

ACKNOWLEDGEMENT

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The resurgence plan has been developed with participation of the different pillar heads through a consultative process building on lessons learnt and has also been informed by the Intra Action Review Report (2021). The plan provides a basis of COVID-19 response in the context of the

current health system. It has also incorporated the current epidemiological dynamics and the emerging different variants of the virus.

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ABBREVIATIONS

A-CDC	African Center for Disease Control
CMS	Central Medical Stores
ENHLS	Eswatini National Health Laboratory Services
EDCU	Epidemiology and Disease Control Unit
HCW	Healthcare worker
HIV	Human immunodeficiency virus
IHR	International Health Regulations
IMT	Incident Management Team
МОН	Ministry of Health
NDMA	National Disaster Management Agency
NICD	National Institute for Communicable Disease
NPHEMC	National Epidemic Task Force
NPS	Nasopharyngeal Swab
РНЕМС	Regional Public Health Emergency Management Committee
PHEOC	Public Health Emergency Operating Centre
OPS	Oropharyngeal Swab
RRT	Rapid Response Team
SARI	Severe Acute Respiratory Infection
SMT	Senior Management Team
US-CDC	United States Centers for Disease Prevention and Control
UTM	Universal Transport Medium
WHO	World Health Organization

1.0 INTRODUCTION

Towards the end of 2019 a novel coronavirus (2019-2019-2019-2019-nCoV) outbreak, also known as the 'Wuhan coronavirus', the 'Chinese pneumonia outbreak' or the 'Wuhan pneumonia' there was a viral outbreak that was initially identified during mid-December 2019 in the city of Wuhan in central China. There was an emerging cluster of people with pneumonia with no clear cause, which was linked primarily to people who worked at the Huanan Seafood Market which also sold live animals. The common observed symptoms at presentation include fever, cough, shortness of breath and breathing difficulties. On 30 January 2020, the Director-General of WHO declared the coronavirus disease 2019 (COVID-19) outbreak a public health emergency of international concern (PHEIC) under the International Health Regulations (IHR 2005), following advice from the IHR Emergency Committee.

The first corona virus was identified on the 14 of March 2020 and His Majesty King Mswati III and Ingwenyama invoked section 29 of the Disaster Management Act 2006 and declared the COVID-19 pandemic a National Emergency in the Kingdom of Eswatini from 17 March 2020. Since the first imported case was reported in the country, the country has developed operational response plan, conducted risk assessments and different strategies addressing all the pillars have been put in place to combat the spread of pandemic. The pandemic has affected and has been reported in all the regions and from all constituencies with hot spots identified in different areas. Due to the rise in cases, the country introduced strict prevention measures like restriction of movements, curfews, travel bans, closure of schools, workplaces, sporting activities, churches, and other recreational activities. Measures were implemented to mitigate the impact and prevent health problems while ensuring that everyone has access to essential health care.

1.1 EPIDEMIOLOGICAL SITUATION

The first case of COVID-19 seen in Eswatini was reported on the 14^{th of} March 2020 and after that, the partial lockdown was implemented. Since then, the ministry has been closely monitoring the COVID-19 pandemic. Daily situation reports are produced, and 496 reports have been produced and published. These reports encompass the epidemiological patterns of the pandemic. A total of 25 979 confirmed cases, 20 918 recoveries, translating to 80.5% recovery rate and 787 deaths and a case fatality of 3.0% reported from the 14^{th of} March 2020 up to the 31^{st of} July 2021. The country has experienced three waves from the first reported case. The first wave which was between March 2020 and December 2020 the country recorded a total of 6633 confirmed cases and 126 deaths.

Second wave was declared by the Honorable Minister of Health on the 11^{th of} December 2020, cumulative cases recorded were 10 313 (in January we recorded the highest daily confirmed cases of 361) and during this period the country reported the highest number of deaths which were 524 cases, and most of the deaths were reported in January (360 deaths with a cases fatality of 5.7%). The minister has declared a third wave on the 7th of July 2021. A majority (60%) of these cases reported from the beginning of the pandemic had mild disease at diagnosis, with only 2% with severe disease. Preliminary analysis of the deaths indicates that a majority of the deaths are amongst the elderly population (60+), with males mostly dying compared to their female counterparts. A consistent trend has been noted is that those who are more likely to die from COVID-19 are those with comorbidities compared to those without. The leading comorbidity among the deaths were hypertension, diabetes, and HIV especially those with a high viral load. The trend of this cases is displayed in the figure below.



