

Comparative analysis of public health measures implemented related to COVID-19 across the first wave (2020) and second wave (2021)

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REPUBLIC OF MAURITIUS



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1 Summary

Wave 1	Wave 2
Pillar 1: Coordination, planning, financing and monitoring	
High-Level Committee on COVID-19 met daily	High-Level Committee on COVID-19 active and met daily
Response was guided by the “Operational plan of the ministry of health and wellness on novel coronavirus”	Response was guided by “National Response and Contingency Plan in the eventuality of a resurgence of COVID-19 circulation in Mauritius”
No Red Zone	Creation of Red Zones and coordination to ensure access to essential services in the Red Zones
Created the Wage Assistance Scheme (GWAS) and Self-Employed Assistance Scheme (SEAS)	GWAS and SEAS were maintained Additional schemes were offered
Post COVID-19 Action Plan 2020 for cultural and creative sectors	COVID-19 Artist Support Plan 2021
Budget 2020-2021 focused on economic recovery	Pre-budgetary consultations for 2021-2022 focused on economic recovery
Key economic activities linked to food supply and other essential services were allowed	Same response
Door to door distribution of pensions during sanitary curfew	Same response during the sanitary curfew Door to door distribution of pensions continued for Red Zones after the sanitary curfew
Reduction of electricity bills for a category of families on the Social Register of Mauritius	Same response
Inspected businesses 3to ensure no price abuse and proper price display	Same response
Price control on essential food and hygiene items	Same response Additional food items were controlled for price
Educational examinations postponed	National level educational examinations conducted under strict sanitary protocols
Sanitary curfew highlighted domestic violence	Creation of LESPWAR phone application to report domestic violence
Received support from bilateral and multilateral agencies and friendly countries	Same response
Pillar 2: Risk communication, community engagement (RCCE) and infodemic management	
Creation of National Communication Committee on COVID-19 with daily meetings	National Communication Committee on COVID-19 is active with regular meetings
Daily press briefings	Maintained
Feedback channels established during the first wave to gauge the public perception and behaviours	Maintained
COVID-19 hotline 8924 of MoHW created	Maintained with added purposes Instrumental in the contact tracing exercise
Fake news were sanctioned under Section 46 of the Information and Communication Technology Act 2001	Maintained and authorities were more stringent
Creation of beSafeMoris.mu website and the ‘Coronavirus Moris’ Facebook	Maintained and had additional functions including vaccinations programme schedule updates
Awareness campaign launched by MoHW	Awareness campaign launched by Government Information Service in collaboration with United Nations, MoHW and the National Youth Council
Pillar 3: Surveillance, outbreak investigation and calibration of public health and social measures	
Existing systems of sentinel surveillance for Influenza-Like Illness (ILI) and Severe Acute Respiratory Infection (SARI)	Still operational
Flu-clinics were dedicated pathways within regional hospitals	COVID-19 testing centres, separate structures within regional hospital compound
Rigorous contact tracing exercise	Maintained

Self-isolation of identified contacts of infected people with testing done once and follow-up by public health inspectors	Quarantining of identified contacts of infected people and PCR testing on Day 0, 7 and 14 Additional 7-day self-isolation PCR test at nearest COVID-19 testing centre at the end of the self-isolation period
Positive samples from private laboratories sent to Central Health Laboratory (CHL) for confirmation test	Maintained
Dissemination of PCR test results is done by MoHW only	Maintained
Targeted testing done in high-risk population	Maintained and expanded due to increase laboratory capacities
Pillar 4: Points of entry, international travel and transport, and mass gatherings	
Border closure with authorised flights for the repatriation of Mauritian residents	Border closure with some authorised commercial flights mainly for repatriation of Mauritian residents and expatriate workers Specific sanitary protocols applied to the Indian expatriate manual workers
No mandatory PCR test for incoming passengers before flight	Negative PCR test result dating up to 5 to 7 days is mandatory for embarkation to Mauritius
Rodriguans repatriated after first wave	Repatriation of Rodriguans with 14-day quarantine prior to flight and 7 day upon arrival in Rodrigues
Pillar 5: Laboratories and diagnostics	
Support of the High-Level committee to increase lab capacity	Maintained
Central Health Laboratory (CHL) and C-Lab at Welkin hospital conducted PCR test	Significant increase in national testing capacities Additional laboratories conducted PCR tests: Airport Health Laboratory and NovaLab
No COVID-19 PCR tests conducted in Rodrigues Island	COVID-19 PCR tests conducted in Rodrigues Island
Maximum daily testing capacity reached: 1040 tests	Maximum daily testing capacity reached: 5766
No GeneXpert platforms and automatic RNA extraction	Introduction of GeneXpert platforms for rapid COVID-19 PCR tests and automated RNA extraction.
No COVID-19 IgM/IgG antibody combo test and COVID-19 antibody detection test using ELISA technique	Introduction of rapid COVID-19 IgM/IgG antibody combo test and COVID-19 antibody detection test using ELISA technique
No genetic sequencing of samples positive to SARS-CoV-2	Samples positive to corona sent abroad for genetic sequencing. Acquisition of two platforms: ION TORRENT S5 and Minion Nanopore, for genetic sequencing locally Laboratory technologists trained in ION TORRENT S5
Introduction of COVID-19 LIMS and backlog in data entry	COVID-19 LIMS fully operational and data entry up to date National LIMS and Passenger LIMS in progress
Number of technologists trained in PCR tests at CHL: 6 Number of trained data entry clerks for the LIM: 5	Number of technologists trained in PCR tests at CHL: > 15 Number of trained data entry clerks for the LIMS: 15
Laboratory staff were on out-of-hours shifts to conduct testing and result entries	Laboratory staff were on out-of-hours shifts to conduct testing, result entries and disseminate test results
Gaps in procurement for laboratory reagents and consumables	Smooth procurement and good stock of laboratory reagents and consumables
Difficulties in dissemination of results	Recruitment of two medical officers dedicated to the dissemination of test results Additional phone and internet lines
Acquisition of additional biosafety cabinets	Acquisition of additional biosafety cabinets
No laboratories were enrolled in a COVID-19 International External Quality Assessment scheme	All four laboratories were enrolled in a COVID-19 International External Quality Assessment scheme
No training in Laboratory Quality Management Systems	31 laboratory staff (including from Rodrigues) participated in the training of trainers on Laboratory Quality Management Systems
Limited space at CHL	Insufficient space at CHL with increased machines and personnel Ongoing renovation of the ex-nursing school at Victoria Hospital to house some of CHL's services

Pillar 6: Infection prevention and control (IPC) and protection of the health workforce	
Flu-clinics were dedicated pathways within regional hospitals	COVID-19 testing centres in regional hospitals, separate structures
Efforts to train (Healthcare Personnel) HCP in IPC had moderate success	Consolidated efforts to train HCP in IPC with the training of trainers and cascade trainings done in regional hospitals, reaching about 350 HCP
Limited stock of Personal Protection Equipment (PPE) and IPC available for HCP	Good procurement and management of stocks of PPE
Few Information, Education and Communication (IEC) materials at clinical/hand washing stations	Information, Education and Communication (IEC) materials posted in clinical/hand washing stations
Not all hand washing stations were equipped with soaps and alcohol rubs were not readily available	Most hand washing stations are equipped with soaps and alcohol rubs are available 50 clinical/hand washing stations to have improved access to hand washing stations and triage stations
Existing regional IPC guidelines for public health settings	National IPC guidelines for public health setting is in elaboration
Regional IPC Committees to overview IPC in public health settings	National IPC committee was constituted with an official National IPC focal point for national coordination of IPC in public health settings
No IPC assessment was carried out in public health settings	IPC scorecard assessment carried out in all regional hospitals and selected primary health care facilities IPC assessment done specific departments in regional hospitals
Access to the healthcare facilities were limited to one visitor per inpatient and one accompanying person per outpatient. Body temperatures checks were done prior to entry in a healthcare facility Implementation of these measures is a major challenge in regional hospitals	Same measures applied Implementation challenged remained for regional hospitals and remedial actions need to be taken for
No routine screening for public HCP	All public HCP are encouraged to take COVID-19 PCR test every 14 days
No routine screening for patients upon admission or before planned surgery	Routine PCR test done upon admission of inpatient or before planned surgery
No vaccination campaign	Entry to public and private health facilities, education and training centres permitted only upon presentation of COVID-19 vaccination card or a negative result of PCR test dated not more than 7 days prior or a medical certificate confirming that the person cannot be vaccinated.
General sanitary measures of wearing of masks, physical distancing, regular washing of hands /use of sanitisers and ensuring good ventilation if indoors applied to all public settings	Maintained with obligatory wearing of mask sanctionable if not adhered to
Quarantine Act 1954 was outdated	The COVID-19 Act 2020 and the Quarantine Act 2020 were applied
Sanitary curfew restricting movement	Same response
Work Access Permits (WAP) devised to control movement	WAPs issued and fully digitalised application and delivery of WAPs Special WAPs for Red Zones
No Red Zones	Red Zone strategy limited spread of COVID-19 from high infected areas
Mauritius Police Force played a key role ensuring the implementation of sanitary measures in public settings	Maintained Hotlines and a WhatsApp account was created by the Mauritius Police Force for the public to report breaches in sanitary measures
Phased reopening of activities at the end of Wave 1	Phased reopening of activities amid Wave 2 to reduce economic impacts
Stringent sanitary protocols applied in the public transports	Same but physical distancing no more applied during Phase 2 of reopening of activities
Postponed national examinations for the public education sector	Maintained national examinations under strict sanitary protocols including in quarantine, treatment centres and Red Zones
Resumption of classes two months after the first wave	Planned staggered resumption of classes but dependent on prevailing epidemiological situation

