blood products, and health personnel. The

policy aims at increasing voluntary and non-remunerated blood collection from the current level of 70% to 100%. The drafts of the strategic action plan and standards for the national blood transfusion services are under review by MOHW as well as setting up of a national blood advisory committee to coordinate the implementation.

Increasing access to quality medicine through the SIDS pooled procurement programme

The relatively modest medicine requirements for SIDS make the cost of medicines, especially for chronic diseases, a challenge for them and a driver of financial hardship. In 2017, the ministers of health of five SIDS from the WHO African Region, that is Cabo Verde, Comoros, Mauritius, Sao Tome and Principe and Seychelles, committed to collaborate in a pooled procurement programme to acquire quality medicines at competitive prices. In line with this, a medicine pricing and availability survey was conducted in the five countries to assess availability, affordability, pricing, and price components of some selected medicines. WCO Mauritius and MOHW conducted the survey in Mauritius. The findings generated evidence that informed the development of a pooled procurement programme and confirmed the need for a national medicine policy to regulate and control the price, quality and availability of medicines in Mauritius. WCO Mauritius also supported MOHW and the Regional Office in organizing and hosting the first technical meeting on the SIDS Pooled Procurement Initiative for Quality Medicines. The five SIDS, as well as Madagascar, agreed on the content of the SIDS pooled procurement agreement and on sharing their calendar of activities and relevant information. Based on the findings of the survey, a list of 70 priority pharmaceutical products was finalized for the pooled procurement programme.

Assessment of the health information system

The fragmentation of health information systems in the African Region is a major limitation to monitoring progress towards UHC and SDG health targets. Hence, the Regional Office encourages Member States to undertake reviews of their national health information systems using the updated WHO-SCORE framework. The SCORE methodology relies on objective verification of country databases, reports, assessments, and plans and strategies. WCO Mauritius supported MOHW to investigate the monitoring requirements for UHC and SDG health targets and identify the critical gaps and needs in the national data system and in related capacities.

The SCORE methodology classifies countries' health information system capacities across five interventions, namely survey, count, optimize, review, and enable (SCORE). For each intervention of SCORE, Mauritius'

capacity was rated on a scale ranging from nascent to sustainable, as shown in Fig. 3. The assessment revealed that Mauritius was the only country in the African Region with sustained health data capacity for count, i.e. in relation to birth and death registration and cause of death analysis, and is among the nine countries with sustained capacity for review, i.e. in regards to progress and performance. Capacities for survey, i.e. for populations and health risk; optimize, i.e. for health service data; and for enable, i.e. for data use for policy and evidence, were rated as well developed. The result of this assessment informed the development of the National Strategy on Information System in Mauritius and was the basis for the development of a national health observatory to monitor progress made toward UHC and SDG health targets.

Distribution of maturity level by intervention in countries of the WHO African Region

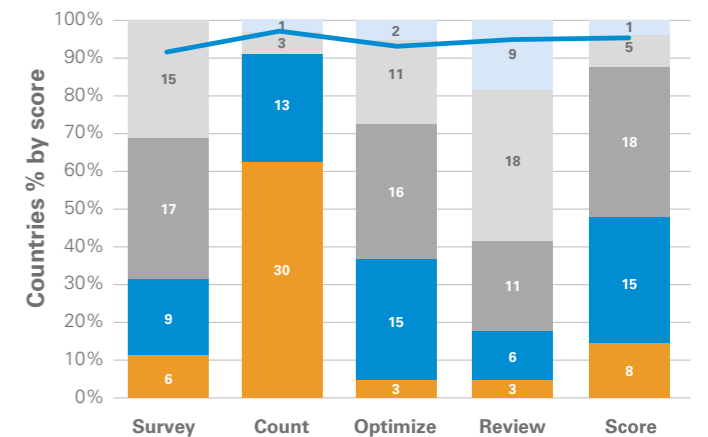


Fig. 3. Results of the SCORE assessment in Mauritius compared to the overall WHO African Region



3.2 Strengthening health systems to improve noncommunicable disease outcomes

Over the last few decades, Mauritius has experienced a rise in NCDs, which have become the leading cause of death in the country, accounting for an estimated 89% of all deaths as at 2018.⁸ Unhealthy diet, lack of physical activity, alcohol consumption and smoking are the major risk factors contributing to the NCD epidemic, as revealed by successive national NCD surveys conducted since 1987. WCO Mauritius has continuously supported the country to reduce the burden of NCDs.

⁸Source: Health Statistic Report 2018



Coordinated NCD responses

Advocating for a national integrated NCD action plan

Mauritius has made considerable efforts in developing new policies, legislation and national action plans and programmes. However, the lack of a holistic, integrated and comprehensive approach to NCDs is dampening progress towards NCD-related SDG targets in the country. WCO Mauritius has advocated strongly for the development of a national integrated NCD action plan to address this gap. The high level advocacy meetings held with key policy-makers resulted in the agreement to develop both a national framework for NCDs and an integrated NCD action plan. WCO Mauritius supported the recruitment of a short-term Mauritian consultant to develop the concept note for these initiatives. The concept note was shared with MOHW, and the responsible minister expressed his commitment to the project covering these NCD initiatives. The national NCD committee was reengineered to oversee the project's coordination. The findings of the National Assessment of the Health Systems for better NCD outcomes will inform the elaboration of the national integrated NCD action plan.

Promoting a coordinated multi-stakeholder response to NCDs through NGO involvement

WCO Mauritius partnered with the MACOSS to promote the involvement of NGOs and civil society in the prevention and control of NCDs. With expertise from the French-based international NGO, Santé Diabète, two capacity building sessions were conducted in June and November 2019 to strengthen the capacities of NGOs working towards the reduction of NCDs. This laudable joint initiative of WCO Mauritius, MOHW and MACOSS was possible with the financial support and technical collaboration of the Government of France and WHO headquarters. The NGO representatives documented their respective activities for the coming five years with the technical guidance of WCO Mauritius, and a logical framework analysis of the activities was drafted based on this documentation. This essential guide on NGO activities will help WCO Mauritius and other partners to identify ways of promoting NGO engagement in the national response to NCDs.



Group photo of participants in the capacity building workshop for NGOs in 2019

Contribution to NCD country capacity survey

WCO Mauritius contributed to the Noncommunicable Diseases Country Capacity Survey, which is a global instrument to monitor a country's progress on the commitment to reduce the NCD burden. This self-administered survey is essential in gauging a country's capacity to respond to NCDs and provides vital information on the status of its NCD policies, guidelines and programmes. WCO Mauritius worked closely with the Ministry of Health and Wellness to collect and validate the data required. The global report on this survey will help to identify gaps in NCD prevention and control efforts and to orientate future actions.

Diabetes

Mauritius is among the countries confronting a diabetes epidemic with an estimated 257,442 people between the ages of 25 and 74 years living with the illness⁹. According to the national NCD survey of 2015, the prevalence of type 2 diabetes in that group was 22.8%. Though the prevalence of diabetes plateaued in 2015, the situation remains of great concern as the levels of diabetes among young people and prediabetics in the adult population keep rising.

Advocating for a family-oriented approach to prevent and control diabetes

During the yearly marking of the World Diabetes Day, the WHO Representative in Mauritius highlighted diabetes as a chronic disease that requires a healthy lifestyle, continuity in treatment and regular monitoring, and diabetes-associated costs can drive families into poverty. People were urged to reduce the modifiable risk factors such as consumption of unhealthy diets, physical

inactivity and tobacco smoking, which can significantly impact the prevention and control of diabetes. The WHO Representative stressed the importance of the family unit in initiating healthy lifestyle changes and on the need for close collaboration of all stakeholders to reduce the incidence of diabetes. He also encouraged the adoption of innovative approaches in the prevention and control of diabetes and other NCDs, such as the use of artificial intelligence for early diagnosis of diabetes and mobile technology to educate patients on the treatment of type 2 diabetes to improve medication compliance.



Dr Laurent Musango, WHO Representative in Mauritius addressing the audience during the World Diabetes Day

Partnering with NGOs for strengthened prevention and management of diabetes within communities

WCO Mauritius partnered with the Association for the Promotion of Health, an NGO whose work focusses on offering services for the care of diabetes, and other NGOs in the implementation of the project titled 'Awareness, Education and Prevention of Diabetes and Cardiovascular Disease for Vulnerable Communities in Black River District.' The objective of this project is to demonstrate that the screening and monitoring approach for people with diabetes or at risk of developing diabetes is necessary to help them better manage the risk of developing the disease or its complications. WCO Mauritius provided financial support and facilitated the procurement of the medical materials, equipment and consumables for timely implementation of the project. From the start of the project in June 2019, 14 general public and local screening events were carried out in Black River District, resulting in the testing for diabetes of 246 people and increased visibility of NGOs in creating awareness about the disease. Under this project, people found to have an NCD risk or those already diagnosed with diabetes underwent foot assessment and therapeutic observation to promote foot care to prevent limb amputation. Training of trainers on therapeutic observation of diabetes and activities relating to the production of pamphlets on nutrition are going on.

Empowering diabetic foot care nurses from Rodrigues

A crucial component in achieving UHC is a strong health workforce. Over three weeks in April 2019, WCO Mauritius invested in strengthening the capacity of the two nursing officers from Rodrigues island on diabetic foot care at the Diabetes and Vascular Health Centre in Mauritius. The training consisted of one week of diabetic foot screening and two weeks of diabetic foot ulcer management, with both practical and theory sessions. The two nurses were also trained on the method to document information on patients attending foot screening and foot ulcer management so as to generate harmonized statistical data for future monitoring and analysis. The two trainees were encouraged to share the knowledge and skills gained during the training with their co-workers upon their return to Rodrigues island to promote foot screening and management of foot ulcers at the fully equipped Mont Lubin Area Health Centre and Queen Elizabeth Hospital.

Increasing awareness on foot care to prevent amputation

To strengthen the National Diabetes Prevention and Control Programme, a pamphlet on foot care was developed by MOHW in close collaboration with WCO Mauritius. The pamphlet aimed at sensitizing people with diabetes on good foot care practices to avoid foot complications and eventual amputation. Nearly 500 of the yearly foot amputations in Mauritius are diabetes related, 85% of which could be prevented through proper education, upstream foot check-up and appropriate preventive care. Some 120 000 copies of the foot care pamphlet have been distributed in diabetic clinics, area health centres and hospitals around the island.

Cardiovascular diseases

Curbing the alarming death rate due to cardiovascular diseases

WCO Mauritius seized the opportunity of the yearly official launch of activities marking the World Heart Day to remind the population that changing to a healthy lifestyle could curb the alarming rate of death related to cardiovascular diseases. The emphasis was that eating more fruits and vegetables, cutting down on fat, sugar and salt, practising regular physical activity, quitting smoking and avoiding excessive intake of alcohol were essential to reduce the risks of cardiovascular diseases and other NCDs.

Activities in 2018 were held around the theme "my heart, your heart", which was of tremendous relevance to the population, as heart disease is a leading cause of death in the country, causing an average of 1850 deaths

⁹ Source: The Mauritius Non Communicable Diseases Survey 2015



annually. As mentioned by the Minister of Health and Wellness during the event, in 2017 alone, 122,970 people were enrolled as outpatients in cardiology centres, 504 had open heart surgery, 553 had vascular surgeries and 4157 had angiograms. Some 3000 to 3500 Mauritians died from health complications related to cardiovascular diseases. Screening, talks, counselling, sensitization programmes and exhibitions focusing on the causes of and preventive measures for cardiovascular diseases were conducted during the World Heart Day. Cardiovascular disease patients were equipped with the knowledge for self-management while the capacity of medical and paramedical staff was built during the educational sessions.

Cancer

Cancer is the third cause of mortality in Mauritius after diabetes and cardiovascular diseases. The three most common types of cancer among females are breast, colorectal and ovarian, while prostate, colorectal and lung cancers are more prevalent among males. There were 2380 new cancer cases in 2018 in Mauritius, 959 of which were among males and 1421 among females, representing a general decrease of 2.8 % of new cancer cases compared to 2017.

Advocating for healthier lifestyle and early diagnosis to prevent and control cancer

The WHO Representative supported the official launch of the activities commemorating World Cancer Day in 2018 and 2019, which had “we can, I can” and “I am and I will” as the respective themes. The campaigns consisted of awareness sessions conducted in the health, women, social welfare centres and schools and informative exhibitions on healthy lifestyle. In 2019, a pamphlet titled, “Mieux comprendre le cancer”, was also distributed. On both occasions, the WHO Representative reminded the attendees about the increasing burden of cancer in Mauritius and in Africa in general due to the rise in the prevalence of the main risk factors, namely tobacco use, sedentary lifestyle, unhealthy diets, alcohol use and environmental pollution. WCO Mauritius encouraged the Mauritian population to adopt a healthy lifestyle and called for multisectoral cooperation of the private and public sectors, civil society, NGOs and other partners to create a conducive environment for the promotion of a healthy lifestyle and reduction of the risk factors for cancer. The significant progress made in the diagnosis and treatment of cancers, resulting in better prognosis and enhanced survival rates, was acknowledged by WHO. Continuous advocacy is needed for increased sensitization of the population on the importance of early diagnosis and treatment for cancer so as to protect people and save lives.



Launching of activities in the context of World Cancer Day in 2019.

Assessing the national comprehensive cancer control capacities and identifying priorities

Although Mauritius is already in a position to provide a number of advanced cancer services to patients, MOHW intends to continuously strengthen its capacity in cancer care and has interest in assessing the country’s cancer control capacity and needs. In line with this, the first Integrated Mission of Programme of Action for Cancer Therapy (imPACT) Review was conducted in December 2018 jointly by the International Atomic Energy Agency (IAEA), WHO and the International Agency for Research on Cancer (IARC). WCO Mauritius worked closely with the mission coordinator and MOHW technical experts to finalise the terms of reference and the agenda of the mission. The country’s cancer control capacity was assessed, focusing on cancer control planning, information, prevention, early detection, diagnosis and treatment, palliative care, training, and civil society activities. The priority interventions in each of these areas were identified for effective response to cancer and the strengthening of the National Cancer Control Programme. This exercise also consolidated the longstanding technical cooperation between the country, IAEA and IARC.