Figure 1 Epidemiological trend for COVID-19 in Eswatini (March 2020 – July 2021)

A majority (52%) of the confirmed cases reported are females with 48% being males since the start of the epidemic. The drivers of the pandemic are those aged between 30-39 years old contributing 27% of all the reported cases. The mean age for the confirmed cases is at 39 years old (SD 16.6). Infections among the school going children has been steady at 9% for the cumulative cases but in the past two weeks, the infections have not been stable ranging from 8- 20%. Children below the age of five years are accounting for 1% of all reported cases of COVID-19.

Of the three waves, the highest peak of cases was reported in January with a total of 7014 cases, and on the same period, the country reported the highest number of COVID-19 related deaths of 360, translating to a case fatality of 5.1%. Figure 2 shows the total number of cases by month, total number of deaths by months and the case fatality rate by month.



Figure 2 Analysis of COVID-19 Cases, Deaths and Case Fatalities Over Time (March 2020 – July 2021)

A further analysis was conducted using the moving averages to further analyze the cases by time so that we can be able to understand the average cases over time as it smoothens the daily epidemic curve. From the two diagrams below, it is indicative that cases are increasing nationally and all the regions are experiencing an increase in the number of cases. The increase was first noticed in mid-June 2021. The daily average cases recorded is 124 which is higher than the highest average cases reported during the first wave.





Figure 3 National Seven day Moving average



Figure 4 Regional Seven day Moving average

There two regions driving the pandemic that is Manzini and Hhohho regions. First wave it was Manzini with the highest number of cases and during the second wave Hhohho was taking the lead. Currently what has been noticed the Manzini region is driving the pandemic. Manzini have a cumulative of 10 222 confirmed cases and 324 deaths with a case fatality of 3.2%. The region with the least cumulative cases is Shiselweni region with a cumulative of 2698, 124 deaths and a the highest (4.6%) cases fatality when you compare with the other regions.



Figure 5 Cases by Regions for the period of March-July 2021

The country has seen an increase in the number of cases in mid-June 2021 and on the 7th July 2021 the third wave was declared by the Minister. Looking at the analysis it shows that this wave is already bigger than the first wave the question remains if it is going to be bigger than the second wave. The slope of the graph currently observed is similar to that that was observed during the early staged of the second wave. So many lives were lost due to COVID-19 related deaths, it is our responsibility to prevent the deaths during this wave. With the cases on the rise there is an obligation of following the objectives of the Strategic Preparedness and response plan for 2021 and suppress the transmission, reduce the exposure, counter misinformation, and disinformation, protect the vulnerable, reduce deaths and illness and the roll out of COVID-19 vaccines. All pillars of the COVID-19 response need to be vigilant and respond to the pandemic as quickly as possible.

1.2 KEY LESSONS AND CHALLENGES IDENTIFIED BY IAR

The country conducted an intra action review in October 2020. This is a comprehensive multisectoral qualitative review of actions in response to the CoVID-19 emergency. It is a useful tool that assists in identifying gaps and opportunities for improving the response and make adjustments to maintain optimal functional capacity at all levels of care. The summary of the findings by each pillar are presented below.

1.2.1 Country level-coordination, planning, and monitoring

The country's response to COVID-19 is undertaken by the Incident Management Team (IMT) at national level whilst at regional level by the Regional Health Management Teams (RHMTs). After the declaration of COVID-19 as an emergency the overall decision is done by the National Disaster Management Teams (NDMA) under the Deputy Prime Minister's Office and nine different clusters have been established. The table below provides achievements, challenges and recommendations that have been identified by the intra action review for the COVID-19 by different pillars.

Table 1	Key	Achievements,	Gaps and	Recommendations
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Key achievements	Challenges			
 ✓ Activated a coordination and collaboration for the response as part of PHEMC ✓ Later initiated the Incident Management System in line with global recommendations ✓ Mobilized resources from government, collaborating and implementing partners followed by accelerated procurement of required services and supplies 	 A new disease and inadequate information affected response capacity Centralized coordination system resulted inadequate collaboration with regional level with lack of regional response plans affected preplanning Some of the pillars were not actively engaged as the epidemic appeared to ease Disruption of services due to breakdown of vehicles as well as non- availability fuel for critical services (e.g., RRT, Evacuations, Sample Collection) 			
Recommendations				
\checkmark Identify the key partners and strengthen	coordination between MOH and Partners			
✓ Sensitize key stakeholders on the In coordination of emergencies involving a state of the	✓ Sensitize key stakeholders on the Incident Management System and disseminate guidelines on coordination of emergencies involving all sectors			
\checkmark Develop response plans at all levels alig	✓ Develop response plans at all levels aligned to the priorities and monitor implementation			
✓ Mobilize resources to address the priori	✓ Mobilize resources to address the priority needs at implementation level			
 ✓ Activate continued engagement in regul 	lar meetings, updates, and Incidence Action Plans.			
✓ Provide supportive supervision at all lead and efficiently	vels to ensure preparedness and capacity to respond effectively			