Pillar 7: Case management, clinical operations and therapeutics	
Systematic isolation of all persons detected with COVID-19 Two separate treatment centres for symptomatic patients/patients with co-morbidity and asymptomatic patients	Maintained and scaled up with two additional treatment centres (hotels) for asymptomatic patients Imported and local cases, if asymptomatic were placed in separate treatment centres
HCP staff at treatment centres resided onsite throughout their 7-day duty, were subject to a PCR test at the end of their duties and had to self-isolate for the 7 ensuing days	Maintained
No surge capacity strategy	Surge capacity strategy implemented as part of “National Response and Contingency Plan in the eventuality of a resurgence of COVID-19 circulation in Mauritius”
No protocol for COVID-19 management with existing co-morbidity	Newly devised COVID-19 case management procedures and protocols for each specialty in medicine were applied
Specific IPC protocols applied to treatment centres	IPC protocols at treatment centres were strengthened, learning from Wave 1
Use of chloroquine and azithromycin as treatment	Treatment protocols updated, no use of chloroquine and azithromycin. Treatment focused on preventing of complication using anti-inflammatory and anticoagulant drugs.
No oxygen therapy and delayed physiotherapy	Oxygen therapy coupled with regular blood gas test for monitoring and active physiotherapy
No clinical immunology committee and insufficient sharing between medical experts	Clinical immunology committee reviewed cases daily
No patients infected in healthcare facilities	Patients and HCP infected in dialysis and oncology units respectively A fact finding committee was created to investigate the death of 11 dialysis patients infected with COVID-19
All death of COVID-19 patients attributed to COVID-19	The death of 6 COVID-19 patients with co-morbidities were not attributed to COVID-19
Pillar 8: Operational support and logistics, and supply chains	
Lack of PPE at the beginning of the outbreak	Good monitoring of stock, forecast and planning of procurement for PPE
No recruitment but redistribution of additional human resources to treatment centres and quarantine centres	Doctors and nurses were recruited on a temporary basis Doctors of Ministry of Social Integration, Social Security replaced those of MoHW in the quarantine centres
Pillar 9: Strengthening essential health services and systems	
Essential health services were maintained but reduced Routine surgeries were suspended	Same measures applied
Protocol for safe blood collection at community level was set up and implemented.	Same measures applied. In addition, a new protocol was set up incorporating the blood donors’ eligibility following COVID-19 vaccination.
Expanded Programme on Immunisation was suspended and resumed during Phase 1 of opening of activities	Same measures applied except that Phase 1 of opening of activities was earlier
Annual Anti-Influenza Vaccination Campaign done door-to-door during sanitary curfew	Annual Anti-Influenza Vaccination Campaign done in centres according to alphabetical order and an established calendar during Phase 1 of opening of activities
Pillar 10: Vaccination	
No approved vaccines and vaccination programme	Free ongoing COVID-19 vaccination campaign by MoHW
	Vaccination Committee for COVID-19 was established
	Sub-committee of the Pharmacovigilance Committee dedicated to COVID-19
	Vaccination data entered on DHIS 2 platform
	Causality committee established to investigate severe cases of side-effects

2 Introduction

The first cases of COVID-19 were detected on 18 March 2020 and Mauritius quickly experienced its first wave of COVID-19 as the sporadic cases evolved to clusters on 9 April 2020. With strict sanitary measures including sanitary curfew and border closure, the outbreak was rapidly contained within 40 days with the last local case of the first wave was reported on 26 April 2020. Imported cases were detected in quarantine during the repatriation of Mauritian residents and the partial reopening of borders but Mauritius remained COVID-19 free. Sporadic local cases infected by imported cases were detected in November 2020 and January 2021 and the chains of transmission were rapidly broken by an effective contact tracing exercise and the quarantining of all identified contacts. Two Intra Action Reviews were conducted from January to December 2020 to document the national response to COVID-19 and serve as good learning opportunities to all national stakeholders.

On 5 and 6 March 2021, Mauritius recorded 3 and 5 local cases, respectively and a second outbreak of COVID-19 was declared as the number of detected cases sharply increased. On 10 March 2021, a sanitary curfew was instated and Red Zones were delineated forbidding the movement in and out of areas with high number of local contaminations. As at 3 June 2021, the total number of local cases reached 808 with most of the cases registered belonging to the 14 clusters identified and several areas were declared Red Zones. The evolution of the second wave is as shown in figure 1 and table 1 shows a comparison of wave 1 and wave 2 till 3 June 2021.

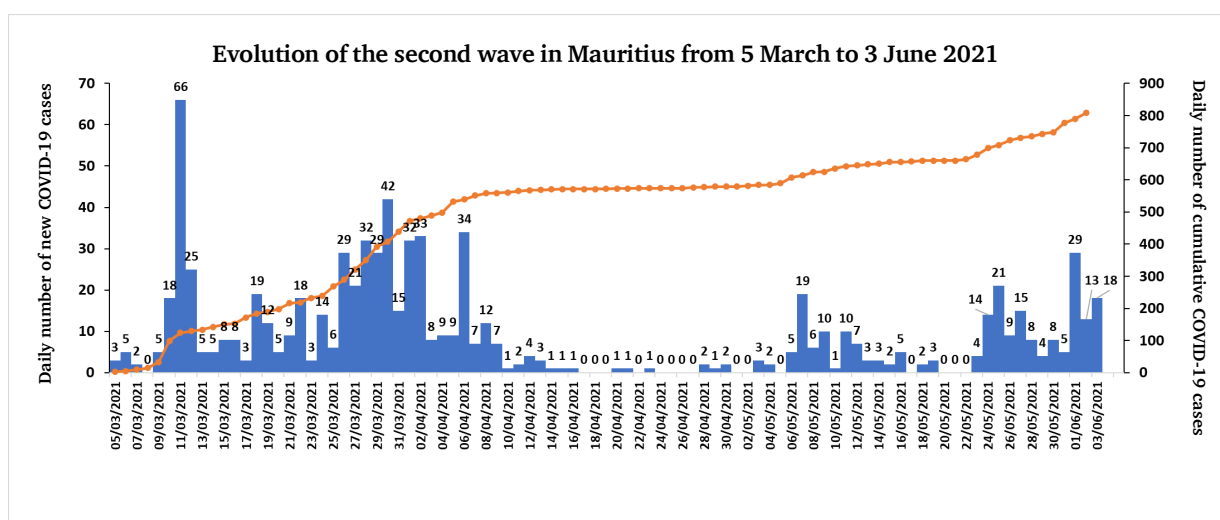


Figure 1: Daily number of cumulative cases and new cases of COVID-19 for the second wave from 5 March till 3 June 2021.

Table 1: Comparison of key indicators for wave 1 and wave 2

Key Indicators	Wave 1: 18 March to 26 April 2020	Wave 2: 5 March to 3 June 2021
Total number of local cases	241	808
Total number of deaths due to COVID-19	10	8 (7 local and 1 imported)
Total number of PCR tests done	14550	203534
Incidence rate	1.68 per 10000 population	6.38 per 10000 population
Case fatality rate	4.15%	0.87%

3 Objectives and Scope

Building on available evidence collected previously and which informed the two Intra Action Review reports, the objectives of this exercise are as follows:

- Document measures implemented during the second wave;
- Undertake a comparative analysis of the myriad public health measures implemented commonly and distinctly for the two waves and assess their impacts;
- Compile lessons learnt during the response to the second wave to improve the current response by sustaining best practices and mitigating risk of recurrent errors.

The analysis will be structured as per the following pillars of the World Health Organization (WHO)'s COVID-19 Strategic Preparedness and Response Plan February 2021 to January 2022¹:

- Coordination, planning, financing and monitoring
- Risk communication, community engagement (RCCE) and infodemic management

¹ <https://www.who.int/publications/i/item/WHO-WHE-2021.02>

- Surveillance, outbreak investigation and calibration of public health and social measures
- Points of entry, international travel and transport, and mass gatherings
- Laboratories and diagnostics
- Infection prevention and control and protection of the health workforce
- Case management, clinical operations and therapeutics
- Operational support and logistics, and supply chains
- Strengthening essential health services and systems
- Vaccination
- Research, innovation and evidence

4 Methodology

This comparative analysis was conducted by a literature review combined with face to face interviews with 7 key actors coordinating the national response with respect to the pillars identified above (List of key informants interviewed can be found in Annex 7). Data was analysed and triangulated to identify and compare key measures across the two waves. The first wave was defined as from 18 March to 26 April 2020. The second wave was still ongoing during the conduction of this exercise and was defined as from 5 March to 3 June 2021 for this purpose.

5 Findings

5.1 Coordination, planning, financing and monitoring

The key coordinating body of the national response to COVID-19 across both waves was the **High-Level Committee on COVID-19** created in January 2020 and chaired by the Prime Minister. Consisting of the main stakeholders of the national response, the members shared and reviewed crucial information for evidence-based decision making while ensuring coordination between all the actors. Just like in the first wave, the High Level Committee on COVID-19 met daily since the start of the second wave on 5 March 2021 to examine the epidemic situation and suggest measures to the technical teams. The response to the first wave was guided by the “Operational plan of the ministry of health and wellness on novel coronavirus” while the “National Response and Contingency Plan in the eventuality of a resurgence of COVID-19 circulation in Mauritius” prepared in September 2020 was instrumental in managing the second outbreak. The latter provided detailed guidance on the response actions and scaling up strategies of services across the WHO’s 9 main pillars of the COVID-19 Strategic Preparedness and Response Plan for 2020². The preparedness plan for the resurgence of COVID-19 built on the best practices and addressed the gaps of the response to the first outbreak including those highlighted in the first Intra-Review Action.

The main innovative response measure adopted for the second outbreak was the classification of areas of high local COVID-19 infection rates as **Red zones**. This measure added another layer of strict movement restrictions to the sanitary curfew by forbidding movement in and out of these zones to prevent further contamination to the rest of the country. Its implementation required a multi-sectoral coordination to ensure that the inhabitants of the red zones still had access to basic and essential services. Planters were allowed to sell their products to the wholesalers and dealers at designated police control points on the borders of the red zones on specific days from 05 00 to 08 00.³ Both parties had to be in possession of their planters cards and WAP, respect the sanitary measures at all time and adhere to police instructions.^{4,5,6} The distributions of food and goods to supermarkets and other retail shops in the red zone were also limited to three times per week.⁷ Specific arrangements were made for continuity of the COVID-19 vaccination campaign in the red zones⁸ and for areas without any ATMs to have access to this service. Further details on the implementation of the Infection Prevention Control (IPC) component of this measure can be found in section 5.6.2.