Oral health

Development of the national roadmap for the implementation of the Regional Oral Health Strategy

During a workshop organized by the Regional Office in Brazzaville in 2019, capacity was strengthened for WCO Mauritius and MOHW in developing a national roadmap to implement the Regional Strategy on Oral Health 2016–2025: Addressing Oral Diseases as Part of NCDs. Technical experts guided the definition of the top priority actions for integrated prevention and control of oral diseases as part of UHC and the identification of countries’ achievements. The Mauritian delegation developed a national roadmap for the implementation

of the Regional Oral Health Strategy 2016–2025, which aims at (1) strengthening the health system capacity for integrated prevention and control of oral diseases, (2) strengthening national advocacy and leadership for addressing oral diseases as part of NCDs, using a multisectoral approach to address common risk factors, (3) promoting oral health and preventing oral diseases and (4) improving the integrated surveillance of oral diseases, monitoring and evaluation of programmes, and research. WCO Mauritius and MOHW devised specific actions for strengthening the oral health care system and strengthened their collaboration with the other participating countries.

Contributing to WHO Global Oral Health Workforce Survey

Mauritius participated in the WHO Global Oral Health Workforce Survey gauging the country’s workforce involved in oral health. WCO Mauritius coordinated the data collection process and ensured smooth liaison between WHO and MOHW for timely completion of the survey. Data were collected on the oral health workforce capacity, capability, governance, education and training for publication in the ‘Global oral health report 2020’. The survey findings will contribute in developing WHO national health workforce accounts and provide a clear picture of the global, regional and country situation of the oral health workforce. It will guide the leveraging of the existing system’s health workforce to maximize population benefit, health and well-being at the country level in the context of UHC and in achieving the SDG targets.

3.3 Strengthening health systems to better address communicable diseases

Mauritius is at an advanced stage in its epidemiological transition. Communicable diseases and neglected tropical diseases have declined markedly and are effectively controlled. Indigenous cases of malaria, poliomyelitis and whooping cough were last notified in 1997, 1965 and 1990, respectively, while measles, mumps, rubella and tuberculosis have been kept under control. Mortality from infectious, parasitic and waterborne diseases has dramatically decreased, going from 7% in 1976 to 2.3% in 2015. With the renewed urgency called for by the SDGs and GPW 13 to fast-track the unfinished agenda of ending the epidemics, WCO Mauritius has provided sustained support to MOHW, civil society and other key partners in accelerating prevention and containment efforts for the sustainable elimination of communicable diseases.

HIV/AIDS

In 2019, Mauritius had a HIV prevalence of 1.1% and a concentrated epidemic with a higher prevalence among people who injected drugs (32%), men who had sex with men (17%), prison inmates (16%) and female sex workers (15%). Despite the wide range of HIV prevention campaigns and the availability of free antiretroviral treatment for people with a HIV positive diagnosis, there has been an increase, though slight, in the yearly number of HIV positive cases since 2015. The HIV Action Plan 2017–2021 has been aligned with the UNAIDS 90-90-90 treatment targets to galvanize the country’s efforts to end AIDS by 2020.

Closing the gaps to achieve UNAIDS 90-90-90 targets

The Country Cooperation Strategy 2015–2019 sets as priorities the strengthening of the control and prevention of new HIV infections and providing a continuum of comprehensive care to all people living with HIV to mitigate the impact of the HIV epidemic on the population at large.

To address the gaps in meeting UNAIDS targets, WCO Mauritius collaborated with MOHW and civil society groups in building capacity on rapid HIV testing for health care assistants and staff of NGOs actively working in the field of HIV. Frontline workers are now fully trained to test, counsel and refer people for care, expanding HIV health care coverage to local community members and populations that are difficult to reach. Technical support to MOHW for the development of a national HIV testing policy and plan is underway, and these are expected to be completed in 2020.

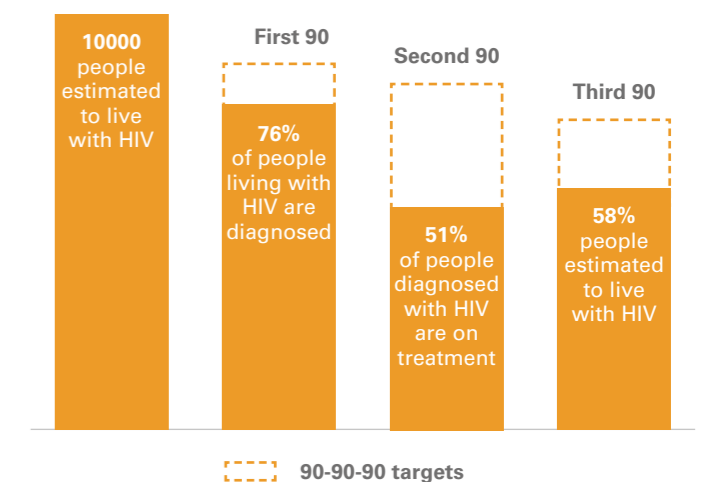


Fig. 4. HIV continuum of care in November 2019 against the 90-90-90 UNAIDS targets



With only 51% of people diagnosed with HIV enrolled in HIV treatment, the loss to follow-up, particularly among people who inject drugs, is on the rise in Mauritius. This is a source of concern, as the 2017 (the latest) integrated biological and behavioural surveillance among people who inject drugs confirmed a concentrated epidemic driven by this group. WCO Mauritius is partnering with MOHW in the implementation of the District Health Information Software 2 (DHIS2) project, with HIV as a priority to enable closer monitoring of the HIV continuum of care for an adapted and reactive HIV response.

Participation in the 17th Indian Ocean Colloquium on HIV/AIDS

In November 2018, WCO Mauritius participated in the 17th Indian Ocean Colloquium on HIV/AIDS, a three-day annual event aimed at reinforcing HIV/AIDS-related partnerships amongst stakeholders and promoting harm-reduction strategies. The theme of the colloquium was “Une région, des évolutions, des solutions... ensemble!” WCO Mauritius participated in the discussion held among the 125 delegates from the five countries of the Indian Ocean, i.e. Comoros, Madagascar, Mauritius, Reunion and Seychelles, and eminent professors from France. The main topics centred around roles and responsibilities within the countries and in the Indian Ocean area; management of drug use in 2018 and the challenges of the new synthetic substances; and epidemiology, screening and management of HIV/AIDS in the region. Best practices and experiences on the management of HIV infections were shared among countries and between health personnel and civil society.

Raising awareness on HIV/AIDS screening and treatment

The work carried out by NGOs in the fight against HIV/AIDS was recognized by the WHO Representative in Mauritius during the yearly commemoration of the World AIDS Day in 2018 and 2019, which had the themes “know your status” and “communities make the difference”, respectively. The involvement of all stakeholders, including NGOs and civil society, has contributed significantly to the drop in the prevalence of HIV among people who inject drugs, the most affected population in Mauritius. The HIV/AIDS treatment available in Mauritius has improved over the past few years. On the occasion of the World AIDS Day public screening events were conducted to encourage people to come forward for testing, while sensitization programmes on testing and treatment were aired on television and radio and publicized in the prison department. Prévention, Information et Lutte Contre le Sida, an NGO active fighting against HIV/AIDS, organized a HIV testing day in collaboration with MOHW and civil society partners.

Participation in the Country Coordination Mechanism and Oversight Committee for Global Fund Grants

As Mauritius is a beneficiary of funding from the Global Fund to support its HIV response, its Country Coordinating Mechanism was formalized in 2008. Since then WCO Mauritius has actively supported the Country Coordination Mechanism and Oversight Committee in submitting funding applications to the Global Fund and overseeing the grants. WCO Mauritius is an active member of the Country Coordination Mechanism, along with representatives of all sectors involved in the response to the disease, such as academic institutions, civil society, government bodies, multilateral and bilateral agencies, NGOs, people living with the disease, the private sector, and technical agencies.

Leprosy

Leprosy transmission has mostly been interrupted among the majority of the population, and Mauritius has been categorized as a low leprosy burden (LLB) country. The prevalence rate has been less than 1 case per 10 000 inhabitants for the last decade, and only one or two cases have been detected yearly for the past decade, half of which have been among migrant workers and foreign students, who have then been repatriated. No new child cases were detected from 2008 to 2018.

Validation of the first Annual Plan for Elimination of Leprosy Transmission

In dealing with leprosy, LLB countries often face the challenges of lack of expertise and capacity among health care staff, little political commitment or low domestic funding for the disease, which might cause delays in its diagnosis and treatment. To counteract this, during a regional meeting, the Regional Office supported LLB countries in designing and implementing a standardized and efficient approach to prevent and diagnose leprosy. The Mauritian delegation at the meeting benefitted from know-how from the Regional Office and from leprosy experts and partners like Leprosy Mission International for strengthening its capacity to devise the first national plan for elimination of leprosy transmission. WCO Mauritius and MOHW worked closely with the community medical practitioners and specialists in dermatology to analyse the current local situation and review the clinical services and surveillance system. New measures to stop leprosy transmission were identified, i.e. longer contact tracing; prophylaxis measures; information, education and communication campaigns; and professional training. The first National Plan for Elimination of Leprosy Transmission 2019–2020 was validated in November 2018. It sets out activities under three pillars: supporting affected population, strengthening disease surveillance and training clinical professionals. A long follow-up period

of up to 20 years for close contacts of leprosy patients was introduced.

Capacity building for health care professionals for elimination of leprosy

WCO Mauritius pooled forces with the dermatology department of MOHW to mobilize resources to implement the National Plan for Elimination of Leprosy Transmission 2019–2020. Both parties jointly organized two training workshops in September and October 2019 for 56 health care professionals, particularly targeting those at the primary care level, as part of the third pillar of the national plan. The rarity of leprosy in Mauritius makes it difficult, notably for young professionals, to develop adequate on-the-job expertise. The expertise of an array of specialist consultants from MOHW – dermatologists, neurologists and orthopaedists – gave the health professionals the opportunity to refresh and upgrade their skills and knowledge to better identify, diagnose and treat leprosy patients as early as possible in the disease development. A quick survey during the training revealed that strong leprosy stigma persisted within service providers, thus periodic refresher training will be organized to address this.

Tuberculosis

Supporting the implementation of the rapid tuberculosis diagnostics technologies

The burden of tuberculosis in Mauritius remained low with an incidence of 12 per 100,000 population in 2019 compared to 13 per 100,000 population¹⁰ in 2018. Some 96% of the new tuberculosis cases notified in 2019 were pulmonary and all were confirmed bacteriologically. The mortality rate from tuberculosis in 2018, including for people living with HIV, was 2.2 per 100,000 population¹⁰. Notwithstanding the low incidence of tuberculosis, WCO Mauritius continued to support the implementation of the rapid tuberculosis diagnostics technologies for routine screening of smear positive tuberculosis and HIV-related tuberculosis when requested by clinicians. In 2019, such support allowed for the diagnosis of cases of multidrug-resistant tuberculosis and ensured prompt treatment by the National Tuberculosis Programme.

Antimicrobial resistance

Antimicrobial resistance (AMR) is one of the biggest threats to global health, food security and development today. The misuse of antimicrobials is making them less effective and infections harder to treat, resulting in longer hospital stays, higher medical costs and increased mortality. Tackling AMR is a high priority for WHO in order to ensure UHC through prevention and treatment of infectious diseases with safe and effective medicines.

¹⁰ Source: Ministry of Health and Wellness



WCO Mauritius supported MOHW in implementing its National Action Plan on Antimicrobial Resistance 2017–2021 through multiple initiatives.

Pilot point prevalence survey on antibiotic use in hospitals

Mauritius is one of the three countries selected by WHO to participate in the Antimicrobial Resistance (AMR) Consumption Monitoring and Point Prevalence Survey to provide baseline information on the use of antibiotics in hospitals. WCO Mauritius elaborated the protocol and organized a four-day workshop with the goal of launching the survey in collaboration with MOHW. Health professionals from MOHW, the Ministry of Agro Industry and Food Security and other stakeholders were trained on monitoring of antimicrobial consumption in Mauritius and conduction of a point prevalence survey. WCO Mauritius and the Communicable Diseases Control Unit of MOHW trained the data entry officers and supervised the data collection process in the three participating regional hospitals. WCO Mauritius contributed in the analysis of the data collected from medical records and associated patient documentation and in the writing of the report. With the finalization of the national and the site reports in November 2019, AMR was recognized as a critical health issue in Mauritius. The recommendations called for regular update of therapeutic guidelines and refresher training of medication prescribers to optimize antibiotic use. In addition, the creation of a structure within MOHW to monitor AMR was sought. The data collected during the point prevalence survey will also feed the Global Antimicrobial Resistance Surveillance System. The survey is expected to be repeated periodically for continuous monitoring of antibiotic use in Mauritius.

Contribution to the Global Antimicrobial Resistance Surveillance System

With the assistance of WCO Mauritius, Mauritius became one of the first African countries to participate in WHO Global Antimicrobial Resistance Surveillance System (GLASS) for standardized AMR data collection, analysis and sharing at a global level. Together with the Communicable Diseases Control Unit and the Central Health Laboratory, WCO Mauritius identified the gaps in the implementation of the system and addressed them by initiating the installation of WHONET application. This database software allows for efficient and direct export of microbiology laboratory data into the GLASS structure. WCO Mauritius organized online training and supported the staff during their adaptation to the new tool and helped the Communicable Diseases Control Unit to clear its backlog by recording new cases electronically. By contributing to GLASS, Mauritius strengthened its capacity in AMR surveillance and set up a microorganism database for the first time. Mauritius’ input will contribute



to the next global GLASS report, which informs decision-making and drives national, regional and global actions to address AMR.

3.4 Addressing population health needs across the life course

Immunization

Immunization is considered one of the safest and most cost-effective health interventions that prevent illness, disability and death from vaccine-preventable diseases for infants to senior citizens. Mauritians benefit from a free national immunization programme with 97% coverage, as well as yearly seasonal influenza vaccination campaigns.

Launching the seasonal anti-influenza vaccination programme

The yearly seasonal influenza vaccination programme organized by MOHW was launched at a private clinic in Port Louis in April 2019. There were 230,424 influenza cases in Mauritius in 2018, while in 2017 the country experienced an outbreak of influenza with an upsurge, with weekly cases rising from 6000 to 10,000. The 2019 event was intended to sensitize the general public about the importance of getting influenza vaccination every year as preconized by WHO, owing to the high contagiousness of the disease and its risk of rapid escalation into complications. The campaign particularly targeted individuals at risk, namely those aged 65 years or more; those with chronic diseases such as asthma, cardiovascular illnesses, hypertension, cancer and diabetes; immunosuppressed people and their household contacts; and people living together in large numbers in an environment where influenza is likely to spread rapidly. The WHO Representative set an example by being the first to receive the influenza vaccine in the 2019 round.