1.2.2 Surveillance, case investigation and contact tracing

COVID-19 surveillance is organized into case investigation, contact tracing and is supported by different pillars. Data is collected from various pillars and analyzed on daily basis and situation reports are produced daily. The situational reports are then shared to support decision making. Data collection has been made possible by the deployment of trained Rapid Response Teams with clearly defined Standard Operating Procedures (SOPs). The pillar reports to IMT on daily basis.

Table 2: Surveillance, case investigation and contact tracing Achievements, Challenges andRecommendations

Kev achievements	Challenges
 Key achievements ✓ Deployment of Rapid Response Tracross all regions to enhance finding. ✓ Establishment of the EFTTIT campaenhance case finding in hot spots ✓ Establishment of a treatment facil Malagwane ✓ Screening was intensified at facilities, roadblocks, schools, PoE, ✓ Weekly supervisory visits and mentoby the national RRT ✓ Regular and consistent data surveillance technical working group meets regularly to inform the response 	 Challenges ✓ Surveillance data not integrated and remains pillar specific and not real-time resulting in loss / delayed evidence generation. ✓ Data completeness though improved is challenged with care variables and outcomes being incomplete ✓ Contact tracing was affected by manpower and transport issues leading to backlog in case investigation and contact tracing. ✓ Turnaround time for PCR results was long with some cases accessing results after 2 weeks.
 Provision of consistent and ti surveillance updates at national regional level on a regular basis 	 Some RHMTs were not fully engaged with COVID-19 surveillance and response leading to weak supervision Facility screening tools not standardized
 ✓ Logistics to enable timely deliver services (airtime, transport) 	y of with surveillance tools.
Recommendations	

✓ Updating of SOPs and guiding documents to ensure improved data quality and completeness for clarity during implementation

- ✓ Address data management challenges to allow real time data access, integration, and utilization at all levels
- Provision of continuous supportive supervision focusing on effective resource use improved data quality.
- ✓ Training and implementation of IDSR in health facilities should be utilized to ensure holistic and coordinated data management and improved data quality

1.2.3 Points of entry

The country has thirteen points of entry and only eight ground crossing have been opened including out two international airports. In all the eight points of entry the ministry has attached Port Health Officers and following the opening of borders there were some conditions of which one of those was having a COVID-19 certificate not older than 72 hours. The country is ccurrently using three certified testing laboratories in the country (two private and one public). Risk mitigation measures are undertaken at the points of entry including self-monitoring of signs and symptoms and case management of travellers since points of entry are a critical for national health security. The challenge that the country has is that our borders are very porous. All measures that are taken at this level ensures that trade and travelling is not affected as stated in the International Health regulation (2005).

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Key achievements	✓ Challenges
 ✓ Establishment of a quarantine program for arrivals (with transport and accommodation provided at Pigg's Peak Hotel and Emfuleni) for travelers ✓ Procurement and installation of fixed scanners ✓ Harmonized the provision of Port Health activities with other points of entry services. 	 Cross-border movements via unofficial crossings have increase and pose a risk for the introduction of new cases. Inadequate capacity to isolate and evacuate identified COVID-19 suspects. Due to inadequate transport, supportive supervision at ports of entry was inadequate with the possibility of poor-quality service.
 ✓ Provided screening and education of all travelers on arrival ✓ Regular engagement with key stakeholders facilitated collective decision making 	 ✓ Weak data management system ✓ Poor coordination between the ministry of Health and Defense ✓ The rapidly changing travel guidelines across borders (e.g., testing, and quarantine policies)
Recommendations	

Table 3.	Point	of Entry	achievements	challenges	and recon	nmendations
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- ✓ The available SOPs need be updated and align them with the current policies and disseminated to users and stakeholders.
- ✓ Regular supportive supervision is critical to boost staff moral and ensure quality service provision.
- ✓ Cross border collaboration is critical especially with countries with the highest number of travelers to Eswatini to ensure harmonization of policies and practice.
- ✓ Collaboration between POE with RCCE is critical to ensure behavior and adherence specifically during the festive season when high volumes of travelers are expected.