Financial protection remained a priority for the Government throughout both outbreaks. In March 2020, the Government Wage Assistance Scheme (GWAS) and Self-Employed Assistance Scheme (SEAS) were set up to avoid bankruptcy and unemployment in the private sector following the sanitary curfew and closure of borders. These schemes were maintained following the first outbreak for those employed in the tourism and other impacted sectors and were opened again to all employers and self-employed individuals in the wake of the second sanitary curfew.⁹ As at 1 June 2021, a total of Rs 22.3 billions were disbursed to the 555753 beneficiaries of these two schemes.¹⁰ Several initiatives were offered to Small Medium Enterprises (SMEs) as from March 2020 by the State Investment Corporation Limited in collaboration with Investment Support Programme Limited, SME Equity Fund Ltd and Development Bank of Mauritius Ltd (DBM) under their “COVID-19 Plan de Soutien” unit.¹¹ In the same line, loan schemes: SME Interest-Free Loan Scheme and the COVID-19 Special Support Scheme

² <https://www.who.int/publications/i/item/draft-operational-planning-guidance-for-un-country-teams>

³ <https://publicnotice.govmu.org/publicnotice/?p=3818>

⁴ <https://besafemoris.mu/communique/communique-from-ministry-of-agro-industry-food-security/>

⁵ <https://besafemoris.mu/communique/communique-delivery-of-vegetables-and-fruits-from-the-red-zone-plaine-wilhems-region/>

⁶ <https://besafemoris.mu/communique/communique-movement-of-planters-within-the-red-zones-and-delivery-of-vegetables-and-fruits-from-the-red-zones/>

⁷ <https://www.mcci.org/en/media-news-events/business-updates/goods-delivered-thrice-per-week-in-the-red-zone/>

⁸ <https://publicnotice.govmu.org/publicnotice/?p=3597>

⁹ <https://eservices.mra.mu/eservicesseashome/COMMUNIQUE130321GWASandSEAS.pdf>

¹⁰ As announced in the MBC News Bulletin on 1 June 2021

¹¹ http://www.dbm.mu/wp-content/uploads/2020/03/Press_advert.pdf

were offered by DBM as from 21 March 2021 to increase the support to SME during the second outbreak.^{12,13} The SME sector is been revamped under the 10-Year SME Master Plan and the SME Employment Scheme was extended to 1 000 additional graduates to transform this sector into a key economic driver.¹⁴ Some 16000 SME using less than 125kW/h did not have to pay for electricity for the months of March and April.¹⁵ For the cultural and creative sectors, a Post COVID-19 Action Plan 2020 and a COVID-19 Artist Support Plan 2021 were implemented by the Ministry of Arts and Cultural heritage, ensuring the respective sanitary curfews^{16,17} Keeping the same approach as for the Budget 2020-2021 made after the first outbreak; the pre-budget consultations for 2021-2022 focussed on strategies for the economic recovery and reform to ensure economic development and growth.^{18,19} All these measures make Mauritius the 4th country in the world with the highest COVID-19 response package as a percentage of its Gross Domestic Product.²⁰

Several **key economic activities** mostly related to the food supply and supply chain management were allowed to continue their operations during both sanitary curfews under strict sanitary measures.²¹ This included registered fishermen, breeders and planters²² as well as import permits and clearance. The door to door **distribution of pensions** which was implemented during the first outbreak was promptly reactivated as from 13 March 2021 by the Ministry of Information Technology, Communication and Innovation; with the Mauritius Post leading the operations assisted by the Mauritius Police Force.²³ 12970 beneficiaries were concerned by this exercise involving 87 post offices island wide²⁴. Upon the Phase 1 of reopening of activities, the delivery of pensions resumed in alphabetical order at the post offices, except for the Red Zone where the Post Offices remained closed and the door to door distributions were maintained.²⁵

Across both sanitary curfews, the Mauritian population continued to **access basic utilities without financial constraints**. About 61000 families registered under the Social Register of Mauritius and the National Empowerment Foundation under the tariff 110A and 110B for the Central Electricity Board (CEB) benefitted from electricity free of charge for the months of March and April 2021 while those under other tariff benefitted from a reduction of 46% on their electricity bills for the 4 months ensuing the sanitary curfew. All beneficiaries of the CEB and of the Central Water Authority were exempted from fines for the months of March and April 2021 and given a moratorium of four months for their bill payment. Mauritius Telecom doubled the internet packages of its users, gave access to all TV channels to its clients and guaranteed no penalty nor disconnection of services due to delayed bill payment.^{26,27,28} Garbage collection services were also maintained with some reduction of services depending on areas.²⁹ The Mauritian population were encouraged to access public services via the platform maupass.govmu.org and maurendevous.govmu.org.

Throughout both waves of COVID-19, the Ministry of Commerce and Consumer protection ensured that businesses were not selling products above the recommended prices and were properly displaying prices. From 7 March 2021 to 30 April 2021, its Consumer Affairs Unit visited 7294 businesses including supermarkets and corner shops and 1058 fines were issued.³⁰ The public were encouraged to register their complaints via the Consumer Affairs Unit's 185 Hotline, the Citizen Support Unit and the Consumer Rights Mobile Application. Price of staple food products such as onions and potatoes were fixed³¹ while the prices of several basic commodities such as rice, cereals, butter, baby and adult diapers, sanitary towels were controlled since 26 April 2020.³² During the second wave, the **Consumer Protection (Consumer Goods) (Maximum Mark-Up) (Amendment) Regulations 2021** was issued to include controlled prices on pulses and canned sardines as from 19 April 2021.³³ The creation of a Price Surveillance System is in the pipeline to publish products' prices and reduce the practice of abusive prices.³⁴

Compared to the first wave, the **school examinations were maintained** during the second wave. The Primary School Achievement Certificate, the National Certificate of Education, the School Certificate and the Higher School Certificate were conducted during the sanitary curfew with a revised calendar and under strict sanitary protocols (detailed in section 5.6.2).³⁵ Special bus routes dedicated to the transport of students to and from the examination centres were organised by the National Land and Transport Authority and National Transport Corporation, including for the Red Zone areas.^{36,37} Libraries, bookshops, stationery shops and bookstores were exceptionally opened for 4 days for students to be able to buy the stationaries needed for

¹² <http://www.dbm.mu/press-communique-24-03-21/>

¹³ <https://besafemoris.mu/communique/communique-development-bank-of-mauritius-ltd/>

¹⁴ https://besafemoris.mu/general_news/revamping-the-sme-sector-under-the-10-year-sme-master-plan/

¹⁵ https://besafemoris.mu/general_news/government-determined-to-help-families-in-need-under-the-social-register-of-mauritius/

¹⁶ https://besafemoris.mu/general_news/government-provides-financial-incentives-to-support-local-artists/

¹⁷ https://besafemoris.mu/general_news/united-nations-holds-high-level-event-on-culture-and-sustainable-development/

¹⁸ https://besafemoris.mu/general_news/citizens-urged-to-adhere-to-strict-sanitary-measures-with-second-phase-of-reopening/

¹⁹ https://besafemoris.mu/general_news/budget-2021-2022-seances-de-travail-entre-dr-padayachy-et-plusieurs-ministres/

²⁰ <https://documents1.worldbank.org/curated/en/586691621628367648/pdf/Mauritius-Through-the-Eye-of-a-Perfect-Storm-Coming-Back-Stronger-from-the-COVID-Crisis-A-World-Bank-Group-Country-Economic-Memorandum.pdf>

²¹ <https://www.mcci.org/media/286436/contact-persons-for-import-permits-and-clearances-during-lockdown.pdf>

²² <https://www.businessmauritius.org/wp-content/uploads/2021/03/Communique-re-COVID-Application-for-Permit-during-Curfew-Period-WAP.pdf>

²³ https://besafemoris.mu/general_news/plus-de-5000-personnes-ont-deja-recu-leur-pension-a-domicile/

²⁴ https://besafemoris.mu/general_news/paiement-de-la-pension-a-domicile-dans-les-hautes-plaines-wilhelms/

²⁵ <https://besafemoris.mu/communique/communique-de-presse-ministere-de-la-technologie-de-linformatique-de-la-communication-et-de-linnovation/>

²⁶ <https://besafemoris.mu/communique/communique-de-mauritius-telecom-2-fois-plus-de-volume-allowance/>

²⁷ <https://besafemoris.mu/communique/communique-de-mauritius-telecom/>

²⁸ <https://besafemoris.mu/communique/communique-de-mauritius-telecom-pas-de-deconnexion-ou-de-penalite-en-cas-de-retard-de-paiement/>

²⁹ <https://besafemoris.mu/communique/communique-du-ministere-collectivites-locales-gestion-catastrophes-et-risques/>

³⁰ <https://besafemoris.mu/communique/communique-ministere-du-commerce-et-de-la-protection-des-consommateurs-25/>

³¹ https://besafemoris.mu/general_news/cabinet-meeting-friday-26-march-2021/

³² <https://www.govmu.org/English/News/Pages/Commerce-Minister-announces-price-control-on-additional-basic-goods-amid-Covid-19-pandemic.aspx>

³³ <https://www.mcci.org/en/media-news-events/business-updates/extension-of-price-control-on-pulses-and-canned-sardines/>

³⁴ https://besafemoris.mu/general_news/government-determined-to-help-families-in-need-under-the-social-register-of-mauritius/

³⁵ https://besafemoris.mu/general_news/covid-19-vpm-dookun-luchoomun-announces-new-dates-for-exams/

³⁶ <https://publicnotice.govmu.org/publicnotice/?p=2401>

³⁷ <https://besafemoris.mu/communique/communique-from-ministry-of-land-transport-and-light-rail-bus-services-in-red-zones/>

their examination.³⁸ Collection of examination results were done in alphabetical order and special arrangements were made for school and students from the red zones.³⁹

The first sanitary curfew in March 2020 raised the alarm about an increase of **domestic violence** in these times of movement restrictions. The daily average number of cases rose from 7 to 9 and was accentuated by reduced access to coping mechanisms and help. To tackle this issue, the **LESPWAR mobile application** was launched in November 2020 giving access to a panic button which alerted the main command centre of the Mauritius Police Force and triggered an intervention within 15 minutes. Since its launch till 13 April 2021, 1300 people downloaded the application and 436 alerts were registered, of which 125 alerts within 35 days of sanitary curfew. LESPWAR mobile application was nominated for a prize at the World Summit on the Information Society.⁴⁰

Mauritius continued to benefit from the support of both bilateral and multilateral agencies and friendly countries throughout both waves. For the second wave, the Government aimed for a balance between sanitary restrictions and economy activities and opted for an earlier reopening of economic activities with the least impact on the spread of COVID-19 compared to the first wave (more details in section 5.6.2).

5.2 Risk communication, community engagement (RCCE) and infodemic management

Since its set-up during the first wave of COVID-19, the **National Communication Committee on COVID-19** continued to transmit decisions taken by the High Level Committee on COVID-19 and the epidemiological situation to the public via its regular press briefings. During these live broadcasts on the national television and radio channels, the National Communication Committee on COVID-19 transparently answered questions of the journalists and addressed rumours.

The **feedback channels** established during the first wave to gauge the public perception and behaviours with regards to COVID-19 and their adherence to sanitary measures were effective and retained. The High Level Committee on COVID-19 received regular feedback from the Mauritius Police Force who were monitoring and ensuring the adherence of sanitary measures in the various public settings. A dedicated team of the Government Information Service continued to monitor media including social media and radios to identify rumours, misinformation, confusion and fake news. These were consequently clarified by the National Communication Committee on COVID-19 during the press briefings.

The **hotline 8924 of MoHW dedicated to COVID-19** remained the principal channel of communication between the public and the health authorities since its establishment in February 2020 before the first wave. Its functions evolved throughout different stages of the epidemic in Mauritius ranging from providing information on the novel coronavirus, answering queries about PCR tests and quarantines during the reopening of borders, facilitating contact tracing during both waves, to reporting side effects of COVID-19 vaccines. During the second wave, the public were further encouraged to contact the health authorities via the hotline for the contact tracing exercise.^{41,42,43} The hotline kept its function of following-up with discharged COVID-19 patients. Calls are attended by trained nurses and doctors, managed by the Director Health Services at MoHW.