Hexavalent vaccine: six-in-one vaccination for optimized protection

Mauritius is the second country in Africa to have introduced the hexavalent vaccine as part of its free national expanded immunization programme in 2018. The use of this six-in-one vaccine against diphtheria, tetanus, pertussis (whooping cough), poliomyelitis, haemophilus influenza type B and hepatitis B means fewer injections for babies and a lower risk of side effects like fever and redness. The new vaccine was launched in the presence of eminent personalities, including the WHO Representative, MOHW officials, the Minister of Gender Equality, Child Development and Family Welfare and high level officials from other ministries. The importance of vaccination as a key and effective

health care intervention to protect children and prevent child mortality was highlighted. Even though Mauritius has vaccination coverage of 97%, sustained awareness campaigns targeting pregnant women and mothers and free vaccination are undertaken by MOHW to ensure full vaccination coverage.



The launch of the hexavalent vaccine in the presence of the Minister of Health and Wellness, the Minister of Gender Equality, Child Development and Family Welfare and the WHO Representative

Comprehensive programme review for immunization

The second comprehensive review of the expanded programme on immunization was carried out in 2018, six years after the first one. The review was made possible through a country mission from the WHO Intercountry Support Team on Immunization, the US Centre for Disease Control and Prevention, and the Network for Education and Support for Immunization. WCO Mauritius supported the conduct of the mission. The scope of the mission was to assess the organization and implementation of the immunization programme and surveillance of vaccine-preventable diseases, evaluate the impact of the newly introduced hexavalent vaccine and review immunization data quality. The mission concluded that Mauritius has sustained good performance in the management of the immunization programme, which contributed to the continued reduction in the burden of common vaccine-preventable diseases, the maintenance of a polio free status in Mauritius and elimination of maternal neonatal tetanus.

The mission noted a decline in reported coverage performance, as well as immunity gaps in high risk groups owing to the measles outbreak. To maintain the country's polio free status the mission recommended that sustained efforts be made to ensure that acute flaccid paralysis surveillance evidence standards are met, in line with global and regional targets. A roadmap to implement the core recommendations was drawn up and presented to MOHW. The findings and recommendations informed the elaboration of the comprehensive Multi Year Plan on Immunization.

Elaboration of the first comprehensive Multi Year Plan on Immunization

Mauritius elaborated its first comprehensive Multi-Year Plan (cMYP) on Immunization under the guidance of WHO. WCO Mauritius played a pivotal role in this process by sourcing technical expertise from the Regional Office to review the National Immunization Programme and identify its strengths, gaps, opportunities and barriers. A four-day workshop was held to gather the support of health professionals from different departments of MOHW for the formulation of the cMYP. The cMYP was finalized in November 2018 with the input of the Regional Office and the Intercountry Support Team for Eastern and Southern Africa. Mauritius is now equipped with a key management tool for its national immunization programme, providing multiyear planning with an accent on the critical elements of cost and financing, to ensure its financial sustainability. The adoption of the cMYP in 2019 has guided the development of successive annual operational plans on immunization.

Institutionalization of the National Immunization Technical Advisory Group

The Global Vaccine Action Plan 2011–2020 calls all countries to establish or have access to a National Immunization Technical Advisory Group (NITAG) by 2020. In that vein and based on cMYP recommendations and WHO best practices, a NITAG, locally referred as MAUNITAG, was constituted by MOHW in 2019. MAUNITAG, which functions as an advisory committee comprising multidisciplinary groups of experts, has the responsibility to guide and keep MOHW informed in order to make evidence-based decisions regarding vaccine and immunization policy. WCO Mauritius orientated MAUNITAG members to NITAG functioning as per WHO guidelines during a four-day capacity building workshop, and strengthened their capacity, as well as that of the secretariat, on efficiency in operations, analysis of immunization with regards to the health systems, the policy decision-making process and preparation of the report on evidence-based recommendations. To enhance MAUNITAG operationalization, WCO Mauritius prepared an internal procedure manual for its processes. In 2019, its inception year, MAUNITAG held three meetings. In addition, it set up four working groups to improve its effectiveness in reviewing evidence-based information and providing policy analysis and strategy formulation expertise.



WHO Representative and participants during a capacity building workshop for the Mauritius NITAG members

Reproductive, maternal, new-born, child and adolescent health

Finalization of the National Sexual and Reproductive Health Action Plan 2018–2021

The National Sexual and Reproductive Health Action Plan 2018–2021 finalized in November 2018 aimed at addressing the sexual and reproductive health challenges faced across the life stages by providing comprehensive sexual education, family planning services, antenatal care, safe delivery care and postnatal care. The draft action plan was reviewed by technical experts from the Intercountry Support Team for Eastern and Southern Africa to ensure alignment with the WHO sexual and reproductive health guidelines. The implementation of the action plan will facilitate access to existing sexual and reproductive health services by addressing pertinent societal, legal and cultural barriers.

National Roadmap Framework to Improve Maternal, Neonatal and Child Health

A steering committee was set up in 2019 under the chairmanship of the Permanent Secretary of MOHW to develop the National Roadmap Framework to Improve Maternal, Neonatal and Child Health. Subsequently, several technical working groups comprising key health professionals working in the areas of gynaecology, paediatrics, demography and statistics were established to conduct a situational analysis and identify strategies to address the gaps. Members of the working groups recommended that greater emphasis be laid on preconception care and coordination and continuity of care for pregnant women. Data collection and analysis on maternal services was identified as a priority. The recommendations also focused on the development of the necessary tools and capacity to improve maternal, neonate and child health, as well as the setting up of a specialized intensive care unit in each of the five regional hospitals for better health outcomes for neonates. The roadmap promotes a women-centred and evidence-



based approach and will guide the country's efforts to reduce morbidity and mortality rates among children less than five years old to one digit within the next five years and perinatal and maternal morbidity and mortality rates.

Coordinating the Global Reproductive, Maternal, New-born, Child and Adolescent Health Policy Survey

WCO Mauritius played a coordination role during local data collection for the WHO Global Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) Policy Survey carried out in 2018. Information was collected on the key laws, regulations, policies, guidelines and strategies on RMNCAH in the country. WCO and MOHW focal points worked collaboratively for the submission of data using the online platform in October 2018. The findings of the survey enabled Mauritius to track progress in incorporating WHO recommendations into the national RMNCAH policies and strategies and provided a mechanism to monitor progress towards achieving the objectives of the Global Strategy for Women's, Children's and Adolescents' Health 2016–2030 and the SDGs.

Promoting breastfeeding as the best source of nutrition for babies

In February 2018, WCO Mauritius supported the launch of the study report on knowledge, attitudes, beliefs and practices of breastfeeding conducted by the Mauritius Institute of Health in collaboration with MOHW. The WHO Representative highlighted the report's relevance as a key advocacy tool to inform the development of policies on breastfeeding. The numerous benefits of breastfeeding for both infants and mothers and its irreplaceability as a safe and sustainable way to feed an infant were emphasized. According to the report, only 25% of 480 babies covered in the study were exclusively breastfed during their first six months. The Minister of Health and Wellness expressed commitment to renew the country's efforts so as to reach the WHO Global Nutrition Target of 50% by 2025. With the aim to re-establish breastfeeding as the preferred choice of feeding for all infants in their early months of life, Mauritius is focusing on addressing the specific needs of mothers, including those who undergo caesarean section or other forms of instrumental birth or who have premature babies. An action plan and strategies to promote breastfeeding among the Mauritian society at large will be developed based on the findings and recommendations of the report.

Healthy ageing

Improved health care services, socioeconomic determinants and lifestyle changes have significantly increased life expectancy in Mauritius. According to projections, life expectancy will rise further to reach 75 years for males and 80 years for females by 2052 compared to 70.71 years and 77 years, respectively, in 2013. The population aged 60 years and above is expected to grow from 15.6% to 32.5% by 2056, consequently bringing about the associated social challenges such as reduction in the workforce and feminization of the elderly population. WCO is collaborating with key stakeholders to address those challenges and ensure healthy ageing of the population.

Devising an Action Plan on Integrated Care for Older People

Mauritius, along with other African countries, was introduced to the new tools developed by WHO for the Integrated Care for Older People (ICOPE) to better address their needs with the expected rapid demographic change. The country was represented by MOHW and WCO Mauritius in a three-day intercountry orientation workshop held in 2019 by the Regional Office. The issues faced by older people in accessing health care and social services, as well as the initiatives taken by respective countries in line with ICOPE, and the challenges in implementing ICOPE were discussed. Based on the tools developed and the situational analysis of the country, WCO Mauritius and MOHW formulated a roadmap for advancing healthy ageing based on the five core areas of the ICOPE Framework. The roadmap was shared with the Ministry of Social Integration, Social Security and National Solidarity, which will be the body implementing the roadmap after its validation. The ICOPE plan of action will be an essential tool in ensuring the inclusion of older people's health needs in PHC, using a person-centred and integrated approach. Health and social services will be optimized to respond to older people's unique, varied and complex needs and maximize their functional ability while detecting and managing declines in their physical and mental abilities.

4. PROTECTING PEOPLE FROM HEALTH EMERGENCIES



Mauritius is now more than ever highly at risk of natural disasters with the adverse impacts of climate change and is constantly under a rising threat of infectious diseases, food contamination, AMR and chemical disasters. Being a SIDS and a developing country makes Mauritius even more vulnerable to these local and global threats. WCO Mauritius, together with its partners, worked to build Mauritius' resilience to health emergencies by ensuring that the core public health capacities for emergency preparedness and risk management were in place so that the country could quickly prepare for, prevent, detect and respond to such emergencies.

4.1 Improving preparedness for health emergencies

State Party self-assessment annual reporting

Within the framework of the International Health Regulations (IHR) 2005, all State Parties are required to have or to develop and maintain minimum core public health capacities to implement IHR (2005). In this respect, reporting annually on the status of their implementation, as stipulated in Article 54 of the Regulations, is mandatory for all State Parties. In 2018, the Regional Office trained national IHR focal points on the methodology and tools developed for annual reporting of State Parties' self-assessments. The IHR State Party Score reported in 2018 per capacity for Mauritius is summarized in Table 2.

Table 2. IHR State Party Score per capacity for Mauritius in 2018

Capacity	Average of capacities scores (%)	Indicator	Indicator score (%)
C1: Legislation and financing	53	C1.1. Legislation, laws, regulations, policy, administrative requirements or other government instruments to implement the IHR(2005)	80
		C1.2. Financing for the implementation of IHR capacities	40
		C1.3 Financing mechanism and funds for the timely response to public health emergencies	40
C2: IHR coordination and NFP functions	90	C2.1. NFP functions under IHR	80
		C2.2. Multisectoral IHR coordination mechanisms	100
C3: Zoonotic events and the human-animal interface	20	C3.1. Collaborative effort on activities to address zoonoses	20
C4: Food safety	80	C4.1. Multisectoral collaboration mechanism for food safety events	80
		C5.1. Specimen referral and transport system	100
C5: Laboratory	53	C5.2. Implementation of a laboratory biosafety and biosecurity regime	20
		C5.3. Access to laboratory testing capacity for priority diseases	40
		C6.1 Early warning function: indicator- and event-based surveillance	60
C6: Surveillance	60	C6.2. Mechanism for event management (verification, risk assessment, analysis, investigation)	60
		C7.1. Human resources to implement IHR (2005) capacities	60
C7: Human resources	60	C8.1. Planning for emergency preparedness and response mechanism	60
C8: National health emergency framework	60	C8.2. Management of health emergency response operation	80
		C8.3. Emergency resource mobilization	40



Capacity	Average of capacities scores (%)	Indicator	Indicator score (%)
C9. Health service provision	67	C9.1. Case management capacity for IHR relevant hazards	60
		C9.2. Capacity for infection prevention and control (IPC) and chemical and radiation decontamination	40
		C9.3. Access to essential health services	100
C10. Risk communication	80	C10.1. Capacity for emergency risk communications	80
		C11.1. Core capacity requirements at all times for designated airports, ports and ground crossings	80
C11. Points of entry	80	C11.2. Effective public health response at points of entry	80
		C12.1. Resources for detection and alert	80
C12. Chemical events	80	C12.1. Resources for detection and alert	80
C13. Radiation emergencies	20	C13.1. Capacity and resources	20

Joint External Evaluation of IHR (2005)

Mauritius has been fulfilling its responsibility as a nation to ensure global health security by implementing IHR (2005) and adopting the set of procedures to prepare for, detect and respond to public health threats. In 2018 Mauritius voluntarily conducted a self-assessment and a joint external evaluation (JEE) of its core capacities under IHR (2015). This exercise required the collaboration of WCO Mauritius, concerned Ministries and international experts from Canada, Eswatini, Nigeria, Rwanda, Seychelles, the Food and Agriculture Organization of the United Nations, the United Nations Institute for Training and Research, the Regional Office, WHO headquarters and the Global Health Security Agenda Initiative. An orientation mission by the Regional Office and a five-day JEE mission consisting of a stakeholders' workshop and field visits were carried out.



International experts and participants during the JEE workshop in 2018

Contribution to the assessment of the Mauritius disaster risk management capacities

As part of UNCT, WCO Mauritius facilitated the CADRI mission requested by the Ministry of Social Security, National Solidarity, Environment and Sustainable Development to comprehensively assess the multisectoral capacities, needs and gaps in the disaster risk management system. Following a scoping mission in March 2019, 11 experts conducted capacity diagnosis in August 2019 through interviews and field visits involving more than 30 stakeholders in 10 identified sectors. WCO Mauritius was trained on CADRI methodology as part of the in-country team prior to the start of the assessment. WCO Mauritius contributed to the assessment exercise in the health sector by participating in a one-day workshop held at MOHW and facilitating the identification of areas for support in the field of risk management. The findings and recommendations from this assessment are expected to inform the development of the national disaster risk reduction strategy and the review of the institutional set-up.

The JEE report highlighted the substantial progress made in fully implementing IHR (2005) with the modification of the Quarantine and Public Health Regulations, the formulation of action plans to respond to public health emergencies, the setting up of an intersectoral committee to deal with IHR-related matters, the signing of an international protocol, and the putting in place a response plan in the advent of a chemical event. Five overarching thematic areas that required stronger commitment were identified and priority actions were duly suggested. The scores for all the technical areas assessed under JEE and with respect to standard indicators are shown in Annex 1.