- ✓ Solving informal crossings requires broader sector engagement to include communities in addressing informal border crossing issues
- ✓ Maintenance including regular calibration of thermo-scanners is critical to ensure accuracy in measurement.
- ✓ Establish an electronic data collection and transfer system that links with a central COVID-19 database real-time.
- ✓ Mobilize resources for isolation and triaging at all POE to ensure adequate infection prevention and control and compliance of travelers.

1.2.4 The national laboratory system

The national laboratory and two private laboratories have been upgraded and accredited; currently they have the capacity to test for the SARS-CoV-2 virus. This is one of the measure achievements since testing is critical to detect cases and investigate clusters of cases for isolation and to break the transmission chain.

Key achievements	Challenges
 ✓ Establishment and Accreditation of the Real Time PCR laboratory in the country ✓ Accreditation of private sector laboratories also improve access to testing ✓ Maintenance of an external quality assurance system ensures reliability of results and continuous quality improvement ✓ Expansion of COVID-19 laboratory services to 24 hours per day ✓ Incorporation COVID-19 sample courier into the national sample transportation system 	 Inconsistent laboratory supply chain system meant that services were interrupted leading to backlog Limited transportation for specimen created delay in sample transmission increasing turnaround time Transmission of results requires continues funding with exhaustion of funding delay in transmission of negative results was observed. High rejection rate of samples due to poor sampling and labelling of laboratory forms High turnaround time for results at the peak of the epidemic
Recommendations	
✓ Capacity building for HCW on sample colle	ection
✓ Conduct assessment of gaps for provision resource mobilization and stock piling	n of laboratory services for COVID-19 to ensure

Table 4 Laboratory Testing achievements, challenges, and Recommendations

- ✓ Improve dispatch and transmission of negative results
- ✓ Decentralized laboratory testing to increase access to testing
- ✓ Improve transportation schedules for courier system

1.2.5 Infection prevention and control

The country has implemented activities that were aimed at strengthening infection prevention and control within health care settings and in communities. Health workers were trained and provided with preventive and protective clothing thus protecting health care workers, patients and maintaining safe essential health care services. On the other hand, public health and social measures in communities were strengthened.

Key achievements	Challenges
 Development of COVID-19 IPC Guidelines and SOPs in line with the recommended guidance from the WHO. Facility assessments was conducted to assess compliance and identify gaps in maintain IPC against COVID-19 including other HAI. IPC was integrated with other programs IPC Materials were distributed to all facilities through the push system. Provided with hand washing facilities and triage areas with the aim of reducing transmission. Health Care Workers and Police Officers were trained in IPC on critical practices 	 ✓ Inadequate supply of some PPE items eg Facemasks, ✓ Lack of cross pillar data collaboration ✓ Inadequate dissemination of IPC Guidelines on COVID-19 ✓ Old dilapidated infrastructure that makes adherence to IPC difficult ✓ Pushing of some commodities resulting in overstocking e.g. Face shields ✓ Real-time digital inventory management remains a major challenge, especially at the facility level. ✓ Many healthcare professionals have insufficient knowledge of good IPC practices.
Recommendations	

Table 5 Infection	Prevention and	Control	achievements,	challenges,	and recommendations
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- ✓ Conduct gaps assessment for PPE to inform needs for procurement and implement a real time inventory management system for IPC.
- ✓ Rollout facility assessments to ensure compliance with recommended IPC
- Capacitate regions to conduct own facility assessments and roll out supportive supervision to assess compliance.

1.2.6 Case management and knowledge sharing about innovation and the latest research

The country has developed national clinical practice guidelines and protocol. Treatment centers were established which included both public and private facilities. With the increase in number of confirmed cases, a home-based approach was adopted. To ensure that health care workers provide quality and safe care, they are continuously trained, and the ministry has ensured that the necessary therapies are made available.