Throughout both waves, the public were reminded that spreading **fake news on social media platforms is a legal offence** under Section 46 of the Information and Communication Technology Act 2001. However, the authorities were more rigid on the sanctions during the second outbreak. The Ministry of Information Technology, Communication and Innovation emitted regular press releases to address the fake news and redirect the public towards the reliable sources of information about the COVID-19 situation such as the website of the Government Information Service, beSafeMoris.mu and the ‘Coronavirus Moris’ Facebook page.^{44,45} In the advent of the second wave, the **beSafeMoris.mu website and the ‘Coronavirus Moris’ Facebook page were reactivated** with daily epidemic updates, press releases and communiques.⁴⁶ In addition, the beSafeMoris.mu website was instrumental for the application WAPs and communicating the revised schedules for the COVID-19 vaccinations during the second wave.

Since January 2020, an awareness campaign was launched by MoHW to inform the public about the novel coronavirus, the signs and symptoms the precautionary measures to be taken and it ran throughout the first wave. During the second wave, the Government Information Service started a national awareness campaign on COVID-19 involving multi-stakeholders namely the United Nations, MoHW and the National Youth Council.⁴⁷ Titled “Enn sel lepep kont COVID-19”, the campaign started on 24 May 2021 and included a series of 6 short videos as well as banners, pamphlets and flyers.

³⁸ <https://www.mcci.org/en/media-news-events/business-updates/libraries-bookshops-stationery-shops-and-bookstores-exceptionally-open-for-4-days/>

³⁹ https://besafemoris.mu/general_news/communiquer-mauritius-examination-syndicate/

⁴⁰ https://besafemoris.mu/general_news/violence-domestique-la-police-encourage-l'utilisation-de-l-application-lespwar/

⁴¹ <https://besafemoris.mu/communiquer/communiquer-ministere-de-la-sante-et-du-bien-etre/>

⁴² https://besafemoris.mu/general_news/covid-19-les-informations-a-retenir-ce-jeudi-11-mars/

⁴³ https://besafemoris.mu/general_news/people-with-recent-exposure-with-wma-employees-in-port-louis-to-call-covid-19-hotline/

⁴⁴ <https://besafemoris.mu/communiquer/communiquer-ministere-de-la-technologie-de-l'information-de-la-communication-et-de-l'innovation/>

⁴⁵ <https://besafemoris.mu/communiquer/communiquer-urgent/>

⁴⁶ https://besafemoris.mu/general_news/confinement-national-mt-accompagne-les-autorites/

⁴⁷ https://besafemoris.mu/general_news/all-citizens-must-walk-hand-in-hand-in-unity-to-overcome-the-challenges-posed-covid-19-stresses-pm/

5.3 Surveillance, epidemiological investigation, contact tracing calibration and adjustment of public health and social measures

Prior to the first wave, **multiple surveillance systems were in place** to ensure the rapid detection of COVID-19. Mauritius has an existing system of sentinel surveillance for **Influenza-Like Illness (ILI) and Severe Acute Respiratory Infection (SARI)** at the 5 regional hospitals. Case definitions of COVID-19 were shared in all private and public healthcare facilities. Epidemiologists and statisticians of the Communicable Diseases Control Unit (CDCU) **compiled key epidemiological data, monitored indicators** and shared them with key decision makers at MoHW and with the High Level Committee on COVID-19.

During the first wave, flu-clinics which were dedicated pathways for the triage of suspected cases were established in the 5 regional hospitals but were quickly replaced by **COVID-19 testing centres**, detached structures within the compound of each regional hospitals. During the second wave, the 5 COVID-19 testing centres were fully operational and key in detecting local cases. As at 3 June 2021, 23096 tests done and 91 positive cases detected through these innovative facilities including the first case of the second wave.

CDCU and the Regional Public Health Superintendents were already versed in contact tracing system and adapted it to COVID-19 according to the WHO guidance during the first wave. Rigorous contact tracing exercise enabled the detection of 46% and 60% of the COVID-19 cases during the first wave and second wave respectively, remaining vital in detecting infected people. **The capacity to conduct contact tracing during the second wave significantly increased** with the recruitment of 5 additional Regional Public Health Superintendents and 10 freshly graduated medical doctors. In March 2021, an average of 2 000 PCR tests were conducted for contact tracing exercise daily compared to 200 for the same period in 2020.⁴⁸ As mentioned in section 5.2, the **hotline 8924 for COVID-19 remained a key tool for contact tracing**. People who were in contact with infected persons or present at the same events or workplaces were encouraged to contact the health authorities via the hotline.^{49,50,51}

During the first wave, the contacts of an infected individual were instructed to self-isolate and the contact tracing team were activated to collect specimens for PCR testing. Self-isolation was a challenge since the adherence to the instructions were unknown and the living conditions were not always conducive for it. Following the first wave, the **capacity for quarantining considerably expanded** with a strong partnership with the tourism sector especially with the “Association des Hôteliers et Restaurateurs de l’île Maurice”. Several hotels were converted into quarantine centres for the incoming passengers and more so with the partial reopening of borders in October 2020. Thus, a different approach was taken during this second wave whereby all **contacts identified observed an in room quarantine** at the hotels. From 5 March to 3 June 2021, 163 cases of COVID-19 were detected in quarantine thus avoiding further infections in the community.

The health personnel, doctors and nurses, monitored every person in quarantine twice daily for any sign and symptoms of COVID-19 and rise in body temperature. Any person showing any signs or symptoms was taken to isolation ward/room of the nearest regional hospital by the Rapid Response Team (RRT) where a PCR test was done. People who had co-morbidities and other health conditions were also followed-up by the health personnel at the quarantine centre and received their necessary treatments. Anyone needing medical attention were contacted by phone for mental health issues or received the visit of the respective specialists geared in full PPE or was transferred to isolation ward/room of the nearest regional hospital by RRT.

All persons in quarantine were subject to three PCR tests on Day 0, 7 and 14 of the quarantine. Positive cases detected in quarantine were transferred to the New ENT Hospital by RRT and any person sharing the room of the person infected stayed for another 14 days in quarantine. After leaving the quarantine centres, the non-infected persons had to self-isolate for 7 days following which they had to go to their nearest COVID-19 centre for a PCR test. As from April 2021, all staff of the quarantine centres were subjected to PCR tests on Day 0 and 7 on top of the usual Day 14 to ensure that no staff were infected due to the prevailing outbreak.

Laboratory surveillance is an important aspect of the response since the first wave. All the private laboratories conducting COVID-19 PCR testing are required to report the number of tests and the test results to the Central Health Laboratory (CHL) daily. Any sample tested positive to SAR-CoV-2 is sent to CHL for a confirmatory test. CHL is the only laboratory authorised to disseminate positive test results which are then referred to CDCU which is the only authority responsible to announce positive test results to the infected persons.

The **considerable expansion of the national laboratory capacities** (further details available in section 5.7) allowed for a **sharp increase in targeted testing** by the 6 contact tracing field teams. Targeted testing were conducted in the workplace of infected people, for high-risk places such as in care homes and dormitories of expatriate workers⁵². Targeted testing were also done in Red Zones shortly after its classification as a Red Zones and on the ensuing Day 7 and Day 14. With the support of the community based organisations, village councils or town municipalities and parliament representatives, residents of the Red Zones were encouraged to take PCR test. The test results determined whether an area would retain its Red Zone status or not.

⁴⁸ https://besafemoris.mu/general_news/covid-19-mauritius-better-equipped-for-contact-tracing-exercise/

⁴⁹ <https://besafemoris.mu/communiqué/communiqué-ministère-de-la-santé-et-du-bien-être-8/>

⁵⁰ https://besafemoris.mu/general_news/covid-19-les-informations-a-retenir-ce-jeudi-11-mars/

⁵¹ https://besafemoris.mu/general_news/people-with-recent-exposure-with-wma-employees-in-port-louis-to-call-covid-19-hotline/

⁵² https://besafemoris.mu/general_news/covid-19-regular-targeted-testing-being-carried-out-says-health-minister/

5.4 Points of entry, international travel and transport, and mass gatherings

Taking a similar approach to the first outbreak, **the borders were closed** on 11 March 2021 prohibiting access to ships and aircraft unless approved by the Prime Minister.^{53,54} All the resources were focused on the containing the local outbreak. As mentioned above the hotels used as quarantine centres for the repatriation of the Mauritians following the first wave and during the partial reopening of borders were used as quarantine centres for contacts of infected persons.

However, compared to the first wave, some commercial passenger flights were exceptionally authorised by the Prime Minister after the review and approval by the **Opening of Borders Committee** chaired by the Vice Prime Minister, Minister of Tourism. These flights were mainly authorised for the repatriation of Mauritians who went for medical treatments abroad and their companions and for expatriate workers needed for the main ongoing development projects in the public sector. 760 Mauritians were repatriated from 18 March 2021 to 17 May 2021.⁵⁵ As per the sanitary protocols established in October 2021, all incoming passengers had to produce a negative PCR test result dating up to 5 to 7 days at the point of embarkation, go into quarantine upon arrival and do three COVID-19 PCR tests on Day 0, 7 and 14. The **routine surveillance for other diseases** such as malaria and dengue was maintained and done by the public health inspectors of the 13 public health officers after the quarantine period.

Since mid-October 2021, **additional sanitary protocols applied to the Indian expatriate manual workers** of the important ongoing construction projects in the public sector, following the high rates of infection detected in quarantine among this population. A 5-day quarantine and an additional COVID-19 PCR test 48 hours prior to embarkation were required. Their quarantine period in Mauritius were extended to 21 days, since their dormitories were not ideal for the 7-day post quarantine self-isolation. Owing to the increasing concerns about the variant of concern B.1.617, this category of Indian expatriate workers were no longer allowed in Mauritius since 17 April 2021.

In 2020, stranded Rodriguans could only return back to Rodrigues Island following the resumption of the internal flight in July, once the first wave was contained. In contrast, several special flights were organised for the **repatriation of stranded Rodriguans amid the second wave**, albeit under strict sanitary protocols. The Rodriguans went into a 14-day quarantine prior to embarkation of their flight and took PCR tests on the Day 0, 7 and 14 of the quarantine. If no cases of COVID-19 were detected in quarantine, the cohort were directly transferred to the airport. They were again quarantined for 7 days upon their arrival in Rodrigues Island and did an exit PCR test. As at 17 May 2020, 312 Rodriguans safely return to their island.⁵⁶ A similar protocol was observed for travellers to Agalega Island, with a mandatory 14-day quarantine with PCR tests prior to embarkation.