A national action plan for health security will be developed to guide strategic planning to accomplish the identified priority actions and accelerate the strengthening of IHR (2005) core capacities.

Tailoring the National Preparedness Plan for better response to vector-borne diseases

Vector-borne diseases such as chikungunya, dengue, malaria and zika represented a real threat to Mauritius following the heavy rains of February 2018. Consequently, the National Preparedness Plan was updated to strengthen the country's response to these threats with the joint efforts of MOHW, WCO Mauritius and other governmental institutions. WCO Mauritius provided updated information on the vector-borne diseases to MOHW to be shared with key stakeholders in the event of an outbreak crisis.

The National Preparedness Plan was successfully implemented using a coordinated and integrated approach. Each stakeholder's role and function were well defined for harmonized surveillance and minimal duplication. Several actions were taken as a response to the communicable disease threat faced by the country during heavy rains. Elimination of stagnant water was considered key in eradicating breeding grounds for mosquitoes and reducing the risks of waterborne diseases such as gastroenteritis. Clean-up activities and extended larviciding and fogging exercises were conducted in different priority areas. Additional efforts were required to accelerate the interventions, notwithstanding the human resource limitations such as for field workers, health inspectors and health surveillance officers. With the collective efforts of all concerned authorities, outbreaks of vector-borne and communicable diseases were fruitfully averted.

4.2 Rapid detection and response to disease outbreaks

Introducing Integrated Disease Surveillance and Response

Despite having individual surveillance systems for priority diseases, Mauritius is among the few countries in the Region that do not have an Integrated Disease Surveillance and Response (IDSR) framework. This was identified as a priority matter after the joint external evaluation of IHR (2005). In this context, WCO Mauritius helped the Communicable Diseases Control Unit of MOHW to develop the draft IDSR technical guidelines based on those of the Regional Office to align with the existing surveillance systems in the Region. Out of 40 notifiable diseases, 12 of top priority were identified and their standardized case definitions developed and shared with all the government health care facilities for reporting. Epidemiological data on these diseases are compiled and published in the "Weekly bulletin on outbreaks and emergencies" of the Regional Office. WCO Mauritius is providing continued assistance to MOHW to finalize

and validate the guidelines to streamline information flow and decision-making within the national case-based surveillance systems and at the regional and international levels. MOHW also explored the introduction of event-based surveillance to detect abnormal patterns of diseases prior to the reporting of their cases in health care facilities (the traditional case-based surveillance) and widened the type of data monitored. A pilot activity on event-based surveillance was carried out in 2019 at two secondary schools to monitor student absenteeism.

Implementing the District Health Information Software 2

A health information management system is a linchpin in strengthening health care service provision and standardizing health data. Both the joint external evaluation of IHR (2005) and the cMYP prioritize the deployment of an electronic information system, more so because of the recent outbreaks of influenza, measles and dengue in 2018. The free District Health Information Software 2 (DHIS2) used in more than 60 countries was presented to MOHW with an initial scope of aiding in the national immunization programme and disease surveillance and with the goal of eventual extension to other health information (see Fig. 5 for an overview of the DHIS2 process). WCO supported the participation of an epidemiologist and an IT specialist from MOHW in DHIS2 training in March 2019. In order to mobilize technical and financial resources from the Inter-country Support Team for Eastern and Southern Africa for DHIS2, a concept note and a prospective timetable for introducing the software in the national health information system were drafted.

A Data Warehouse for Local Action

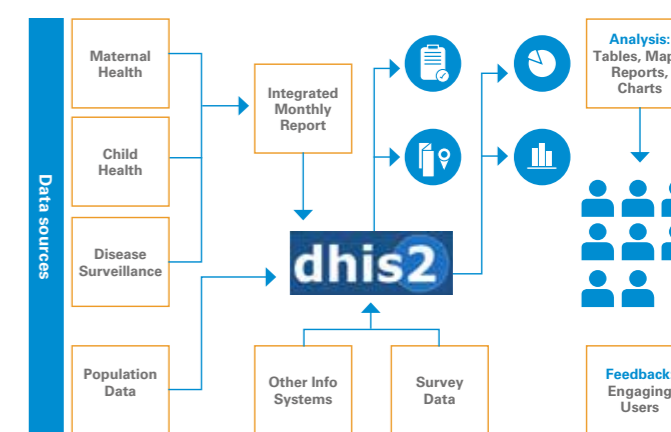


Fig. 5. Overview of the DHIS2 process

4.3 Mitigating risks of disease outbreaks

Reinforcing Influenza Sentinel-Site Surveillance

Following the influenza outbreak in 2017, MOHW was determined to reinforce the influenza surveillance systems by establishing its first set of influenza thresholds to enable timely response. In this pursuit, a three-day workshop jointly organized by WCO Mauritius and MOHW was held to train key health professionals by WHO headquarter experts on the global influenza surveillance and response system and the methodology to determine epidemic thresholds. The appropriateness of the potential thresholds was discussed to establish the first set of influenza thresholds for seasonal and alert outbreaks.

Since the workshop, MOHW has been monitoring influenza activity weekly with the proxy for the Pandemic Influenza Severity Assessment (PISA) indicator and with the introduction of two additional thresholds for moderate and high levels (see Fig. 6 for an example of a presentation of monitored data). WCO Mauritius assisted MOHW to update the thresholds based on the 2018 data and to introduce standardized case definitions for influenza-like illness and severe acute respiratory infection for more accurate surveillance. WCO Mauritius encouraged MOHW to explore the epidemiological data collected for knowledge to inform the next anti-influenza vaccination campaign and vaccine procurement. With the support of WCO Mauritius and the Regional Office, MOHW started sharing the PISA indicator data with the Global Influenza Surveillance and Response System, and in 2019 Mauritius became the seventh country in the Region contributing to this system.

The capacity building for the health professionals also paved the way for the reinforcement of other aspects of the national influenza surveillance system such as laboratory capacity, which was strengthened, and the protocol for Influenza Sentinel Surveillance in Mauritius, which was elaborated. The draft protocol, devised with WCO Mauritius' inputs, included an operational manual for thresholds, case definitions as recommended by WHO and well-defined laboratory sampling and processing procedures. This protocol will improve the quality, quantity and reliability of epidemiological and virological data, enhancing the country's preparedness for influenza outbreaks. WCO Mauritius also facilitated resource mobilization to close the gap in laboratory capacity, and by the end of 2019 MOHW acquired the materials needed for the resumption of specimen sharing with WHO collaborating centres.

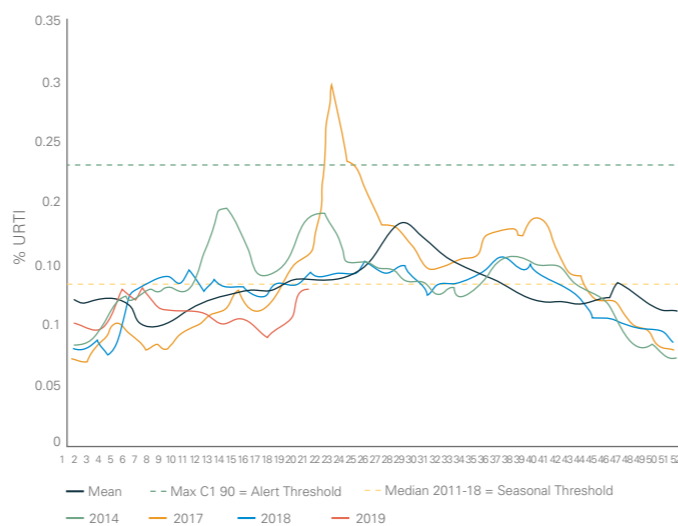


Fig. 6. Sample monitoring chart for upper respiratory tract infection (URTI) conducted on a weekly basis (Note: brown dashed line = alert threshold, blue dashed line = seasonal threshold)

Ensuring continuity of polio containment

The last case of poliomyelitis in Mauritius was reported in 1965 and since then the country has been working towards maintaining its polio-free status. After the type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use, the only remaining poliovirus reservoirs will be the facilities inadvertently retaining poliovirus infectious or potentially infectious materials (PIM). The third edition of the WHO Global Action Plan for poliovirus containment focuses on sustainably minimizing risks from these facilities.

In accordance with the framework of the Regional Office's strategy for in-country implementation of the potentially infectious materials guidance, a WHO consultant was deployed to Mauritius to strengthen the technical capacities of local teams, including WCO Mauritius staff, in identifying facilities that may handle and store such materials. Reporting forms were distributed to survey the facilities listed. Upon completion of data collection and analysis, WCO Mauritius, in collaboration with MOHW, presented the country dossier to the Africa Regional Certification Commission (ARCC) for Polio Eradication. Quarterly polio risk assessments and mitigation plans devised using the Polio Risk Assessment Tool and a National Polio Outbreak Preparedness and Response Plan for 2019 were submitted to ARCC. Thus, WCO Mauritius supported the country in assuming its global responsibility to ensure there was no risk of a re-emergence of paralytic diseases that could undermine the achievement of polio eradication.

Revised measles vaccination schedules and improved surveillance

Notwithstanding its high vaccination coverage, Mauritius faced an unprecedented measles outbreak from April 2018 to June 2019 with an overall incidence rate of 116 per 100 000 inhabitants, and a case fatality rate of 0.27%. The two most affected districts had an incident rate range of 150–225 per 100 000 inhabitants. According to WHO statistics, Mauritius had a drop in the vaccination coverage of MCV1 and MCV2 in 2017 and 2016¹¹, respectively as shown in figure 7. The two affected districts underperformed in MCV1 and MCV2 coverage for over 2015 to 2017. The larger population remains vulnerable to the spread of measles.

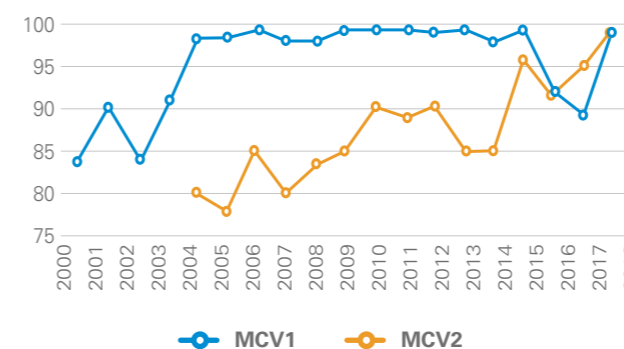


Fig. 7. WHO coverage estimates for measles vaccines in Mauritius from 2000 to 2018

WCO Mauritius advocated for the implementation of revised measles, mumps and rubella vaccination schedules to accord with WHO standards. Consequently, MOHW reduced the vaccination ages for both MCV1 and MCV2 doses from 12 months and five years to nine and 17 months, respectively. The intensive catch up vaccination campaign led to the subsiding of the outbreak and to its end in June 2019.

Targeted vaccination, coupled with a strong and reliable surveillance system, has proved to be a crucial component in eliminating measles in the country. In line with the global goal to eliminate measles by 2030, WCO Mauritius assisted NHL in an external quality assurance proficiency test panel for measles, which resulted in commendable performance by NHL which underwent its first annual accreditation for measles in October 2019. Vital indicators pointed that full accreditation can only be achieved upon the setting up of a national measles validation committee. Owing to the measures taken, Mauritius now has improved, fast and reliable measles surveillance, allowing for prompt response in case of outbreaks. The national response to contain and halt the measles outbreak, which included WCO Mauritius' support, has been documented as a best practice and is reported in a publication online¹² (see Annex 2 for the full document).

Containing dengue outbreak

Following a five-year dengue interruption, Mauritius faced an outbreak of the disease between February and July 2019 with more than 141 confirmed cases, 11 of which were imported as shown in figure 8. The incidence rate was 10.6 per 100 000 inhabitants, while the case fatality rate was zero. In the wake of this outbreak, WCO Mauritius assisted MOHW in strengthening its laboratory-based disease surveillance programme using serological and virological diagnosis, which can provide early warning of impending epidemic transmission. Routine monitoring of fever cases in sentinel sites was set up for early detection of suspected cases. WCO Mauritius ensured availability of adequate stock of rapid diagnostic test kits to cope with increased demand during an outbreak.

Incidence of confirmed locally transmitted cases of dengue by district in Mauritius from 23 February to 20 July 2019, N = 130



Fig. 8. Distribution of incidence of confirmed locally transmitted dengue cases across Mauritius island Source: MOHW

¹¹ https://apps.who.int/immunization_monitoring/globalsummary/countries?countrycriteria%5Bcountry%5D%5B%5D=MUS&commit=OK
¹² <https://open.who.int/2018-19/country/MUS>



All hospitalized dengue patients were isolated under mosquito nets and placed on treatment. Public sensitization campaigns on dengue were carried out through the media. In the wake of a rapid surge of dengue in the region of Roche Bois, in April 2019 MOHW carried out sensitization campaigns on the preventive measures against the disease, targeting the inhabitants and students and staff of the two primary schools in the locality. Rapid public health measures were taken in the affected regions including fogging activities, larviciding, indoor residual spraying, contact tracing and fever surveys. House to house inspections were also carried out alongside the distribution of about 7000 mosquito coils and 8000 mosquito repellent sprays. The Vector Biology Control Division conducted mosquito surveys in the affected regions. MOHW mobilized key stakeholders, namely the Municipality of Port Louis; the Special Mobile Force; the Ministry of Social Security, National Solidarity and Environment and Sustainable Development; and the Mauritius Police Force to conduct cleaning up campaigns to eliminate breeding spots for mosquitoes. Owing to these prompt responses, the outbreak was declared over in July 2019.



5. PROMOTING BETTER HEALTH AND WELL-BEING

WCO Mauritius was involved in rigorous engagement in efforts towards achieving the target of GPW 13's strategic priority of having "1 billion more people enjoying better health and well-being" by addressing the determinants of and risks to health of the Mauritian population. The focus was on improving the lives of Mauritians on a day to day basis rather than solely reducing mortality. To achieve this, collaboration with various key multisectoral stakeholders beyond health actors and across all sectors affecting health, was imperative.

5.1 Reducing NCD risk factors

Enforcement of the Protocol to Eliminate Illicit Trade in Tobacco Products

In 2018, the Protocol to Eliminate Illicit Trade in Tobacco Products gained the required ratifications and accessions to enter into force under the umbrella treaty, the WHO Framework Convention on Tobacco Control (WHO FCTC). By committing to this protocol, Mauritius became the 39th country to contribute to its global enforcement. This protocol allows for more effective control over accessibility and affordability of tobacco products and over their packaging, while provoking a reduction in funding to transnational criminal activities and protecting governmental revenues from tobacco taxation.