Table 6 Case	Management	Achievements,	Challenges	and Recommendation	ons
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\checkmark	Key achievements	Challenges		
√	Setup treatment centres for management of mild to severe cases of COVID-19	 ✓ Inadequate transport leading to delay in effecting referrals. 		
✓	Established the National Home Care service for all cases not requiring hospitalization	 ✓ Inadequate supplies of drugs and commodities for dialysis of clients, ABG machine, 		
✓	Developed and disseminated Case Management Guidelines and SOPs	 ✓ Limited oxygen therapy equipment for high flow. 		
✓	Established an effective Referral System to facilitate movement of patients from home to facilities	 ✓ Inadequate skills for management of multiple organ failure patients. ✓ Inadequate data management and 		
✓	Assessed facilities for capacity to deliver COVID-19 services at regional level	harmonization of inpatients.		
~	Setting up of mortality audit teams to help improve quality of care	coordination.		
Recom	mendations			
~	Constitute clinical sharing platforms to ensu services	are continuous capacity development for COVID-19		
\checkmark	Estimation and consistent supply of resource	es drugs, oxygen, PPE etc.		
✓	✓ Capacity building for all levels (task shifting and sharing of specialist care to doctors) for provision of specialist care to allow provision of critical services.			
~	Improve data quality and harmonization for case management e.g., Completeness and dissemination for suspected and confirmed cases.			
\checkmark	Deployment of regional ambulance system to reduce time in transit to referral facility			
\checkmark	Decentralize home management			
1	Address mental health issues of health care workers within the context of COVID-10			

✓ Plan expansion for critical care services, Manpower, Infrastructure and Equipment

1.2.7 Logistics and supply

Without creating new structures, the country has strengthened the existing logistic and supply chain management. Surge staff were deployed for critical cadres like doctors, nurses, surveillance officers, laboratory technicians and others. Procurement procedures were reviewed whilst forecasting of essential supplies and stock management were strengthened. PPEs and oxygen supplies were prioritized and ensured that they are easily available.

Key achievements	Challenges
 Accelerated procured and distribution of resources and supplies Support from partners in provision of resources (Human, PPE, IT supplies, Lab Supplies, IEC material Vehicles, Fuel, Monetary, Ventilators, O2 Concentrators etc.) Procured and distribution of POE screening equipment, and PPE (**NB POE reported no stock outs of PPE**) Consistent supply of PPE by CMS. Strong coordination between facilities which enabled the movement of needed supplies 	 ✓ Interruption of transport system due to breakdowns, fuel shortage and contract's expiry (Affecting case investigation and contact tracing, patient evacuation and sample courier) ✓ Shortage of drugs and supplies e.g., for NCDs ✓ Limited coordination mechanism for procurement ✓ Lack of prioritization/laxity during the emergency.
Recommendations	
\checkmark Update and disseminate a tool for estimatin	g the resource gaps to inform budget process
✓ Conduct a gaps analysis to inform resource	mobilization

Table 7 Logistics and supply achievements and challenges

- ✓ Update partners on the needs to ensure continuity of supply of key commodities
- ✓ Implement stock piling system for emergency and identify the appropriate department.

1.2.8 Risk communication and community engagement

One of the key intervention in any emergency setting is communication with the public to address misconception and myth related to COVID-19 pandemic. The country has prioritized this pillar as all media houses were used for the dissemination of messages according to the different audiences. Communities were also targeted through their social networks and civil society like Red Cross were in the fore front at disseminating messages at grass root level. Communities will continue to be engaged as vaccines are made available to sustain all the health and social measures.

Key achievements	Challenges
 ✓ Relevant, targeted messaging using different platforms 	✓ Inadequate resources within the health promotion unit (human, equipment and
 ✓ Partner collaboration for effective community engagement 	financial)✓ Slow adaptation of new messages to keep
 ✓ Weekly coordination meetings (RHMT and RRTs) 	up with evolving information and infodemia
✓ Health Education on adherence to essential health services implemented	 ✓ Too much misinformation and competing messages from social media especially Twitter and Eacebook
 ✓ Cooperation of community members during contact tracing. 	 Risk information was poorly coordinated with other sectors leading to conflicting
✓ Provision of training for HCWs, Port Health officers, pastors, traditional	messaging with other sectors
healers, armed forces, teachers, mortuary attendants	 There is an insufficient pool of risk/crisis communication professionals, especially at national and the regional level

Table 8 Risk Communication and Community Engagement Achievements, Challenges andRecommendations