5.5 Laboratories and diagnostics

Adopting the “test, test and test” approach, the **national laboratories capacities for COVID-19 substantially expanded** since the first outbreak. COVID-19 PCR testing capacities increased exponentially with a maximum daily tests of 5766 achieved during the second wave versus 1040 during the first wave. At the time of the first wave, Central Health Laboratory (CHL) and C-Lab at Welkin Hospital were the only laboratories performing COVID-19 PCR tests. Following the first wave, two additional private laboratories, Airport Health Laboratory (AHL) (based on a Memorandum of Agreement with CHL) and Nova Lab, were licensed to conduct COVID-19 PCR tests. During the second wave, CHL and AHL were sharing the workload and C-Lab and NovaLAB were outsourced when needed. For the month of April 2021 alone, the maximum number of tests done with 67506 PCR tests, which is more than 4 times the number of test done during the first wave (14 550). All positive samples from the private laboratories were sent to CHL for confirmation and CHL was the only laboratory communicating the results to MoHW across both waves. All positive test results were communicated to CDCU within 12 hours from the time samples were received at CHL. Compared to the first wave, PCR tests were also conducted in Rodrigues Island too during the second wave.

Other than COVID-19 PCR testing, CHL also coordinated **rapid COVID-19 IgM/IgG antibody combo test** during the second wave for COVID-19 patients under the request of clinical immunology committee which oversaw case management. This was a key component in determining the stage of infection of patients. **COVID-19 antibody detection test using ELISA technique** was also introduced to detect neutralising antibodies. Three of the four laboratories conducting PCR test were equipped with the **GeneXpert platforms** for rapid testing, further reducing the turnaround time for test results. CHL performed automated RNA extraction during the second outbreak. Despite the global concerns about the detection of new variants of SARS-CoV-2, the RT-PCR test done in Mauritius was robust enough to detect them.

CHL has received the **unwavering support from the High-Level Committee on COVID-19** since the first outbreak. The core management and the core team at the molecular biology department at CHL remained the same throughout the two outbreaks. However, number of technologists trained in PCR tests at CHL increased from 6 to more than 15 and the number of trained data entry clerks for the LIMS increased to 10 across the two outbreaks. Laboratory staff were on out-of-hours shifts to conduct testing, COVID-LIMS requests and result entries for both outbreaks. The procurement for laboratory reagents and consumables have greatly improved since the first outbreak with daily monitoring of stocks. During the second wave, CHL has received support of two medical officers assigned at the molecular biology department to help with the dissemination of PCR test results for the tested HCP. Additional telephone and internet lines have improved previous challenges in communication.

⁵³ https://gpd.govmu.org/HomeDownloadSection/26_Ext%20Ord_110321.pdf

⁵⁴ <https://besafemoris.mu/communique/communique-from-ministry-of-foreign-affairs-regional-integration-and-international-trade/>

⁵⁵ As announced in the MBC News Bulletin on 17 May 2021

⁵⁶ As announced in the MBC News Bulletin on 17 May 2021

Since the first outbreak, CHL closely **monitored the performance of the national laboratory system** against WHO's Operational Planning Guidelines to Support Country Preparedness and Response guidelines⁵⁷ for Pillar 5. Key performance indicators such as COVID-19 PCR positivity rates, unsuitable samples, daily swabs received and tests done are recorded. CHL regularly reported achievements and deliverables to MoHW and the High-Level Committee on COVID-19 and updated its preparedness and response plan. Two of the ten recommendations as per the WHO guidelines, namely the conduction of genetic sequencing and the sharing of related data, not implemented during the first wave were completed during the second wave.

Since December 2020 to May 2021, 7 consignments of COVID-19 positive sample materials were sent to Institute Francis Crick in London, National Institute for Communicable Diseases in South Africa and Centre Hospitalier Universitaire in Réunion Island for **SARS-CoV-2 genetic sequencing** and investigate the presence of any variants of concerns in Mauritius. 166 samples out of 450 samples sent were successfully sequenced and revealed that the majority of the samples from the second outbreak belonged to the B.1.1.318, classified as a variant of interest by WHO and Centers for Disease Control and Prevention. Variants of concerns from UK and South Africa were only found among cases detected in quarantine. Results were shared with Global Initiative on Sharing Avian Influenza Data, Institute Francis Crick in London, National Institute for Communicable Diseases in South Africa and Kwazulu-Natal Research Innovation and Sequencing Platform for publications. Since December 2020, CHL initiated the process to be able to conduct SARS-CoV-2 genetic sequencing locally. In March 2021, two platforms: ION TORRENT S5 and Minion Nanopore were acquired by CHL via MoHW and Africa Centres for Disease Control and Prevention, respectively. Basic theoretical training in ION TORRENT S5 for laboratory technicians and clinical scientists in virology was completed by May 2021 and further training are being planned.

With regards to **quality assurance of the COVID-19 PCR tests** performed in Mauritius, CHL enrolled in COVID-19 International External Quality Assessment scheme organised by WHO AFRO following the first wave. Subsequently, the three private laboratories also enrolled in a similar scheme for free with the support of Africa Centres for Disease Control and Prevention and CHL and participated in a preliminary audit exercise conducted by CHL's auditors using the WHO Laboratory Assessment Tool. In January and February 2021, 31 laboratory staff (including from Rodrigues) participated in the training of trainers on Laboratory Quality Management Systems conducted by MoHW in collaboration with WHO Country Office (WCO) Mauritius with the support of African Society for Laboratory Medicine and Canada Fund for Local Initiatives. Further progress was made by CHL within the area of IPC with the acquisition of additional biosafety cabinets, PCR stations and autoclave machine. While the rapid expansion of CHL in terms of equipment, machines and human resources was vital for the response, it has resulted in a new challenge: a lack of space. While waiting for the announced construction of the National Health Laboratory System centre, CHL will temporarily occupy the ex-nursing school at Victoria Hospital. However, renovations are underway and need to be accelerated.

The COVID-19 **Laboratory Information Management System (LIMS)** was introduced during the first wave with the strong support of the United Nations Development Programme (UNDP) together with the University of Washington and the Central Information Bureau of the Ministry of Information Technology, Communication and Innovation. Since then all data entry are being captured and the COVID-19 LIMS is up to date and fully functional during the second wave. The Passenger LIMS to collect data for incoming travellers as well as the National LIMS which will include all laboratory tests are also in progress. Regular virtual meetings between all the above mentioned stakeholders and CHL were conducted regularly during both outbreaks. During the second outbreak, three meeting were held by the National LIMS steering committee chaired by the Senior Chief Executive of MoHW and composed of 20 members across 13 different departments from health, aviation, travel, tourism and information technology sectors. A sub-committee is working on the new design of the online Passenger Locator Form.

5.6 Infection prevention and control and protection of the health workforce

5.6.1 IPC in public healthcare settings

Throughout the past decades, IPC in public healthcare settings has seen sporadic improvements due to the preparedness for the H1N1 pandemic and the Ebola epidemic, notably leading to the creation of regional IPC guidelines. Yet, efforts to strengthen IPC and maintain IPC measures were not sustained. The detection of COVID-19 in Mauritius has once again resulted in accelerated efforts in improving IPC in public healthcare settings.

During the first wave of SARS-CoV-2, the construction of the **COVID-19 testing centres** was initiated in each of the 5 regional hospital with the support of WCO Mauritius, UNDP and the private sector. Those structures were separated from the hospital buildings and all individuals who reported flu-like symptoms were advised to directly attend the COVID-19 testing centres, thus preventing the spread of COVID-19 to other hospital facilities.

Several efforts were made during the first wave to **train HCP in IPC measures**. Three videos demonstrating the IPC measures to be adopted were produced and screened in each regional hospital for HCP to view, however this approach had moderate success and was changed to in person trainings. 36 HCP were infected by COVID-19 within a hospital setting during the first wave representing 14.9% of local cases. To reduce the risk of nosocomial infections of COVID-19, MoHW conducted a 5-day training of trainers on IPC and case management post COVID-19 in October 2020 in collaboration with WCO Mauritius and financially supported by the Canada Fund for Local Initiatives. A second training of trainers was organised in May 2021 by

⁵⁷ <https://www.who.int/publications/i/item/draft-operational-planning-guidance-for-un-country-teams>

MoHW supported by WCO Mauritius with funding from the ECHO project. During the second wave, 4 batches of cascade trainings were conducted and supported by WCO Mauritius in two regional hospitals with more than 50 HCP attending. Other cascade trainings were conducted in the other regional hospitals led by the regional IPC teams. An estimated 350 HCP were trained in IPC amid the second wave through cascade trainings. As at 3 June 2021, 76 HCP were infected in the second wave, equivalent to 9.41% of local cases.

IPC materials were limited at the start of the first wave in March 2020 but the **procurement and management of stocks of PPE as well as other consumables** have greatly improved since then. MoHW's adherence to COVID-19 Supply Chain System eased the procurement key materials including PPE. The stocks of PPE as well as other consumables are closely monitored by the Central Supply Division and reported weekly to the Minister of Health and Wellness. Clear pathways have been defined for the requests and distribution of PPE to the healthcare facilities. Despite that, the pathways for request and distribution of PPE for each departments within regional hospitals, varied across departments and differed within each regional hospital and need to be standardised.

All primary health care facilities (141 in Mauritius and 14 in Rodrigues) were provided with relevant **Information, Education and Communication (IEC) materials** posted in clinical/hand washing stations and 50 of them will have improved access to hand washing stations and be equipped with triage stations. Compared to the first wave, most hand washing stations were equipped with soaps and alcohol rubs were largely available during the second wave. Nevertheless, hand hygiene compliance rate did not ameliorate by the end of 2020 since it was observed that the tools were not always placed at the points of care. A survey of the current hand hygiene compliance rate needed to be conducted to evaluate the progress made since the implementation of the above mentioned measures.

The **coordination and management of IPC** incurred major changes since the first wave. The five Regional IPC committees created following H1N1 pandemic were revived, a National IPC committee was constituted and a National IPC focal point was appointed during the second outbreak. National IPC guidelines are also been drafted by the different technical working groups and will replace the different existing regional IPC guidelines for better harmonisation at country-level. The technical support of WCO Mauritius has been key in these two endeavours. Nevertheless, a proper budget and national action plan as well as a monitoring and evaluation system will be key to sustain these efforts in improving IPC and track the progress made.

An **IPC scorecard assessment** was conducted jointly by MoHW and WCO Mauritius in April 2021 amid the second wave in all 5 regional hospitals, 3 Mediclinic, 2 area health centres and 1 community health centre. 14 standards were assessed in the facilities as recommended by WHO during any outbreak or health emergencies. **IPC assessments** were also carried out by MoHW for specific units such as all the haemodialysis unit, following the contamination of patients and staff of the unit at the Souillac Hospital in April 2021 and in the neo-natal intensive care unit in view of sepsis, multidrug resistant organisms and increasing child mortality. Recommendations were formulated following these assessments and shared with the key decision makers within the relevant departments, facilities and MoHW to guide remedial actions.