WCO Mauritius facilitated technical assistance in the form of a mission by WHO headquarter and Regional Office experts to MOHW, with the goal of sensitizing the key stakeholders involved in the implementation of the protocol. During the mission, WCO Mauritius supported MOHW in raising awareness about the protocol and participated in discussion on the legal amendments required for its enforcement. Fruitful discussions were held with the Mauritius Revenue Authority, the Ministry of Commerce and Consumer Protection, the Ministry of Foreign Affairs, Regional Integration and International Trade, the Ministry of Agro-Industry and Food Security and its National Agricultural Products Regulatory Office, and the Attorney General's Office. In addition, during the regional meeting held by the Regional Office, WCO Mauritius supported capacity building for technical officers of MOHW, the Attorney General's Office and the Mauritius Revenue Authority on the elimination of illicit trade in tobacco products. These actions helped to further strengthen the country's commitment to tobacco control and will consequently contribute to the reduction of tobacco consumption.

Advocating for plain packaging for tobacco products

Mauritius has been working towards the implementation of plain packaging for tobacco products as part of its comprehensive set of tobacco control measures. This measure, restricting the use of logos, colours, brand images or promotional information other than brand and product names on the packaging, is recognized by the evidence-based WHO FCTC as a powerful action to reduce the appeal of cigarettes and smoking, limit the use of packaging as misleading advertising and promote and enhance the salience of health warnings on packs.

WHO legal expertise from WHO headquarters was instrumental in drafting the plain tobacco packaging regulations. WCO Mauritius and MOHW jointly met with key multisectoral stakeholders, namely the Ministry of Foreign Affairs, Regional Integration and International Trade, the Industry Property Office, the Ministry of Commerce and Consumer Protection and the Department of Consumer Affairs and Metrological Unit, the Ministry of Agro-Industry and Food Security and the National Agricultural Products Regulatory Office, and the Attorney General's Office, to advocate for the implementation of plain packaging for tobacco products. Australia's experience was shared with the key stakeholders, and implementation issues were appropriately addressed.

Relying on the existing guidelines, WCO Mauritius contributed to the consolidation of tobacco regulations to address emerging challenges such as cross-border tobacco product advertising and promotion, and use of flavoured and smokeless tobacco and electronic cigarettes. The regulations, being finalized by the State Law Office, aim at preventing and reducing smoking of tobacco products and limit people's exposure to tobacco smoke.

Recognition of Mauritius' efforts in tobacco control

Mauritius' strong political commitment to tobacco control demonstrated by its implementation of strong tobacco control policies and measures since its ratification of WHO FCTC in 2004 was recognized by WHO during the marking of the World No-Tobacco Day in 2018 and 2019. Mauritius's best practice was shared as an example at both the regional and global levels. Significant achievements in tobacco control, include a decrease in the prevalence of smoking among people aged 20–74 years and a consequent drop in cigarette importation. (Fig. 9). WCO Mauritius encouraged the country in its efforts to strengthen the existing policies and legislation to protect the health of the population and ensure the right of people to breath smoke free air.

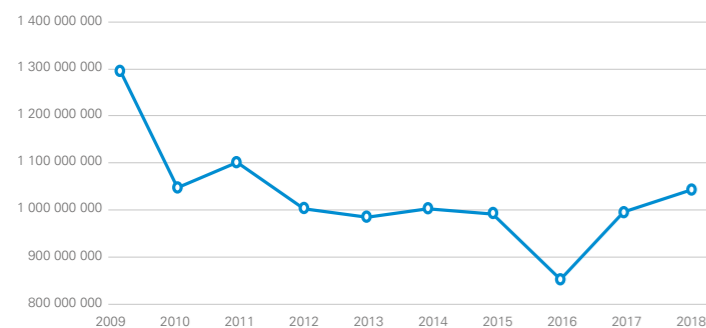


Fig. 9. Number of cigarette sticks imported from 2009 to 2018

In May 2018, a set of pictorial health warnings for cigarette packages was launched by MOHW at the Mauritius Broadcasting Corporation to mark the World No-Tobacco Day, under the theme was 'Tobacco and heart diseases'. Regular rotation of pictorial health warnings for tobacco product packages is recommended by WHO for continued effectiveness. During the event, the minister of health and wellness unveiled the new set of pictorial health warnings which will replace the first set of warnings introduced in 2009. It was important to launch such an event on national television and other media as they are key allies in sensitizing the general population about the hazards of tobacco consumption.



WHO Representative and senior staff of MOHW during World No-Tobacco Day 2018 at the Mauritius Broadcasting Cooperation

The World No-Tobacco Day 2019, observed at a state secondary school, was especially eventful with the recognition of the country's political commitment for tobacco control. On that occasion, Mauritius was awarded a certificate of appreciation by the WHO Director-General and the Regional Director. MOHW received the award from the WHO Representative in Mauritius on behalf of the country. A national anti-tobacco mural painting competition with messages deterring the youth from taking up tobacco smoking was also launched. During both 2018 and 2019 events, a series of activities was organized by MOHW, comprising NCD screening and counselling, sensitization campaigns and talks on the impacts of tobacco consumption.



WHO Representative presenting the 'Certificate of Appreciation' to the Minister of Health and Wellness on behalf of the WHO's Director General and the Regional Director

Empowering schools to promote school health clubs

Behavioural change is said to be a life-long process. The best way to ensure successful positive behaviour change to prevent NCDs is to start at the youngest age possible. In this regard, WCO Mauritius initiated the "Empowering Schools to Promote School Health Clubs for Better Health and Better Future" project in 2019 in concert with the health and education sectors. The primary objective of this project is to revamp school health clubs to sensitize the youth on the NCDs prevailing in Mauritius, notably diabetes, hypertension, cardiovascular diseases, cancer and respiratory diseases, and their associated risk factors such as unhealthy diet, physical inactivity, alcohol consumption and tobacco.

During the focus group discussions held by MOHW, the Ministry of Education, Tertiary Education, Science and Technology (MOE) and WCO Mauritius, students from the four educational zones expressed their needs and expectations regarding the activities of the school health clubs. These inputs informed the programme of the workshop held in July and August 2019 and the list of potential projects. Some 156 school health club focal points were sensitized on NCDs and their risk factors, and the crucial role of the school health clubs in promoting a healthy lifestyle among students. During the four day workshop, the focal points reported that the school health clubs were dormant or did not exist in their schools and they unanimously agreed on the need to sensitize their school managers on the importance of the project. Peer education was identified as a potent tool to reach young people. The very first collective activity of the clubs was the holding of a competition to create a national logo for school health club. A short video film and poster competition also were planned. Initially 117 private and state secondary schools responded positively to the project, and later it was extended to all public and private secondary schools.

Raising awareness of the youth through an anti-tobacco mural competition

Intended to deter the first puff of a cigarette among school youth, a national anti-tobacco mural painting competition was launched by MOHW on the World No-Tobacco Day 2019. Between 10 and 21 June 2019, 22 private and public secondary schools partook in the competition, where a group of five to eight students led by their respective teachers created murals at their schools following a set of technical guidelines. The murals were assessed by a panel of technical officers from MOE and MOHW under the chairmanship of the Director of Health Services. The award ceremony was held in September 2019 in the presence of high level officials from MOHW and MOE, the WHO Representative and students and representatives from the participating schools. WCO Mauritius congratulated the students for participating in the competition and emphasized the effectiveness of peer education in raising awareness on the harmful effects of tobacco and the addictiveness of nicotine, which is usually underestimated by young people.

Strengthening the national nutrition surveillance system

Tracking childhood obesity is crucial for early intervention, especially with the high prevalence of NCDs in Mauritius. A study in 2012 among children aged 9–10 years revealed that 15.8% of boys were overweight, 4.9% of them were obese while 18.9% and 5.1% of girls were overweight and obese respectively. Mauritius is also facing a double burden, a characteristic of a nutrition transition, with 12.4% of the boys and 13.1% of the girls suffering from underweight.

WCO Mauritius and MOHW embarked on a project in view of strengthening the National Nutrition Surveillance System. The scoping mission conducted in October 2018 with the technical support from the Inter-country Support Team for Eastern and Southern Africa identified the strengths and weaknesses of the current Nutrition Information System (NIS). The desk review revealed that data relevant to child growth were scattered over different programmes, making it challenging to have a centralized nutrition database system. Moreover, several data collection tools such as that for maternal data, as well as the child growth and patient's cards, were paper based and were not completed consistently. Consequently, a minimum set of core indicators aligned with the standardized global monitoring and evaluation framework were identified for inclusion in NIS. The next step will be the empowerment of health professionals in using the additional indicators for a stronger NIS.

Sensitization on salt reduction

To mark the World Heart Day 2018, WCO Mauritius and MOHW launched a sensitizing campaign on salt

reduction using posters and pamphlets. The health education materials aim at sensitizing the population on the negative health impacts of high salt intake on cardiovascular health and organ functioning and on the recommended daily salt intake. The campaign promoted healthy cooking practices and better control of salt intake as well as better understanding of salt content on food labelling. Some 5000 posters and 100 000 pamphlets were distributed in strategic places such as health centres and community centres.

National Sports and Physical Activity Policy 2018–2028

Having advocated for a comprehensive approach to health, WCO Mauritius went on to commend the National Sports and Physical Activity Policy 2018–2028 launched by the Ministry of Youth Empowerment, Sports and Recreation in October 2018. Lack of physical activity is a critical issue among Mauritians, with merely 23% of the adult population meeting the WHO recommendation of engaging in a physical activity for at least a total of 150 minutes per week. Only 19% of secondary school students engaged in regular physical activities with the comparatively low levels of physical education in schools. There was also no well-defined unifying goal to guide the sports and physical activity stakeholders, and clear disparities existed in sport participation in relation to gender, age, socioeconomic status and disability.

The National Sports and Physical Activity Policy 2018–2028 laid the foundations for the development of sports and physical activity in Mauritius and for creating an environment conducive to health. Three main transformative themes with 20 actions were determined for a long-term strategy and its delivery. The target for the 'fostering a culture of community sport and physical activity' theme is to increase the portion of adults participating in physical activity at the recommended weekly level to 38% by 2028. Its specific actions to be implemented by the Ministry of Youth Empowerment, Sports and Recreation including delivery of joint communication campaigns with MOHW with role models as ambassadors; review and update the physical education curriculum, working together with MOE to highlight the importance of and improve access to sports and other physical activity opportunities for students; empower the medical sector to prescribe physical activity; and introduce mandatory physical activity within the workplace to transform employee mindset around physical activity and help in maintaining people's level of physical activity during the transition from school to work. With its integrated approach to health, this policy aims for a healthier population with healthy weight, muscle, bone and brain development, improved social and relational skills, good stress management and improved longevity.



Prescription of physical activity to alleviate NCD burden

In 2018 physical activity was prescribed as an innovative measure to address the growing NCD burden in Mauritius and to promote the uptake of regular physical activity among the population as recommended by WHO. Its implementation is now part of both the National NCD Prevention and Control Programme of MOHW and a priority action of the National Sports and Physical Activity Policy 2018–2028 of the Ministry of Youth Empowerment, Sports and Recreation. Health care providers will be allowed to prescribe physical activity as a method to prevent and treat illness and patients will benefit from a range of sports programmes within their communities that are supported by a network of local organizations and delivery partners.

The implementation of the prescription of physical activity to tackle NCDs was the focus of a workshop of key multi-ministerial and multisectoral actors held in December 2018 by the two implementing bodies. WCO Mauritius applauded the cutting-edge approach and the intersectoral partnership that is being promoted. The next step will be capacity building for health care providers, which will be conducted in partnership with Sheffield Hallam University, to equip them with the knowledge and skills required for the implementation of this innovative approach. The promotion of physical activity in the population will impact positively on the public health care burden, specially regarding NCD patients.

Promoting cycling for health, environment protection and road Safety

The Ministry of Youth Empowerment, Sports and Recreation launched the 'Pédaler en toute sécurité' campaign in the capital, Port Louis, as part of its implementation of the National Sports and Physical Activity Policy 2018–2028. The purpose was to promote cycling on a regular basis for leisure as well as a physical activity. It also aimed at creating public awareness on road safety and cycling as a safe, healthy and green form of transportation. A cycling event to raise awareness of the population of the benefit of cycling was the main activity of the event. Eminent personalities including the WHO Representative, the Minister of Youth Empowerment, Sports and Recreation, the Lord Mayor of Port Louis and individuals of all ages joined the event and cycled about 14 km from Roche Bois Youth Centre to the Port Louis city centre. The WHO Representative praised the commitment of MOHW in promoting and integrated approach to health. He reminded the audience of the health benefits of regular physical activity and advised them to integrate this habit in their lifestyle. The Ministry of Youth Empowerment, Sports and Recreation

announced its joint venture with MOHW to implement related health and road safety policies and set up cycling clubs in different localities of the city to foster cycling.



WHO Representative, the Minister of Youth Empowerment, Sports and Recreation and members of the community during the cycling campaign launch

5.2 Addressing the determinants of health

Raising awareness on the negative impact of technology on health of young people

About 22% of the Mauritian population suffers from a mental disorder or disease, with an observed rise in mental disturbances linked to synthetic drugs among the youth. In 2018 and 2019 the WHO Representative, the Minister of Health and Wellness and technical staff from MOHW participated in the yearly event at the New Psychiatric Mental Health Care Centre to mark the World Mental Health Day. The patients showed their creativity and talents during the cultural programme by executing dance and yoga routines and through their play. A sales exhibition for creative handmade crafts was organized for the benefit of the patients.

Under the 2018 theme of 'young people and mental health in a changing world', the speakers credited the negative impact of technology and cyberbullying as a cause of depression and suicide among young people. The WHO Representative spoke about the additional pressure on young people to stay constantly connected to social media. The importance of mental health as an integral part of health and well-being and a whole and essential aspect in the well-functioning of an individual was also highlighted by WHO.