Recommendations

- ✓ Ensure a clear incident command structure of risk communications functions within the Ministry of Health (MOH) at the national level to ensure same messaging.
- ✓ Strengthen risk communication capacity at all levels
- Mobilise Communications experts from international organisations, non-governmental organizations, and the private sector should be mobilized in support of the Government of Eswatini's risk communication needs
- Improve engagement with other sectors with capacity to communicate on social media platforms in preparation of a possible larger second wave.
- Surge capacity should be enhanced, and additional training provided, especially at national as well as the regional level.
- Development of a plan to address the current emerging risks
- Conduct Knowledge Attitude and Practice (KAP) assessment to identify reach and gaps in risk communication and community engagement and develop a standardised communication package
- Provide continuous mentoring and site supervision

1.2.9 Health Workforce for COVID-19 Response

The government has invested in health workforce as surge personal were deployed on time though

the country is faced with economic challenges.

Table 9 Health Workforce Achievements, Challenges, and recommendations

Key achievements		Challenges		
~	Deployed additional multidisciplinary staff for response: RRTs, Surveillance Officers, Port Health Officers, Doctors and Nurses for Case management, laboratory technologists.	 ✓ Inadequate staff specialized in critical care ✓ Disgruntlement of RRTs affected contract tracing ✓ Inadequate supportive supervision. 		
✓	Adapted implementation of guidelines and SOPs for quality service delivery			
~	Conducted standardized training of service providers in key pillar response activities: Case management, POE, Surveillance and IPC, Laboratory and sample collection.			
Recom	nmendations			
✓ ✓	Identify critical HR needs to be prioritised a Continue with the training of HCW on COV	und re organize HR needs according to priority VID-19 updates and plans		

1.2.10 Maintaining essential health services

Services for chronic conditions like hypertension, HIV, diabetes and others were made accessible

to the clients through outreach services with support from government, civil society and other

Development partners.

Table 10 Maintaining essential health services achievements, challenges, and recommendations

Key achievements		Challenges		
✓ ✓	An Assessment of the status of continuity of essential health services was conducted giving insight into the current situation.	 ✓ Reduservi to su healt 	uced coverage of delivery of essential ices delivered at community level due uspension of routine outreach, mental th services etc.)	
· ·	community level and six months' supply was also provided to clients with chronic conditions in all regions.	✓ Inter decre EPI e	ruption of other services leading to ease in health service coverage (ANC, etc)	
~	Evidence based operational guidelines for continuity of services in the context of COVID-19 pandemic were developed.	✓ Somvisit chro	e patients were unable or unwilling to health facilities for routine care for nic medical conditions	
		✓ Incon healt	mplete routine data collection in the facilities and communities	
		✓ Late COV	integration of service delivery with /ID 19	

		 ✓ Re-purposing of facility supervisors to COVID-19 response services 	
Recon	nmendations		
~	Update users on the preparedness plan for a and track continuity of health services	continuity of essential health services and supervise	
✓	✓ Revive outreach services and set up mobile teams for catch up activities (EPI, MNCH services)		
✓	✓ Ensure availability of medication for NCDs		
✓	✓ Closely monitor implementation of activities at all levels through Monthly review meetings		
\checkmark	Conduct Integrated supportive supervision		

1.2.11 Vaccine roll out

The Kingdom of Eswatini has developed and adopted a national Vaccine Deployment Plan and health workers have been trained on the COVID 19 vaccination strategies and practices. Our health care systems have been reviewed with a highly improved data management system to monitor and track implementation. The country is currently using the Oxford AstraZeneca and Johnson & Johnson (J&J) vaccine candidates. The country has so far received a total of 58 000 AZ and 3000400 J&J doses from the COVAX facility and donation from the Government of India and United State of America. The target groups for this consignment are people aged 18 years and above and priority was given to health care workers, elderly aged 60 years and above and those with comorbidities. To date COVID 19 vaccination is now open to all targeted populations. The country has adopted the following vaccine delivery strategies; mass campaign, Mobile/outreach, and fixed vaccination sites through the 59 constituencies (Tinkhundla). As of the 28 August 2021, 154,160 people were fully vaccinated and out of this total, 27,925 are vaccinated with AstraZeneca and 126, 235 with Johnson & Johnson vaccine candidates. 10,537 people are vaccinated with first dose only of AstraZeneca vaccine.