Following the first outbreak in March 2020, the **access to healthcare facilities** were limited to one visitor per inpatient and one accompanying person per outpatient. Body temperatures checks were meant to be done prior to entry in a healthcare facility. However, these measures were more easily implemented by mediclinics, area health centres and community health centres and remained a challenge in regional hospitals due to multiple entrance points. More rigorous strategies should be devised to strengthen these measures for example by limiting the number of main entrances, conducting systematic body temperature checks at entrances or implementing these measures at the level of each departments, units and wards.

To address the rise in number of COVID-19 infections within the hospital settings during the second wave, a new protocol was devised in April 2021 encouraging all HCP who were not yet vaccinated to take a COVID-19 PCR test every 14 days, especially those in the casualty departments. Moreover, COVID-19 PCR tests are also recommended at all admission of patients and before any planned surgical intervention. As at 3 June 2021, 10 cases of COVID-19 were detected through these routine screenings. To further strengthen IPC in the health and education sector, a **new regulation was made under the Quarantine Act 2020** on 2 June 2021. Entrance to public and private health facilities and education and training centres would only be allowed upon presentation of a COVID-19 vaccination card or a negative result of PCR test dating not more than 7 days prior. People who cannot be vaccinated for medical reasons would have to present a medical certificate issued by two government medical officers. This regulation does not apply to anyone seeking medical care and to students under 18 years old and to Rodrigues Island and Agalega Island.⁵⁸

5.6.2 IPC in public settings

Since the first outbreak of COVID-19 in Mauritius, the general measures of wearing of masks, physical distancing, regular washing of hands /use of sanitisers and ensuring good ventilation when indoors applied to all public settings.⁵⁹ All trade and commercial premises were required to adhere to these measures including distancing markings, provision of PPE to all employees as needed, disinfection of trolleys and baskets, body temperature checks and denying entry to anyone presenting flu-like symptoms.⁶⁰

⁵⁸ https://besafemoris.mu/general_news/vpm-dookun-luchoomun-announces-phased-resumption-of-classes/

⁵⁹ https://besafemoris.mu/general_news/cabinet-meeting-friday-30-april-2021/

⁶⁰ <https://publicnotice.govmu.org/publicnotice/?p=3642>

Building on the success of the public settings sanitary measures implemented during the first wave, the same strategy was applied for the second wave. However, the legal framework for the sanitary measures evolved with the repealing of the Quarantine Act 1954 and the passing of the COVID-19 Act 2020 and the Quarantine Act 2020 following the first wave. Under section 3 of the Quarantine Act 2020, the Prime Minister instated a “**Temporary Restrictions of Movement Order**”, commonly referred to as “lockdown” or “sanitary curfew”, as from 10 March 2021 to control the spread of COVID-19.⁶¹ The restrictions meant that all public places and services were closed except for essential services namely: health services, fire services, police services, petrol facilities, pharmacy services and retail distribution chain. Like for the first outbreak, the public could only access supermarkets, corner shops, bakeries, “superettes” and poultry/meat/fish shop as per alphabetical order. There was no such restrictions for emergencies services, petrol facilities and pharmacies services. Marriages and funerals can only be attended by less than 10 persons. The wearing of masks and physical distancing were maintained and spitting in public places was forbidden. Employees were encouraged to work from home where possible. Elders and those less 18 years were advised not to go out.⁶² In addition to these measures, for the first time since the outbreak in Mauritius, the general public could report a breach of the sanitary measures to the Mauritius Police Force via hotlines and a WhatsApp account.

The **WAPs** implemented during the COVID-19 outbreak in 2020 allowed individuals to solely travel from their place of residence to their place of work/business and back. It was regionally recognised as an innovative and successful measure to monitor movement during the sanitary curfew⁶³ and reintroduced during the second sanitary curfew. Mauritius Telecom promptly reactivated the online application of WAPs on the platform BeSafeMoris and trained the police officers on the use of the platform. The whole process of WAP application and delivery was fully digitalised for the second wave.⁶⁴ As for the first sanitary curfew, all those who cannot work from home and belonging to the essential services were prioritised for the WAP.⁶⁵

The strategic presence of the **Mauritius Police Force** were vital in enforcing the respect the sanitary measures in public areas for both waves. Several road blocks were in place at key checkpoints around the island where the Mauritius Police Force ensured that the people in movement either had their WAPs or other form of authorisations. With the support of the Mauritius Telecom, the Mauritius Police Force was equipped with 200 SIM cards to be used with the mobile phone given during the last sanitary curfew to scan the WAPs. During the second wave, any unauthorised person found outdoors was liable to a fine not exceeding Rs500 000 and an imprisonment term of no longer that 5 years under the Quarantine Act 2020, if convicted.⁶⁶

On 12 March 2021, three constituencies were first declared “**Red Zones**”, denoting a high number of COVID-19 cases within the community and forbidding movement in and out of these areas. Exceptions were in cases of emergencies and for individuals requiring to move in and out of the Red Zones for the essential running of their work/business, for which they needed a special WAP. Banks, hardware stores and meat/poultry/shops were also closed.⁶⁷ Following these initial areas, several areas around Mauritius island were declared Red Zones while other were no longer Red Zones as the outbreak evolved. Public transport could pass through the Red Zone but not alight nor take in any passengers in these areas.⁶⁸ With the delineation of Red Zones, WAP holders had to apply for **special WAPs** to move in and out of the Red Zones for the essential running of their work/business.⁶⁹ Students proceeding to and coming from examination centres and their accompanying responsible party required no WAP and were only to present with their time table and student ID Card or a copy thereof.^{70,71}

The support of the Mauritius Police Force were even more important in **implementing the Red Zone strategy**. Main access to these areas were strictly controlled by road blocks were mounted by the Special Mobile Force and the Special Support Unit on a 24-hour basis and were reinforced by the Emergency Response Service and the Traffic Branch. Some lateral roads accessing the Red Zones were closed by metal barriers and manned by the Mauritius Police Force. Regular monitoring patrols were conducted on the external boundaries of the Red Zone by the adjoining divisions. Internal Monitoring Patrol were conducted within the Red Zone by the Central Division supported by Emergency Response Service, Traffic Branch and Division Supporting Unit. Safe City Cameras, police helicopters and drones were also used to monitor any movement in these areas.

The **phased reopening of activities** adopted after the first outbreak was an effective approach to ensure that the country resuming its activities safely. A similar approach was taken, albeit the ongoing second wave, to strike a balance between sanitary measures and resumption of economic activities. On 23 March 2021, the Prime Minister announced an **earlier Phase 1 of reopening of economic activities** as from 31 March 2021.⁷² Accordingly, WAPs were issued to allow for more sectors such as banks, commercial centres, retail shops, hairdressers, medical & paramedical companies, construction activities, domestic workers, restaurants and fast-foods supplying only home-delivery and take-away services to operate. Commercial centres, retail shops, banks, hairdressers joined the list of services which could only be accessed by alphabetical order. The individual practice of sports activities were allowed.^{73,74}

⁶¹ https://gpd.govmu.org/HomeDownloadSection/24_Ext%20Ord_090321.pdf

⁶² <https://besafemoris.mu/communiquer/communiquer-from-ministry-of-land-transport-and-light-rail-bus-services-in-red-zones/>

⁶³ https://innov.afro.who.int/uploads/media-corner/who_afro_covid_19_african_innovation_compendium_20201203075453.pdf

⁶⁴ https://besafemoris.mu/general_news/confinement-national-mt-accompagne-les-autorites/

⁶⁵ https://besafemoris.mu/general_news/covid-19-dpm-obeegadoo-announces-measures-taken-to-ensure-ongoing-vaccination-programme/

⁶⁶ <https://besafemoris.mu/communiquer/police-communique-regions-maintained-as-red-zones/>

⁶⁷ https://gpd.govmu.org/HomeDownloadSection/27_Ext%20Ord_110321.pdf

⁶⁸ <https://besafemoris.mu/communiquer/police-communique/>

⁶⁹ <https://www.mcci.org/en/media-news-events/business-updates/more-details-about-the-re-opening-of-business-activities/>

⁷⁰ <https://besafemoris.mu/communiquer/police-communique-regions-maintained-as-red-zones/>

⁷¹ <https://besafemoris.mu/communiquer/police-communique-localised-temporary-restrictions-of-movement-order-made-by-the-prime-minister-under-section-3-of-the-quarantine-act-2020/>

⁷² https://besafemoris.mu/general_news/covid-19-pm-announces-re-opening-of-additional-economic-activities-as-from-31-march-2021/

⁷³ <https://www.mcci.org/en/media-news-events/business-updates/more-details-about-the-re-opening-of-business-activities/>

⁷⁴ https://www.businessmauritius.org/wp-content/uploads/2021/03/24march21_communique.jpg

As from 1 May 2021, the countries moved on to the **second phase of the reopening of activities**, shopping in alphabetical order and WAPs were no longer applicable. Further services such as beauty parlours, dentists and opticians could restart their operation. Public or private gatherings should consist of less than 10 persons. Places, activities and services such as public beach, public and nature parks, food courts and restaurants for dine-in, sports centres, team sports religious centres, socio-cultural activities, function rooms, cinemas, casinos, bars and night clubs; remained closed.^{75,76} On 28 May 2021, the second phase of the reopening of activities was extended to 30 June 2021 with the continued occurrence of clusters of COVID-19 cases.⁷⁷

Following the announcement of the Temporary Restrictions of Movement Order, main bus services were kept in operation through the island and restricted from 06 00 to 20 00.⁷⁸ In the same vein as during first outbreak of COVID-19, **stringent sanitary protocols were applied in the public transport sector** such as wearing of masks and disinfection of vehicles. However, for the second wave these protocols were regulated by The Road Traffic (COVID-19 Sanitary Measures) Regulations 2020 and the Light Rail (COVID-19 Sanitary Measures) Regulations 2020 which were also amended to include physical distancing (restricted seats), travel restrictions as well as the use of sanitisers and opening of windows.^{79, 80} Physical distancing had to be respected at bus stops and bus stations too. With the second phase of reopening, physical distancing were no longer required in public transport as from 1 May 2021.⁸¹

Compared to the first wave of COVID-19 in 2020, the national examinations of the Primary School Assessment Certificate, National Certificate of Education, School Certificate and Higher School Certificate were maintained with a revised schedule for the second wave. **Sanitary protocols for the examination centres** were devised by the Ministry of Education, Tertiary Education, Science and Technology (MoE) and the Mauritius Examination Syndicate (MES) approved by MoHW. With the ongoing outbreak, students also took examinations in quarantine centres and treatments centres under special sanitary protocols devised by MoHW with the collaboration of MoE and MES. All the personnel of the examination centres were responsible for ensuring that the protocols were respected with the help of the Mauritius Police Force where needed.⁸² A **staggered resumption of classes** was announced for the start of academic year for public institutions in Mauritius Island compared to the first wave where classes resumed months after containing the outbreak. As 5 July 2021, not more than 50% of students should present at the same time. Junior classes will attend school twice per week while senior classes thrice per week. Classes will accommodate no more than 15 students for pre-primary schools.⁸³ Moreover, personnel of nurseries including associated personnel such as drivers and helpers of school buses could only resume their activities if they were vaccinated. A certification would be emitted by the Ministry of Gender Equality and Family Welfare to grant the reopening of these nurseries after verification with MoHW.⁸⁴

5.7 Case management, clinical operations and therapeutics

Since its first wave, Mauritius took the strict approach of **systematic isolation of all persons detected with COVID-19** in treatment centres, free of charge as part of its welfare system. In addition to the New ENT hospital and the SSR Recreation Centre used during the first outbreak, two hotels were used as treatment centres to respond to greater number of cases in the second wave. The two hotels were equipped with oxygen cylinders, emergency trolleys and kits, patient monitor, pulse oximeter, intubation kits, bag valve masks. As for the first wave, all symptomatic patients and patients with existing medical conditions were treated at the New ENT hospital and the rest were admitted to the other makeshift treatment centres. Following the genetic sequencing results showing that the local cases were caused by only one variant of interest, separate treatment centres were used for the treatment of local and imported cases, respectively. As for the first wave, HCP teams posted at the treatment centres resided onsite throughout their 7-day duty, were subject to a PCR test at the end of their duties and had to self-isolate for the 7 ensuing days. For the non-medical treatment centres, the team consisted of generalists, nursing officers, healthcare assistants and attendants while the team at New ENT consisted of a generalist, nursing officers including a charge nurse, radiographer and a physiotherapist and anaesthetist, as required.