WHO Representative with members of civil society during World Mental Health Day 2018

Reducing stigma around suicide

During the World Mental Health Day 2019, awareness was raised on suicide, with special focus on mental health promotion and suicide prevention. According to WHO, suicide is the second leading cause of death among people aged 15–29 years, with approximately 800 000 persons dying due to suicide every year worldwide. Mauritius had a suicide death rate of 8.81 per 100 000 population in 2017 and was ranked 110th in the world. During the commemoration of World Mental Health Day 2019, WCO Mauritius and other key partners drew attention to the importance of suicide prevention, inclusion and de-stigmatization of individuals with mental health concerns. They called upon individuals, communities, families and the whole nation to act accordingly. The multiple causes of suicide such as prolonged stress, stressful events and other triggering factors were areas for reflection on the occasion. Radio and television shows were organized in collaboration with MOHW to educate families and the community about suicide and to enable them to recognize behavioural changes as warning signs for suicide. To promote a comprehensive approach to mental health, WCO Mauritius is extending its ongoing technical support to MOHW for re-actualization of the draft National Action Plan on Mental Health.

National mobilization to mark the International Day Against Drug Abuse and Illicit Trafficking

A national march was organized in the streets of the capital by MOHW to commemorate the International Day Against Drug Abuse and Illicit Trafficking in 2019. Strong multisectoral participation was noted with the presence of the Prime Minister, the Minister of Health and Wellness, the Minister of Education, Tertiary studies, Science and Technology, the Minister of Youth Empowerment, Sports and Recreation, the Minister of Social Integration, Social Security and National Solidarity, the representative from WCO Mauritius and the UN Resident Coordinator. Secondary school students and representatives of private and public institutions and NGOs also participated in the event. Addressing drug use and abuse among the youth was the main focus of this day. According to MOHW, some 1000 young people aged up to 23 years were hospitalized in 2017 due to complications linked to consumption of synthetic drugs. The number of young people admitted for drug treatment increased from 418 in 2016 to 500 in 2018. The ministers present highlighted the measures taken by the respective ministries to address this escalating issue. The Minister of Health and Wellness announced the inauguration of two detoxification and rehabilitation centres for those aged below 18 years and the introduction of prevention programmes targeting some 34 000 students, mass media programmes to reinforce the national fight against illicit drugs, the extension of the distribution of methadone to area health care and community centres, and the setting up of addiction units in the five regional hospitals.



The national march to mark the International Day Against Drug Abuse and Illicit Trafficking was graced by the presence of the Prime Minister, Honourable Pravind Kumar Jugnauth



Addressing climate change and health issues as SIDS

Mauritius hosted the Third Global Conference on Climate and Health for the Indian Ocean Region in March 2018. Designed along the lines of the geographically dispersed nations approach and in the context of WHO's Special Initiative on Climate Change and Health for SIDS, the conference brought together representatives of governments and international institutions from eight SIDS to discuss the necessity of a streamlined and concerted approach to increase SIDS resilience to climate variability and change by 2030.

The WHO Representative made the opening remarks, highlighting the urgency of addressing climate change threats and the need for global solutions with a multilateral, integrated and coordinated approach. During the conference, the SIDS recognized the similarity of their challenges and the necessity of joint actions to push health and climate change higher on the regional and global agendas. Action points along the four strategic line actions, namely empowerment of leadership, building of evidence, implementation, and facilitating of access to resources were discussed and targets and indicators were identified through a participative approach. The deliberations of the conference informed the formulation of a draft plan of action on climate change and health, which was presented and considered at the 72nd World Health Assembly in 2019.

Reporting progress on SDG health target 3.5 in the Global Survey

WCO Mauritius coordinated the completion of the questionnaire for the Global Survey on Progress on SDG health target 3.5 at a local level, working in close liaison with MOHW and others partners. Target 3.5 relates to the strengthening of the prevention and treatment for substance abuse, including narcotic drug abuse and harmful use of alcohol. The survey focuses on alcohol consumption and implementation of the Global Strategy to Reduce the Harmful Use of Alcohol (SDG 2030 indicator 3.5.2) and service coverage for substance use disorders (SDG 2030 indicator 3.5.1). After all the sections were completed by the relevant partners, the data were submitted online. The findings of this survey will provide insights on where Mauritius positions itself in terms of progress towards the achievement of SDG health target 3.5, and the measures that need to be taken to accelerate or reinforce the country's progress on the target.

Contributing to the Global Survey on Violence Against Children

The right to the freedom from all forms of violence is an international legal obligation as defined in the Convention on the Rights of the Child and ratified by countries worldwide including Mauritius. In 2018, following the recommendations of the '2006 UN Study on Violence against Children', the country contributed for the first time to the Global Survey on Violence against Children, which examines the measures taken to prevent violence against children, protect child victims and hold perpetrators to account. WCO Mauritius took the lead in coordinating the survey locally. Following online training for the local focal points from WCO Mauritius, MOHW and the concerned ministries by WHO headquarters experts, data collection was carried out under the supervision of WCO Mauritius. A meeting was held in December 2018 with key stakeholders, including the Ministry of Gender, Child Development and Family Welfare, the Ministry of Social Integration, Social Security and National Solidarity, the Ombudsperson for Children's Office, and the Mauritius Police Force, to validate the data submitted on an online platform. When published, the Global Survey on Violence Against Children report will be an essential reference to guide Mauritius in setting its priorities to address violence against children. Such violence has serious and often long-lasting consequences, compromising child development and health. Working towards a violence free environment for children is key for sustainable development and social and economic progress of Mauritius.

Commemorating the first World Food Safety Day 2019

Mauritius organized a series of activities to mark the first World Food Safety Day commemorated globally on 7 June 2019 under the theme "Food safety, everyone's business". A national sensitization programme was conducted over a week on national television and public and private radio to raise awareness about food safety at every stage of the food chain, i.e. production to harvest, processing, storage, distribution, preparation, and consumption and the risks of foodborne illnesses. WCO Mauritius provided the background information and health education materials for adaptation to the local context. Relevant health education materials were distributed in public health institutions, youth centres, social welfare centres, primary and secondary schools and supermarkets to sensitize the population on the five keys to safer food.

6. AIMING FOR HIGH PERFORMANCE



With the four pillars of the Transformation Agenda 2015–2020 (i.e. pro-results values, smart technical focus, responsive strategic operations, and effective communication and partnerships), acting as guidance for its direction, WCO Mauritius strived for high performance on its goals. The pillars, together with the renewed organization shifts relating to GPW 13, increased the efficiency and efficacy of WCO Mauritius in its ability to support the government and a wide range of stakeholders to improve the health of the Mauritian population.

6.1 Staying connected

WCO Mauritius invested heavily in its communications efforts during the 2018–2019 biennium, providing information, advice and guidance to promote and protect health. It used several channels of communication to encourage action by its various audiences, who were individuals, communities, health care providers, policy-makers and international partners. In this endeavour, a draft communication strategy was developed in 2018 to guide efforts towards effective and coordinated communication based on WHO's six principles for effective communications (see Fig. 10).

shared reliable, clear and relevant evidence-based information to empower the general public to make informed health decisions.



WHO Representative, Dr Laurent Musango, being interviewed by the national television channel.

WCO Mauritius was dedicated to extending its messages to its international partners and the public at large by increasing its online presence. Some 31 press releases and four e-newsletters covering key activities and events were published via the Regional Office's website¹³. During 2019, WCO Mauritius favoured press releases as they allowed for timelier dissemination of information. WCO Mauritius' biennial report for 2016–2017 and the annual report for 2018 were produced and shared with key partners. Electronic versions were uploaded on the Regional website for the wider audience. Relevant news items were systematically provided to UNCT for posting on its Facebook page for presence on social media.



Fig 10: WHO's six principles of effective communications

The WHO Representative diligently attended the different WHO global health day commemorations and national health campaigns organized by MOHW and public health events held in the heart of the local communities. This regular and close interaction with the Mauritian population provided ideal opportunities for the WHO Representative to directly raise awareness about health issues and encourage healthy behavioural changes. These public events often had wide media coverage, boosting the message conveyed and the visibility of the work of WHO. WCO Mauritius also responded positively whenever its expertise was sought by the media on specific health situations and emerging outbreaks. During these interventions, WCO Mauritius

6.2 Promoting research and innovation

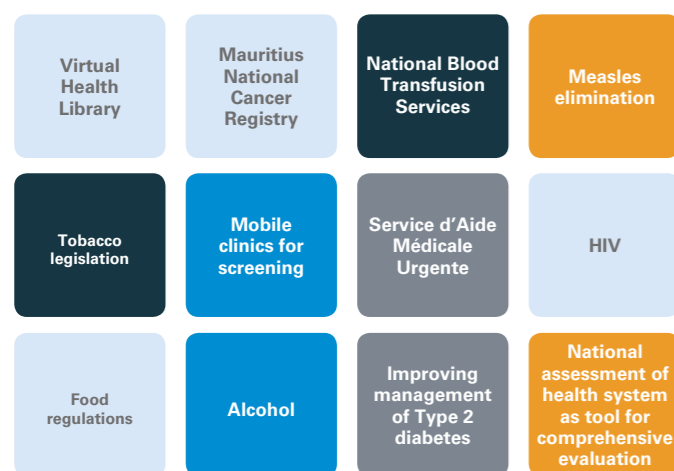
Documenting best practices on universal health coverage

WHO identifies UHC as the single most important agenda for achieving SDG targets across Member States. To help the countries to translate the SDGs into action plans, WHO initiated a process to document and share best practices among the countries and build an appropriate body of evidence to guide decision-makers. In line with this, the Regional Office established a regional UHC flagship programme in which Mauritius was identified as a flagship country for UHC implementation. The initial documentation of the National Assessment of the Health System for better NCD Outcomes as a best practice opened the window for Mauritius to showcase its experience in that area.

¹³ <https://www.afro.who.int/publications>



WCO Mauritius teamed up with MOHW to lead the documentation process. Twelve best practices were identified by MOHW's Coordination Committee across five established key areas: (1) availability and quality of inputs, (2) management processes, (3) health system performance, (4) health service outcomes and (5) overall sector efficiency equity of effectiveness. WCO Mauritius facilitated the mission to Mauritius of a team from the Regional Office to review and document these best practices. Once finalized, the documentation will be available on the Regional Health Observatory and will provide other countries with more south-south context-specific content and references for best UHC practices.



Mauritius' 12 best practices for UHC

Participation in the African Health Economics and Policy Association Scientific Conference

Six delegates from WCO Mauritius and MOHW, led by WHO Representative and the Director of Health Services at MOHW, attended the African Health Economics and Policy Association's Fifth Scientific Conference in Ghana in March 2019. The country presented 10 abstracts co-authored by the two institutions under the conference's theme "Securing PHC for all: the foundation for making progress on universal health coverage in Africa". A list of the abstracts is available in Annex 3. As WHO was an organizing partner, staff from WCO Mauritius also led the plenary and parallel sessions. The delegation benefitted from the sharing of best practices among the more than some 400 experts from ministries of health, academia and development partners of more than 40 countries. The conference was an excellent platform for networking and initiating partnerships for the Mauritian team.

Knowledge sharing and research with the University of Mauritius

The WHO Representative had the honour to be the guest speaker for the monthly knowledge sharing talk organized by the University of Mauritius to encourage community leadership and engagement. During his talk, titled 'Noncommunicable diseases: progress monitor in the world and in Mauritius' the WHO Representative sensitized the hundreds of students and teaching and non-teaching staff about the local and global burden of NCDs and the multisectoral measures taken for their prevention and control. The alarmingly low level of physical activity among the Mauritian population and the creation and revival of school health clubs to increase awareness on healthy lifestyle choices among the youth were highlighted. In June 2019, the University of Mauritius hosted the Commonwealth University summer school around the theme of "Public health: from a small island state to the global community", and WCO Mauritius got another opportunity to share knowledge with the delegation of international students during the "Health economics, policies, and civil society" segment.



WHO Representative during the graduation ceremony at the University of Mauritius in 2018.



Audience interacting with WHO Representative during the knowledge sharing talk.



Meeting between the WHO Representative and the Vice-Chancellor of the University of Mauritius.

Synthesizing evidence for evidence-based policy-making

WCO Mauritius capitalized on the available statistics to generate data on crucial health indicators for evidence-based decision-making in policy design. WCO Mauritius, together with MOHW and Statistics Mauritius, determined CHE for 2001–2012 and its key determinants were predicted. CHE is a key indicator of financial protection by UHC. From this indicator, the spike in out-of-pocket expenditures on health among Mauritian households and its impact, particularly on the impoverishment of households, were assessed. The findings informed HSSP 2019–2023 and will be vital in the formulation of future strategies and policies on UHC. This research was successfully published in a peer-reviewed journal¹⁴, significantly contributing to building evidence and creating references to the African context.

WCO Mauritius also worked on estimations of the monetary value of the disability-adjusted-life-years (DALY) lost from all causes in Mauritius in 2017, its projected value for 2030 and the estimated savings if Mauritius attained SDG 3 pertaining to disease and injury related targets by then. This research collaboration with the public health school of *Université Libre de Bruxelles* provided evidence to encourage political actions towards the attainment of SDG 3, especially in strengthening health systems and tackling the determinants of health. A preliminary research article is available online¹⁵.

6.3 Optimizing organizational and managerial performance

Optimizing performance through functionality review

A functional review of WCO was conducted under the African Region's Transformation Agenda 2015–2020 to strengthen the leadership capacity by ensuring that staff

has the skills and competencies that match the regional and country priority health needs. This exercise, initiated in April 2018, was concluded in September 2019 with the approval of the final report by the Regional Director. The plan will be operationalized as from early 2020.



WHO and MOHW meeting during the functional review of WCO

Operational planning for the Programme Budget 2020–21

WCO Mauritius successfully hosted the two-week regional operational planning workshops for activities and human resources in 2019 with 140 participants from the WCOs in the African Region. The Programme Budget 2020–21 comprising four workplans built around the Triple Billion targets set under GPW 13, was developed with a financial envelope of US\$ 2 364 411.

Investing in professional development

The staff of WCO Mauritius have regularly benefitted from the various workshops and trainings organized at both local and regional levels and from internal learning tools, which have empowered them with the knowledge, skills and tools needed for high performance in their roles. This sustained professional development for the team promoted the delivery of high quality support to the different partners for health improvement in Mauritius.

¹⁴ <https://equityhealthj.biomedcentral.com/track/pdf/10.1186/s12939-019-0959-5>

¹⁵ <https://www.researchsquare.com/article/rs-8443/v1>



Creating a conducive working environment for heightened outcomes

In order to cater for the expansion of WCO Mauritius' team and to ensure that the work environment is conducive and the facilities are affordable, WCO Mauritius' premises was relocated from the first to the sixth floor in the newly renovated office in close proximity with the UNDP office and the office of the UN Resident Coordinator. The new office meets the long term need of WCO Mauritius, particularly the potential recruitment of additional staff as recommended by the Functional Review.