The case management was reviewed after the first wave and numerous changes were implemented. As part of the “National Response and Contingency Plan in the eventuality of a resurgence of COVID-19 circulation in Mauritius”, a **detailed surge capacity strategy was devised** for case management. By the end of October 2020, detailed **COVID-19 case management procedures and protocols were elaborated for each speciality in medicine** and New ENT Hospital was equipped with medical equipment needed for COVID-19 patients with other conditions. Procedures were activated as per these protocols during the second wave to manage two births as well as cardiac, psychiatric and cancer patients at the New ENT Hospital and the specialists intervened under strict sanitary protocols. During the second wave, the **IPC protocols at the New ENT Hospital were strengthened** with the use of the hospital pneumatic tube systems and Hospital Management Information System to reduce human contact. All HCP were briefed on the protocols to be respected including the donning and doffing of PPE and equipped with operating theatre footwear and fresh gowns at each morning and evening ward rounds. The new ENT hospital was disinfected daily using the 3-bucket method.

⁷⁵ <https://govmu.org/EN/Pages/NewsDetails.aspx?n=Prime-Minister-announces-second-phase-of-reopening.aspx>

⁷⁶ <https://publicnotice.govmu.org/publicnotice/?p=3642>

⁷⁷ https://besafemoris.mu/general_news/covid-19-second-phase-of-reopening-extended-until-30-june-2021/

⁷⁸ <https://besafemoris.mu/communiquede-nationale-land-transport-authority-covid-19-exceptional-measures/>

⁷⁹ <https://www.mcci.org/en/media-news-events/business-updates/communiqueministry-of-land-transport-and-light-rail/>

⁸⁰ <https://besafemoris.mu/communiqueministry-of-land-transport-and-light-rail/>

⁸¹ <https://besafemoris.mu/communiqueministry-of-land-transport-and-light-rail-4/>

⁸² https://besafemoris.mu/general_news/students-should-participate-in-exams-in-the-best-conditions-possible-states-vpm-dookun-luchoomun/

⁸³ https://besafemoris.mu/general_news/vpm-dookun-luchoomun-announces-phased-resumption-of-classes/

⁸⁴ https://besafemoris.mu/general_news/covid-19-40-of-the-population-to-be-vaccinated-by-end-of-july-2021/

Since the first outbreak, the **treatment protocols were regularly updated** as the recommended international guidance evolved. The use of chloroquine and azithromycin were stopped and treatment during the second wave focused on preventing of complication using anti-inflammatory (corticosteroids and Enoxaparin) and anticoagulant drugs. Oxygen therapy coupled with regular blood gas test for monitoring and active physiotherapy at the early phase of treatment were introduced after the first wave and resulted in less patients in need of an intubation during the second wave. The **clinical immunology committee**, established after the first wave, met daily virtually to review the cases and take key decisions during the second wave. It was composed of several medical experts including a consultant in charge for internal medicine, a chief pathologist, an infectious disease specialist, a chest physician, an immunologist and the officer in charge of COVID-19 treatment. Compared to the first wave, a **more stringent discharge protocol** for patients was applied during the second wave. COVID-19 patients could only leave a treatment centre after at least ten days of hospitalisation and two negative COVID-19 PCR tests on the Day 7 and 10 of hospitalisation. The discharged patient had to respect a 7-day self-isolation and was followed-up by the team of the hotline 8924 and the public health inspectors.

On 26 March 2021, a **COVID-19 outbreak was detected in the Souillac Hospital** with 10 dialysis patients and several hospital staff across all departments and category of workers were tested positive. This unprecedented occurrence resulted in the closure of the Souillac Hospital and its conversion into a treatment centre for the dialysis patients to avoid the contamination of other dialysis units in the country. A team of generalists, anaesthetists, nephrologists and dialysis team were constituted by pooling into the human resources from other hospitals and deployed to Souillac Hospital. The team stayed on-site on a 14-day rotation basis, except for the anaesthetists who were on a 7-day duty due the more demanding and challenging nature of their job. The rest of the dialysis patients were placed into quarantine at nearby hotel attended by a generalist, a nurse and attendant who resided on site and accompanied the seronegative patients to Souillac Hospital for their dialysis treatment. As the beginning of this outbreak, the dialysis patients negative to COVID-19 had their dialysis treatment first followed by those infected by COVID-19, after which the dialysis unit was disinfected. As the number of dialysis patients infected by COVID-19 increased, the dialysis unit was partitioned with into two separate units for the dialysis treatment of the COVID-19 positive and negative patients respectively, with no contacts between the two groups and separate entrances and exits. An isolation ward which had all the facilities required to be easily converted into an Intensive Care Unit, accommodated the dialysis patients infected with COVID-19 who needed intensive care. Having a bed capacity of 9, this ward was equipped with 6 ventilators and a medical gas network.

The outpatient services of the Souillac Hospital were relocated in the hall of a socio-cultural organisation while its casualty department was moved to the youth centre of the locality. Being able to only operate till 18 00, an ambulance was on call at the youth centre to carry emergency cases to the nearby Regional Hospital in Rose Belle. The last dialysis patient infected with COVID-19 was discharged on 24 May 2021 and the hospital was thoroughly disinfected. After two months of closure, Souillac hospital was reopened for the resumption of its usual services on 26 May 2021.⁸⁵

A fact finding committee was constituted at the beginning of May to investigate the death of 11 dialysis patients from this cohort of whom 9 were tested positive to COVID-19.⁸⁶ During the second wave, 8 deaths were attributed to COVID-19 while the death of 6 other COVID-19 patients with co-morbidities were not attributed to COVID-19. Clinical auditing of the second wave is in the pipeline, once it is over, to readjust the response and address gaps.

5.8 Operational support and logistics, and supply chains

At the start of the first outbreak, Mauritius faced numerous challenges in the **procurement and stock management of PPE and other essential medical and non-medical materials** for COVID-19 and face a shortage of PPE for personnel of essential services. From then on, all stocks were stored at and management by the Central Supply Division. Weekly reports of stocks were sent to MoHW to evaluate and forecast the supplies and plan the procurement processes. MoHW also adhered to the COVID-19 Supply Chain System launched by WHO. This changes resulted in a good stock management of PPE for the second wave.

While the workforce strategy during the first wave focussed on deploying health personnel from regional hospitals to treatment and quarantine centres, the second wave main strategy was increasing and optimising health workforce to avoid straining the ongoing public health services. Upon the partial reopening of borders in October 2020, doctors from regional hospitals were no longer posted at the quarantine centres and replaced by their counterparts from the Ministry of Social Integration, Social Security and National Solidarity. More than 100 freshly graduated doctors were employed on a temporary 6 month basis. Most of them joined the COVID-19 vaccination campaign, 10 were posted at CDCU for the contact tracing exercise and 2 supported CHL in the dissemination of PCR test results to HCP routinely screened. Nurses were also recruited on a temporary month to month basis in November 2020 and May 2021.⁸⁷

5.9 Strengthening essential health services and system

Essential health services were maintained during both sanitary curfews and all public health facilities remained opened. Outpatients needing medical care were advised to attend their medical appointments while those who were in good health conditions were advised to stay at home and to get their prescriptions drugs directly from the pharmacies of the regional

⁸⁵ https://besafemoris.mu/general_news/new-souillac-hospital-resumes-its-normal-health-services-as-from-today/

⁸⁶ <https://besafemoris.mu/communiqu/covid-19-le-ministre-de-la-sante-annonce-la-mise-en-place-dun-fact-finding-committee-pour-les-patients-dialyses/>

⁸⁷ <https://publicnotice.govmu.org/publicnotice/?p=3738>

hospitals and primary healthcare facilities, if needed.⁸⁸ Routine surgeries were suspended and reprogrammed for after the sanitary curfews were lifted.

Transfusion support was maintained for all essential cases requiring administration of blood and blood products during both sanitary curfews. During the first wave a protocol for safe collection of blood and blood products was set up and implemented to safeguard the health of blood donors as well as the blood bank staff. This protocol was maintained during the second wave and an additional protocol was devised incorporating the blood donors' eligibility following COVID-19 vaccination. Authorization from Commissioner of Police was obtained to organise blood donation sessions throughout the island during both waves. 46 sessions were organised during the sanitary curfew in 2020 yielding 1631 pints and, similarly, 47 sessions were organised during the sanitary curfew in 2021 leading to the collection of 1364 units of blood. The blood donation sessions were not conducted in Red Zones during the second wave. Despite a slightly lower amount of blood collected during the second wave, all patients requiring blood including transfusion-dependent cases such as thalassemia and other haemoglobinopathies and cancer patients received their transfusion.

For the **Expanded Programme on Immunisation** the same approach was taken for both sanitary curfews. This service was suspended and resumed during Phase 1 of the reopening of activities. Due to an earlier reopening of activities during the second wave, the services were interrupted for a shorter time. The health authorities were committed to maintain the programme coverage to more than 90% to avoid any resurgence of diseases, particularly since the measles outbreak in 2018. Vaccines usually administered in schools were reorganised so that the children could receive them at their nearest area health centre.