Optimizing IT services

After more than six years of mutually outsourcing IT maintenance services, WCO Mauritius and UNDP Mauritius reviewed their business model and moved to optimize fund usage, pooling their resources to recruit a full time IT assistant in August 2018.

Support to UNRC Office

With the delinking of the UN Resident Coordinator's (UNRC) and United Nations Development Programme's (UNDP) offices at the country level, effective 1 January 2019 the UNRC Office for Mauritius and Seychelles requested WCO Mauritius to manage their budget. A special award was created to receive the funds, i.e. US\$ 31 360, which was then re-budgeted for Category Workplan 6 and managed by WCO Mauritius to support UNRC in the implementation of the Strategic Partnership Framework activities.

Creating a secure environment for personnel, assets and operations

In November 2019, the UN Security Management Team (SMT) met in the context of the mission of the UN Department of Safety and Security's new Security Advisor to Mauritius. A security risk assessment by SMT maintained the security status at level 1 (that is the lowest level). WCO Mauritius staff were urged to complete the United Nations Department for Safety and Security's mandatory field security training and ensure the validity of their time-bond certification. SMT planned to organize a briefing session by the National Disaster Risk Reduction and Management Centre for all UN personnel in 2020. Notwithstanding the low status of the security level, SMT advised UN personnel to exercise precautionary measures, given the unpredictable nature of the prevailing climatic situations.

Transparent procurement of goods and services

The make-up of the local Procurement Committee was revisited in 2018 and aligned with the new terms of reference provided by the Regional Office. The main responsibility entrusted to the committee is the review of the procurement process for non-catalogued goods and services with an estimated contractual value of US\$ 1000 to US\$ 100 000 for goods and up to US\$ 50 000 for services, as per the established authority delegated to the WHO Representative. The local Procurement Committee fared well throughout 2019 as it provided objective and independent advice on procurement of goods and services for WCO Mauritius. Overall, 154 purchase orders were raised during 2018–2019 with a total value of US\$ 770 827 (Fig. 11).

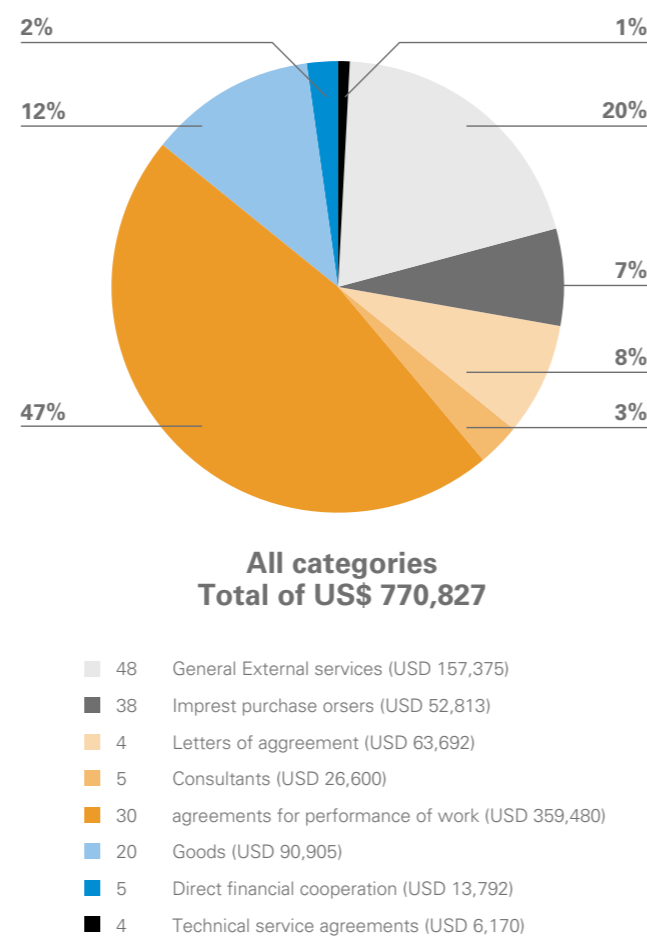


Fig. 11. Procurement expenditure for 2018–2019 by category

The operations and management of the E-Imprest account were efficient, as demonstrated by the status of the relevant KPIs. A total of 161 vouchers, representing a transaction amount of approximately US\$ 153 656, were processed and approved in 2019. Some 98% of the vouchers were bank transfers and 2% were cash.

Accountability and Internal Control Strengthening Initiative

WCO Mauritius has adopted the processes of the Accountability and Internal Control Strengthening

Initiative launched by the Regional Office to (1) strengthen the adequacy and effectiveness of internal controls, (2) improve accountability, transparency and compliance, (3) enhance the performance of individual staff and budget centres, and (4) measure, monitor and report on progress. The use of KPIs has been widely adopted at WCO Mauritius to closely monitor performance and progress against the set targets of the Transformation Agenda 2015–2020. By the end of 2019, the managerial key performance indicators showed good performance for WCO Mauritius (Table 3).

Table 3. Scores for key managerial performance indicators for December 2019'

Indicators	Description	01	02	03	04	05	06	07	08	09	10	11	12
Award 2	Awards closed within 3 months of award end date	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
BANK 1	Bank reconciliations are completed within 10 working days of each month	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
BANK 2	Bank reconciling items are cleared promptly	Yellow	Red	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
DFC	Reports are received, reviewed and authorized within 3 months of completion of activities	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
IMP 1	Encumbrances past PO delivery dates	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
IMP 2	OLD issues are avoided each month	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
IMP 3	Direct Implementation (reports overdue)	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
PAY 1	Timely payment of invoices evidenced by the number of days Accounts Payable invoices are on hold following receipt of monthly GSM report	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
HRT PMDS	Performance management development systems of staff up to date	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

As part of the Transformation Agenda 2015–2020, programmatic KPIs were introduced to drive the performance of WHO country offices in serving Member States, as well as to measure and monitor health outcomes. WCO Mauritius' performance is measured through 13 regional and seven country-specific KPIs. The KPIs for 2019 indicated high performance in the categories of communicable diseases, NCDs, family reproductive health, health promotion, and determinants at both the country and regional levels, while the National Health Workforce Accounts and IDSR remained to be implemented. Overall, WCO Mauritius mostly achieved green light scores for external relations, partnerships and governing bodies, programme and management delivery, communications, human resources, and audit and compliance. The results for programmatic KPIs are detailed in Annex 4.

Budget management, expenditure tracking and reporting

Pursuant to the provisions of the result-based principles for efficient management, the implementation rate and expenditures for a workplan are closely monitored and reported in the quarterly report submitted to the Regional Office. The technical meeting held on the first Monday of each month, semi-annual monitoring, mid-term reviews and end of biennium performance assessments involving the participation of all technical, administrative and managerial staff also provide an overview of the progress made towards the implementation of the workplan.

WCO Mauritius' performance in terms of financial implementation at the end of Programme Budget 2018–19 was satisfactory. The source of funding is heavily skewed towards flexible funds, accounting for 76.8% of the total compared to only 23.2% for voluntary sources.



Table 4. Budget utilization per category in US\$

Category	Allocated budget	Planned costs	% PC vs Allocated Budget	Funds available	% Funds available vs allocated budget	Utilization	Balance of funds available	% Utilization vs funds available
01 Communicable diseases	163 982	159 000	97%	164 819	101%	105 368	59 451	64%
02 Non communicable diseases	652 400	601 421	92%	591 295	91%	411 021	180 274	70%
03 Promoting health through the life-course	115 200	107 491	93%	21 500	19%	1 086	20 414	5%
04 Health systems	591 650	581 451	98%	421 381	71%	421 549	-168	100%
06 Leadership, governance and enabling functions	1 097 500	1 071 058	98%	936 339	85%	1 072 307	-135 968	115%
10 Polio eradication	43 000	43 000	100%	22 097	51%	21 901	196	99%
12 Country health emergency preparedness and IHR 2005	68 650	68 650	100%	44 012	64%	18 936	25 076	43%
Grand total	2 732 382	2 632 071	96%	2 201 443	81%	2 052 168	149 275	93%

Managing internal risks

During Programme Budget 2018–19 implementation, seven major risks were identified by the Regional Office’s budget centre. Owing to the close monitoring of the budget by the WCO Mauritius team, the major risks – three of which were categorized as reputational, two as financial, one as technical/public health and one as staff, systems and structure – did not materialize. The identified risks were rated as not requiring mitigation plans or measures. By the end of the implementation of the Programme Budget 2018–19, one reputational category risk had been closed.

7. WAY FORWARD



This report demonstrates the progress made by WCO Mauritius towards its mission of fostering a healthier and safer Mauritius with equitable access to health services. By inherently collaborating with its key partner, MOHW, WCO Mauritius contributed to the attainment of country-specific and regional health targets and to advancement towards the Triple Billion targets. Multilateral and multisectoral engagement with strategic stakeholders has also been central to WCO Mauritius’ achievements. The momentum needs to be sustained for the full achievement of UHC and health-related SDGs.

7.1 Accelerating progress to achieve UHC

Reinforcing the health care system

After finalization of HSSP in May 2020 the focus will be on supporting its implementation. Advocacy efforts will be renewed to ensure the development of operational plans and the undertaking of yearly reviews for optimal budgeting and resource allocation. To guarantee efficient and accurate production of NHA, WCO Mauritius plans to strengthen the capacity of the core team at MOHW in the use of the health accounts production tool, a step-by-step guide to the account production process. Continuous support will be provided to establish a proper mechanism for collection of data from private health care providers.

The situational analysis on PHC via societal dialogue revealed the population’s need for a more responsive PHC that caters for their health needs. Thus, WCO Mauritius will ensure the completion of the PHC policy brief to guide the implementation of the family doctor programme. Continued community engagement at various levels of PHC, as well as creation of a stakeholder forum for policy dialogue, will be promoted. For greater efficiency of the health system and improved health outcomes, WCO Mauritius will also maintain its support for the implementation of NHWA. Assisting the development of national policy, strategies and a costed operational plan for human resources for health is also planned.

Mauritius has shown keen interest to participate in WHO’s SLIPTA programme. The next step will be to support NHL to achieve the requirements of ISO 15189 standards and to regularly conduct external quality assessment to improve its standards. In addition, strategic plans will be devised for the implementation of the national health laboratory policy. After the development of the national blood policy, the laboratory and blood services standards will be adopted to promote blood safety and safeguard the health of donors and recipients alike.

WCO Mauritius will support the implementation of the SIDS pooled procurement programme for essential medicines to improve access to quality and affordable medicines. There is still the need for more robust supply chain systems and regulatory systems for quality and price control for medicines and rational and responsible use of medicines. Hence, advocacy efforts for the creation of standard treatment guidelines and support will be sustained and extended for the elaboration of the national essential medicine policy, which is in the pipeline. The review of the national health information system under the WHO-SCORE framework identified gaps that will need to be addressed.

Strengthening health systems to improve NCD outcomes

WCO Mauritius will continue to play its leadership role in addressing NCDs and advocate for sustained participation and collaboration of multisectoral stakeholders and adoption of an integrated and coordinated approach to NCDs. Technical resources will be mobilized at local, regional and global levels to support the elaboration of the national integrated NCD action plan in line with the WHO global NCD action plan. WCO Mauritius will strive hard to support the country in tackling the major prevailing NCDs and the high prevalence of their risk factors to achieve the WHO global target of a 25% reduction in premature deaths related to NCDs.

Strengthening health systems to better address communicable diseases

Committed to achieving the UNAIDS 90-90-90 targets, WCO Mauritius will sustain its assistance to strengthen the HIV continuum of care so that greater numbers of people are tested, put promptly on treatment and retained in care for viral suppression. Assistance will be provided for the evaluation of the National HIV/AIDS Action Plan 2017–2021 and the development of a national strategic framework for HIV and hepatitis C.

Eradication of poliomyelitis and improvement in detection and early treatment of leprosy will be prioritized to maintain the low incidence of communicable diseases in Mauritius.

AMR remains a pressing issue to be addressed. The point prevalence survey provided baseline information on antibiotics use in hospitals and showed the need for regular updating of therapeutic guidelines and refresher training for antibiotic prescribers to optimize their use. In parallel, WCO Mauritius will continue to support the Communicable Diseases Control Unit team in participating in GLASS and in using WHONET software. Capacity building for different professionals in health and other relevant sectors on the rational use of antibiotics is also planned.



7.2 Addressing population health needs across the life course

The specific health needs of older people will be addressed with the involvement of multisectoral stakeholders. Support will be provided for the elaboration, validation and operationalization of a national action plan for ICOPE. Advocacy will be maintained for mandatory immunization of all children. Technical support will be provided for data consolidation for estimation of the real immunization coverage rate. WCO Mauritius will also support the development of operational plans for maternal, neonatal and child health through a multi-stakeholder approach.

7.3 Protecting people from health emergencies

Increasing preparedness for health emergencies

In the face of increased risks of health emergencies and epidemics, strengthening the country's IHR core capacities and IDSR remain WCO Mauritius's top priorities. The finalization of the national action plan for health security will be key in improving the country's preparedness for health emergencies. Furthermore, WCO Mauritius will provide its technical support to MOHW in the face of disease outbreaks.

Rapid detection and response to disease outbreaks

WCO Mauritius intends to offer its ongoing support for the successful installation and implementation of DHIS2 across the health information system to mainstream all the processes from data reporting to decision-making. A health information system powered by DHIS2 will facilitate implementation of IDSR for real-time surveillance from the community level to the central level. Data collection and analysis and reporting of immunization data from vaccination centres to the central level, as well as for HIV, will be eased.

7.4 Promoting better health and well-being

Reducing NCD risk factors

Promoting health behavioural change at an early age is on top of WCO Mauritius' NCD and health promotion programme. Efforts in inculcating regular practice of physical activity and healthy eating and imparting youth with knowledge and skills to learn to reject tobacco, alcohol, life-threatening drugs and substance abuse will

be pursued. For these to be achievable, WCO Mauritius will foster collaboration between health and education authorities to maximize inclusion of health messages in school curricula.

WCO Mauritius will continue the steps already underway towards implementation of new regulations on tobacco and alcohol, and tobacco plain packaging. These measures will be accompanied by mass media campaigns to sensitize the public. The promotion of physical activity through development and implementation of physical activity guidelines remains a key component of WCO Mauritius' agenda.

There will be an emphasis on the institutionalization of nutrient profiling, with the elaboration of the draft regulations to regulate salt, fat and sugar thresholds. Key stakeholders including the food industry will be engaged in this process. To strengthen the nutritional information system, health professionals will be trained on child growth assessment and WHO growth standards. This will build their capacity in using the newly identified indicators to collect, analyse and report anthropometric data.

Addressing determinants of health

WCO Mauritius will pursue its goals to address mental health issues. Curtailing stigma around suicide is at the centre of this endeavour. The media will be targeted to improve the way they report suicide. Support will also be provided to key actors in mental health to build their capacity in undertaking advocacy media campaigns and in the use of information, education and communication materials.

A public awareness survey on road safety is planned together with public awareness interventions to address the rising road traffic injuries in Mauritius. Efforts to tackle health risks and challenges associated with climate change will be bolstered. WCO Mauritius will support the development of a strategy and action plan to build the capacity and increase the resilience of the health system's responses towards climate-sensitive health risks.

To promote health and well-being as a whole, WCO Mauritius will argue for the engagement of all key stakeholders, including individuals, public and private sectors and NGOs and advocate for a health-in-all-policies approach in efforts to create a more conducive and enabling environment for health.

ANNEX 1: JOINT EXTERNAL EVALUATION OF IHR (2005) ACROSS ALL TECHNICAL AREAS (SCORES)



Technical areas	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005)	3
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with IHR (2005)	2
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR	4
Antimicrobial resistance	P.3.1 Antimicrobial resistance detection	3
	P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens	2
	P.3.3 Health care-associated infection (HCAI) prevention and control programmes	3
	P.3.4 Antimicrobial stewardship activities	1
Zoonotic diseases	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	3
	P.4.2 Veterinary or animal health workforce	3
	P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases are established and functional	3
Food safety	P.5.1 Mechanisms for multisectoral collaboration are established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases	4
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	2
	P.6.2 Biosafety and biosecurity training and practices	1
Immunization	P.7.1 Vaccine coverage (measles) as part of national programme	3
	P.7.2 National vaccine access and delivery	3
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	4
	D.1.2 Specimen referral and transport system	4
	D.1.3 Effective modern point-of-care and laboratory-based diagnostics	3
	D.1.4 Laboratory quality system	3
Real-time surveillance	D.2.1 Indicator- and event-based surveillance systems	3
	D.2.2 Interoperable, interconnected, electronic real-time reporting system	3
	D.2.3 Integration and analysis of surveillance data	4
	D.2.4 Syndromic surveillance systems	1
Reporting	D.3.1 System for efficient reporting to FAO, OIE and WHO	3
	D.3.2 Reporting network and protocols in country	2



ANNEX 2: DOCUMENTATION OF THE NATIONAL RESPONSE TO MEASLES OUTBREAK AS A BEST PRACTICE



Technical areas	Indicators	Score
Workforce development	D.4.1 Human resources available to implement IHR core capacity requirements	3
	D.4.2 FETP ¹⁶ or other applied epidemiology training programme in place	5
	D.4.3 Workforce strategy	1
Preparedness	R.1.1 National multi-hazard public health emergency preparedness and response plan is developed and implemented	4
	R.1.2 Priority public health risks and resources are mapped and utilized	1
Emergency response operations	R.2.1 Capacity to activate emergency operations	3
	R.2.2 EOC operating procedures and plans	3
	R.2.3 Emergency operations programme	4
	R.2.4 Case management procedures implemented for IHR relevant hazards	4
Linking public health and security authorities	R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) are linked during a suspected or confirmed biological event	4
Medical countermeasures and personnel deployment	R.4.1 System in place for sending and receiving medical countermeasures during a public health emergency	2
	R.4.2 System in place for sending and receiving health personnel during a public health emergency	1
Risk communication	R.5.1 Risk communication systems (plans, mechanisms, etc.)	1
	R.5.2 Internal and partner communication and coordination	4
	R.5.3 Public communication	4
	R.5.4 Communication engagement with affected communities	4
	R.5.5 Dynamic listening and rumour management	4
Points of entry	PoE.1 Routine capacities established at points of entry	5
	PoE.2 Effective public health response at points of entry	3
Chemical events	CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies	4
	CE.2 Enabling environment in place for management of chemical events	4
Radiation emergencies	RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	3
	RE.2 Enabling environment in place for management of radiation emergencies	2

Source: Joint external evaluation of IHR (2005) for Mauritius, MOHW

¹⁶ FETP: Field epidemiology training programme

Measles outbreak in Mauritius highlighted unsuspected low vaccination uptake population groups in a high vaccination coverage country

Measles-containing-vaccine first-dose (MCV1) was first introduced in Mauritius in 1981, followed by the second dose, MCV2, in 2003 in the routine immunization schedule, as part as the MMR combination. However, no catch-up campaign was conducted targeting those previously inoculated with MCV1. The progress of high sustained measles vaccination coverage, with no significant measles outbreaks from 2003–2015, indicated that Mauritius was on track to achieving with measles elimination. According to WHO/UNICEF annual estimates immunization coverage during the period 2004-2015 for MCV1 and MCV2 varied between 98-99% and 78-96%, respectively. The Ministry of Health and Wellness (MOHW) observed a decline in the MMR vaccination coverage in 2016 and 2017. WHO / UNICEF annual estimated a drop in MCV1 from 99% (2015) to 89% (2017) and MCV2 from 96% (2015) to 92% (2016).

Despite an overall high-vaccination coverage, the administrative districts of Port Louis and Black River were among the mostly underperforming districts in terms of MCV1 and MCV2 coverage during the period 2015 to 2017. An outbreak occurred in May 2018 where the two most affected districts were Port Louis and Black River with an incidence rate of 150-225 per 100 000 inhabitants.

The WHO stepped up and advocated for a comprehensive national immunization programme review for which WHO provided technical assistance and external evaluators. The review identified significant gaps and recommended programmatic measures. The first National Immunization

comprehensive Multi-Year Plan was elaborated based on those findings and was aligned with the Global Vaccine Action Plan.

As per WHO recommendation standards, immediate investigation was done, and measures to contain the outbreak implemented (i.e. screening of vaccination records, vaccination as per developed protocol for all age groups, contact tracing, case management and intensified health education campaign). Additionally, the vaccination schedule for MMR was reviewed and aligned to WHO guidelines. Catch-up campaigns were organized nationally with the support of WHO to ensure maximum vaccination coverage of the population. Children were reached through school and ensured they both received 2 doses of measles vaccines. The population who had been vaccinated prior to 2003 and had not received the second dose of vaccine was also targeted. Campaigns through workplaces were implemented to raise awareness so that the population would come forward to receive their second dose.

This example shows that attaining high immunization coverage is not enough, some population groups have low vaccination rate and highlights the importance of a strong vaccination plan to ensure that no one is left behind. Identifying specific barriers to access vaccination services is essential and addressed. A High vaccination coverage is a foundation for achieving a strong primary health care programme and progressing towards universal health coverage.

Overall, the catch-up campaign and elaboration of a national immunization plan successfully reverted the number of cases of measles and the outbreak was declared over in June 2019. Furthermore, WHO / UNICEF estimated MCV1 and MCV2 coverage at 99% in 2018.



WHO in action: In June 2018, a few weeks after the measles outbreak was declared, a WHO team undertook a comprehensive review of the national immunization programme to address gaps and scale up vaccination uptake. Pictured from left to right are Dr M. Shibeshi (IST/ESA IVD Team), Mr A. Nundoochan (WCO Mauritius), Dr E. Lebo (WHO IST Measles and Rubella Focal Point), Mr B. Masvikeni (AFRO PEP) and Dr C. Dochez (Network for Education and Support in Immunisation).



ANNEX 3: ABSTRACTS FOR THE AFRICAN HEALTH ECONOMICS AND POLICY ASSOCIATION 5TH SCIENTIFIC CONFERENCE

1. A systematic review: interventions for improving the retention of physicians working in rural areas to strengthen Primary Health Care
Presenting author: Dr Atsushi Samura
Co-authors: Dr Faisal Shaikh and Dr Laurent Musango
2. Revitalization of the collaboration between the Ministry of Health and Quality of Life and non-government organizations to strengthen primary health care for better outcomes in Mauritius
Presenting author: Dr Atsushi Samura
Co-authors: Dr Faisal Shaikh and Dr Laurent Musango
3. Identifying priority health system strengthening actions through a participatory approach for addressing noncommunicable disease crisis in Mauritius
Presenting author: Dr Faisal Shaikh
4. Co-existence of high out of pocket payments for health and free health care in public health facilities a paradox for consolidating primary health care in Mauritius
Presenting author: Mr Ajoy Nundoochan
Co-authors: Dr Laurent Musango and Mr Y. Thorabally
5. Assessing the weakness of an existing disease programme should be a good way for strengthening the health systems toward universal health coverage: case of Mauritius.
Presenting author: Dr Laurent Musango
Co-authors: Mr Premduth Burhoo, Dr Faisal Shaikh and Dr Maryam Timol
6. Revitalizing primary health care to achieve universal health coverage in Mauritius
Presenting author: Dr Laurent Musango
Co-authors: Mr Premduth Burhoo, Dr Faisal Shaikh and Dr Maryam Timol
7. Setting up an adequate information solution to strengthen primary health care in Mauritius
Presenting author: Dr Laurent Musango
Co-authors: Mr Premduth Burhoo, Dr Faisal Shaikh and Dr Maryam Timol
8. Population empowerment is one of the strategies for strengthening primary health care in Mauritius
Presenting author: Dr Laurent Musango
Co-authors: Mr Premduth Burhoo, Dr Faisal Shaikh and Dr Maryam Timol
9. Institutionalization of national health accounts: experience of Mauritius in shaping and implementing policies and strategies
Presenting author: Mr Yogendranath Ramful
Co-author: Mr Ajoy Nundoochan



ANNEX 4: PROGRAMMATIC KPIs FOR TRANSFORMATION AGENDA 2015–2020 RESULTS

	ID	Programme Area Code	National Health Goal KPI	WHO/AFRO Country KPI
COMMUNICABLE DISEASES				
Region-wide KPI	2.1.1 - HIV	1.1 - HIV and hepatitis	Compliance with treatment related to 90-90-90	2015 WHO HIV treatment guidelines implementation status
NONCOMMUNICABLE DISEASES				
Region-wide KPI	2.2.1 - NCDs Action Plan	2.1 - Noncommunicable diseases	Compliance at country level with WHO Global Action Plan for the prevention and control of NCDs 2013–2020 objectives implementation	Status of multi-sectoral NCDs prevention and control plan
Country-specific	2.2.2 - WHO PEN	2.1 - Noncommunicable diseases	% of health facilities using WHO PEN	WHO PEN protocols acceptance status
Country-specific	2.2.4 - TOBACCO	2.1 - Noncommunicable diseases	Total tax on tobacco	WHO tobacco recommendations acceptance status
FAMILY REPRODUCTIVE HEALTH				
Region-wide KPI	2.3.1 - RMNCAH	3.1 - Reproductive, maternal, newborn, child and adolescent health	Implementation of components of an integrated RMNCAH plan (Reproductive, Maternal, New-born, Children and Adolescent Health)	Status of development of the National RMNCAH plan
Region-wide KPI	2.3.2 - Diphtheria-tetanus-pertussis	1.5 - Vaccine-preventable diseases	% of infant population vaccine with Diphtheria-tetanus-pertussis	Diphtheria-tetanus-pertussis -related "annual operational action" plan status
HEALTH SYSTEMS AND SERVICES				
Region-wide KPI	2.4.1 - Workforce density	4.2 - Person-centred integrated health services	Density of doctors, nurses and midwives in the population (out of 1000)	Human Resources for health strategic plans validation status
Country-specific	2.4.4 - National Health Account	4.1 - National health policies, strategies and plans	National Health Accounts" up-to-date	Annual National Health Account report status
Country-specific	2.4.5 - National Health Workforce Account	4.2 - Person-centred integrated health services	National Health Workforce Accounts" up-to-date	Annual National Health Workforce Account report status
WHO HEALTH EMERGENCIES				
Region-wide KPI	2.5.1 - IDSR	12.2 - Country health emergency preparedness and the international health regulations (2005)	IDSR implementation status at all levels of health system (Health facility, District and national levels)	IDSR tools adapted and staff trained



	ID	Programme Area Code	National Health Goal KPI		WHO/AFRO Country KPI	
Region-wide KPI	2.5.2 - IHR	12.2 - Country health emergency preparedness and the IHR (2005)	All the IHR core capacities implemented		National action plans based on Joint External Evaluation (JEE)	
POLIO						
Region-wide KPI	2.7.1 - ARCC	10.1 - Polio eradication	ARCC certification		% of completion of the ARCC complete documentation	
EXTERNAL RELATIONS PARTNERSHIPS AND GOVERNING BODIES						
Region-wide KPI	3.1.1 - Resource Mobilization	6.3 - Strategic planning, resource coordination and reporting	N/A	N/A	Percentage of allocated budget mobilized	
Country-specific	3.1.3 - Coordination	6.1 - Leadership and governance	N/A	N/A	Chair or co-chair at least 1 significant coordinating mechanism	
PROGRAM & MANAGEMENT DELIVERY						
Region-wide KPI	3.2.1 - Budget Utilization	6.4 - Management and administration	N/A	N/A	Budget Centre utilization	
Country-specific	3.2.2 - Financial Reports	6.4 - Management and administration	N/A	N/A	% of Budget centres reports submission status - Semi Annual Monitoring 1 - Mid Term Review - Semi Annual Monitoring 2 - End of Biennium	
Country-specific	3.2.3 - Country Cooperation strategy	6.4 - Management and administration	N/A	N/A	CCS peer reviewed and assessed as satisfactory by the Review Committee composed of Technical Clusters, WR and WHO Headquarters	
COMMUNICATION						
Region-wide KPI	3.3.1 - Communication	6.5 - Strategic communication	N/A	N/A	Compliance on 3 key outputs: - Develop an operational plan for Global Communications strategy at WCOs - Develop a stakeholder database with a minimum number of stakeholders - Manage WCO website and post updates	
HUMAN RESOURCES						
Region-wide KPI	3.4.1 - Satisfaction Survey	6.4 - Management and administration	N/A	N/A	Satisfaction assessment of WHO AFRO staff	
AUDIT AND COMPLIANCE						
Region-wide KPI	3.5.1 - Compliance	6.4 - Management and administration	N/A	N/A	Managerial KPIs : overall score at country level	

¹⁶ FETP: Field epidemiology training programme



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