In the same vein as during the first outbreak, the **Annual Anti-Influenza Vaccination Campaign** was maintained during the second outbreak. Since it was kicked off on 22 April 2021 during Phase 1 of reopening of activities, it resumed its usual modality compared to 2020 where it was done door-to-door during the sanitary curfew. The campaign's first phase was implemented by the Ministry of Social Integration, Social Security and National Solidarity as per a vaccination schedule elaborated by alphabetical order⁸⁹ and targeted elderly persons aged 60 years old and above and children attending Special Education Needs school⁹⁰. By 25 May 2021, 74562 elderly were vaccinated and 10 648 more were expected to be vaccinated during home visits.⁹¹ As from 31 May 2021, the campaign was extended to all the general public by MoHW via its regional hospitals and primary healthcare facilities according to a calendar.⁹²

5.10 Vaccination

Vaccination became a key pillar in the Mauritius' fight against COVID-19 for this second wave. Since September 2020, the Government was proactive in acquiring COVID-19 vaccines by securing 240 000 doses via WHO's COVAX facility, initiating negotiations with the several laboratories and activating its international ties to facilitate the procurement process. The elaboration of a National Deployment Vaccination Plan for COVID-19 started following a two-day workshop with various stakeholders. On 11 January 2021, **COVID-19 vaccination training programme** began with the aim to train 300 healthcare workers in the knowledge and skills required for safe and efficient vaccine administration.⁹³ Other important processes such as the drafting of the consent forms with the State Law Office and planning the storage of supplies were initiated too.

Mauritius received its first consignment of 100000 doses of Covidshield on 22 January 2021 and promptly **launched its free COVID-19 vaccination campaign** on 26 January 2021 targeting frontliners including health care professionals, employees of the tourism industry as well as senior citizens and those with underlying medical conditions.⁹⁴ On 8 January 2020, the COVID-19 vaccination campaign was extended to all citizen aged 18 and above⁹⁵ but in the wake of the sanitary curfew instated on 10 March 2020, the COVID-19 vaccination campaign was reviewed.⁹⁶ New schedules were established targeting frontliners and WAP holders who were essentials workers. A platform (<https://vaccination.edbmauritius.org>) and a hotline (203 38 00) was launched by the Economic Development Board to facilitate the registration of WAP holders and business operators to the vaccination campaign^{97,98} while Business Mauritius, together with its partners ensured that the frontliners in the private sector were vaccinated. National Transport Corporation assured the transport arrangements for people willing to receive the vaccines to reached the vaccination centres.⁹⁹ A hotline 141 was established to receive queries regarding the COVID-19 vaccination campaign and managed by the Noncommunicable diseases and Health Promotion Unit of MoHW.

The COVID-19 vaccination campaign was massively scaled up with the recruitment of more than 100 doctors and nurses, to work in the 15 vaccination centres and 5 mobile vaccination centres. The International Vaccination Centre and some private hospitals provide COVID-19 vaccines at a fixed cost. The COVID-19 vaccination campaign for the **second dose of vaccine** began on 10 April 2021 and the new schedule could be accessed on the beSafeMoris.mu website.¹⁰⁰ Mauritius received several

⁸⁸ https://besafemoris.mu/general_news/press-release-rendez-vous-medicaux-services-de-sante-publics-o-p-d/

⁸⁹ <https://publicnotice.govmu.org/publicnotice/?p=3569>

⁹⁰ <https://besafemoris.mu/communiqu%C3%A9/cabinet-decisions-friday-16-april-2021/>

⁹¹ https://besafemoris.mu/general_news/ministere-de-lintegration-sociale-de-la-securite-sociale-et-de-la-solidarite-nationale-campagne-de-vaccination-antigrippe-2021/

⁹² <https://publicnotice.govmu.org/publicnotice/?p=4191>

⁹³ <https://www.afro.who.int/news/mauritius-kick-started-covid-19-vaccination-training-health-workers>

⁹⁴ <https://www.mymauritius.travel/articles/mauritius-launches-its-covid-19-vaccination-programme>

⁹⁵ <https://govmu.org/EN/Pages/NewsDetails.aspx?n=Free-COVID-19-vaccinations-available-to-Mauritians-and-residents-aged-18-and-above.aspx>

⁹⁶ https://besafemoris.mu/general_news/covid-19-mauritius-to-receive-some-125-million-doses-of-sputnik-v-vaccine-from-russia/

⁹⁷ https://besafemoris.mu/general_news/covid-19-vaccination-programme-for-business-operators/

⁹⁸ https://besafemoris.mu/general_news/vaccination-on-peut-desormais-sinscrire-en-ligne/

⁹⁹ https://besafemoris.mu/general_news/covid-19-dpm-obegadoodoo-announces-measures-taken-to-ensure-ongoing-vaccination-programme/

¹⁰⁰ https://besafemoris.mu/general_news/covid-19-second-dose-vaccination-programme-to-kickstart-on-10-april-2021/

consignments of vaccines during the second sanitary curfew namely: 24000 doses of AstraZeneca through Gavi, the Vaccine Alliance on 28 March 2021¹⁰¹; 100000 doses of Sinopharm vaccines on 14 April 2021;¹⁰² 38400 doses of AstraZeneca vaccine through COVAX Facility on 10 May 2021¹⁰³; 500000 doses of Sinopharm on 21 May 2021.¹⁰⁴ By 3 June 2021, 268639 people were vaccinated of which 208264 people already received their second doses and 24422 were vaccinated in private hospitals. For a closer monitoring of campaign's progress, epidemiological data were entered and analysed on the **DHIS 2 platform**.

With the vaccination of 20% of the population completed, the **second phase of the vaccination** started on 2 June 2021.¹⁰⁵ It targeted 6 categories namely: public and private health institutions' personnel, both inpatients and outpatients, all police and prison officers, elderly persons, education sector's personnel and students aged 18 years and above, people working in the tourism sector and economic operators; to aim a 40% of COVID-19 vaccination rate in Mauritius by end of July. A special slot from 9 00 to 11 00 is dedicated to elderly and from 11 00 to 16 00.¹⁰⁶ As mentioned in Section 5.6, vaccination or negative PCR test results became essential criteria for worker in the health and education sector to prevent the transmission of SAR-CoV-2.

A **Vaccination Committee for COVID-19** was established in February 2021 to discuss several aspects of the vaccination programme such as the vaccines to be used, target age group and categories, eligibility for vaccines and stock management. The Vaccination Committee for COVID-19 received the substantive support of the **National Immunisation Technical Advisory Group** also locally referred to as MAUNITAG. MAUNITAG met weekly, documented and analysed scientific evidences to inform the various aspects of the vaccination campaign and created several technical working groups on an ad-hoc basis to research on specific queries. A sub-committee dedicated to COVID-19 vaccines was also created within the existing **Pharmacovigilance Committee** in February 2021 to address the gaps in the cold chain. With the support of WCO Mauritius, an action plan for cold chain was prepared April 2021 and several key equipment such as data logger thermometers were ordered to strengthen cold chain management. Subsequently, the sub-committee met daily regularly to investigate on the side effects of the vaccines. A **causality committee** was also established in May 2021 to investigate whether the reported cases of severe side effects due to COVID-19 vaccines were linked to the vaccines itself or to other conditions and risk factors. However, there needs to be an increasing awareness on pharmacovigilance among medical staff to encourage reporting and ensure that reporting tools are readily available.

5.11 Research, innovation and evidence

Innovative measures were taken across several pillars of the national response in the second wave. The creation of Red Zones and the quarantining of all contacts were effective novel measures in breaking the chains of transmission of COVID-19 during the second wave. Developed during the first wave, the WAP took another level during the second wave with its full digitalisation. The LESPWAR application has also been internationally recognised as an innovative measure to report domestic violence, especially during the sanitary curfew. The creation of a dedicated hotline 141, online registration for vaccination on the Economic Development Board's website and the online calendar for the second doses on the beSafeMoris website were creative measures which facilitated the implementation of the COVID-19 vaccination programme.

6 Conclusion

Mauritius largely capitalised on its lessons learnt from the first wave to address the second wave of COVID-19. Key strategies which proved to be effective during the first wave such as the sanitary curfew, WAP, the shopping in alphabetical order, phase deconfinement, isolation of all people with COVID-19 in treatment centres and rigorous contact tracing exercise were maintained. Aiming to strike a better balance between sanitary measures and the continuity of economic and educational activities, an earlier phased reopening of activities was implemented for second wave. The laboratory testing capacities which exponentially expanded since the first wave, allowed for a more proactive search of positive cases via contact tracing and targeted testing. The authorities strategically capitalised on the increased quarantine capacities acquired during the partial opening of borders for incoming passengers and used these facilities for the isolation of all identified contacts of people who were tested positive. This strategy together with the delineation of Red Zones were key novel measures adopted to limit local transmissions during the second wave. Compared to the first wave, case management of COVID-19 patients improved as it adapted to the evolving therapeutic guidelines at the international level and increased its preparedness to manage COVID-19 patients with underlying medical conditions. As a result, Mauritius had a lower number of deaths due to COVID-19 in the second wave. Despite a relative low prevalence of COVID-19 compared to the rest of the world, Mauritius made its COVID-19 vaccination programme one of its key strategy to control the pandemic. The programme was not only maintained but expand amid the second outbreak. High rate of COVID-19 infections within the healthcare settings, however, remained a key challenge for this second wave too. Several remedial actions were taken to strengthen IPC in healthcare setting following the first wave and during the second wave but sustaining these efforts is crucial for impactful improvement.

¹⁰¹ <https://besafemoris.mu/communiqu/covid-19-consignment-of-24-000-doses-of-astrazeneca-reach-mauritius-through-gavi/>

¹⁰² https://besafemoris.mu/general_news/covid-19-mauritius-receives-100-000-doses-of-sinopharm-vaccine/

¹⁰³ https://besafemoris.mu/general_news/mauritius-has-received-38-doses-of-astrazeneca-vaccine-through-covax-facility/

¹⁰⁴ https://besafemoris.mu/general_news/le-premier-ministre-m-pravind-kumar-jugnauth-exhorte-la-population-a-se-faire-vacciner-apres-que-maurice-ait-recu-500-000-doses-de-vaccins-sinopharm-qui-sont-arrives-hier-soir-sur-un-vol-dair/

¹⁰⁵ <https://publicnotice.govmu.org/publicnotice/?p=3783>

¹⁰⁶ https://besafemoris.mu/general_news/covid-19-40-of-the-population-to-be-vaccinated-by-end-of-july-2021/

7 Annex: List of key informants

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Dr Fazil Mahmad Khodabocus	Regional Public Health Superintendent, Communicable Diseases Control Unit, MoHW
Dr Dhun Kumari Rambhujun	Regional Public Health Superintendent, Communicable Diseases Control Unit, MoHW
Dr Shyam Shunker Manraj	Director Health Laboratory Services, MoHW
Dr Soobaraj Nayroo Sok Appadu	Medical Superintendent, New ENT Hospital
Dr Dooshanveer Chowbay Nuckchady	Specialist/Senior Specialist in General Medicine and Infectious Diseases
Dr Lovena Preeyadarshini Veerapa-Mangroo	Community physician and Field Epidemiologist, MoHW