Table 11 Vaccine status as of 28 August 2021

Type of vaccine	Total number of doses administered ¹	Total number of 1st dose only [of the AstraZeneca]	Total number of people fully vaccinated
AstraZeneca	66,387	10,537	27,925
Johnson & Johnson	126,235		126,235
Total	192,622	10,537	154,160

1.2.12 Resurgence

Resurgence is defined as an increase in disease incidence after a period of lower or no transmission for at least a period of two consecutive weeks. Resurgence has been mainly associated with poor adherence to non-pharmaceutical public health measures, opening of economies, schools, travel and emerging of new variants of SARS-COV2. There are three thresholds for early detection of resurgence and are as follows:

TABLE 12 **Resurgence threshold**

Resurgence threshold	Level by proportion	Levels
Under control	<10% increase or decrease in new confirmed cases	
Alert	10% to <20% increase in new confirmed cases	
Resurgence	20% and above increase in new confirmed cases	

There are seven key indicators that should be tracked for early detection of resurgence and for the purpose of verification and for continuous monitoring. The indicators will be used to track COVID-19 trends at all levels to determine resurgence situation and implement appropriate interventions at different phases. The key indicators for tracking resurgence in the country have been agreed as follows:

¹ Total number of doses administered refers to the total for AstraZeneca Dose1 and Dose2 plus Johnson & Johnson Dose1

 Table 13 Key indicators for tracking resurgence

Indicator	Description	Level 1	Level 2	Level 3	Level 4
(use 7-day moving average)					
Percentage of new COVID-19 cases per day	New COVID- 19 cases including reinfections	<5% increase or decrease in cases	5% to 10% increase in cases	10% to <20% increase in cases	>20% increase in cases
Weekly Average COVID-19 Test Positivity Rate	Percentage of positives among all tests done	0 to <2%	2% to <5%	5% to <20%	>20%
Weekly COVID-19 ICU Hospitalizations	% ICU beds occupied by COVID-19 patients	< 3%	3% -10%	10%-15%	>15%
Weekly COVID-19 hospitalizations	% beds occupied by COVID-19 patients	<5%	5% - 10%	10%-<30%	>30%
Weekly COVID-19 Case Fatality Ratio	Number of COVID-19 deaths out of weekly confirmed cases	<1%	1% - <2%	2% - <3%	>3%

1.2.13 Rationale for the resurgence plan

The country has experienced the first and second wave of COVID-19 transmission as shown in the above figure. Cases have been increasing and highest peak was on the second week of January and the high mortality was observed in the second wave. This followed the opening of the economy and opening of the borders and schools thus adopting the new normal way of life thus with no or little compliance on health and social measures. People started attending end of year parties, black Friday sales and resumption of travelling in and out of the country. Following the second wave social distancing was totally ignored which was observed in mass gatherings like

demonstrations and riots which were reported across the country with an observed fatigue of consistently wearing face masks.

On the other hand, the emerging of new variants was an additional risk as it was mainly observed during the second wave. Three of the variants were recorded which was B.1.1.7 identified in the UK in November 2020, B.1.351 seen is South Africa and P.1 that was identified in Brazil. The newly identified variants have facilitated transmission and were also found that they had potentials for immune evasion and also on the vaccine efficacy. A combination of the different variants was found to have resulted in resurgence with severe COVID-19 outbreaks.

The COVAX facility was established with an aim of supporting equitable access to COVID-19 vaccines and was targeting 20% coverage in all countries prioritizing high-risk populations by the end of 2021. This solidarity initiative was unsuccessful as high-income countries had bilateral with manufacturing companies as by the end of February 86% of the supplies were given to them and only 1% were supplied to low-income countries. The Kingdom of Eswatini has so far received 58, 000 since March 2021. As of July 13^{th,} a total of 37,558 have received the first dose and only 13,893 have received the second doses. The low coverage and the delay in receiving the vaccines will negatively impact and the pandemic will continue through many years to come. This therefore calls for the compliance on the health and social measures namely wearing of masks, social distancing, and personal hygiene especially hand washing.

The weak surveillance system and lack of coverage on testing facilities which are key intervention strategies in terms of early outbreak detection and contact tracing. The ministry of health therefore has set up a robust surveillance system in health facilities and at the points of entry. Several health facilities are testing sites and kiosks have been identified in the Manzini-Mbabane corridor and on top of that hotspots have been identified across the four regions. As part of setting up a robust surveillance system, the implementation of COVID-19 has been fully incorporated to the newly adopted third edition of the Integrated Disease Surveillance and Response (IDSR) system.

One of the key strategies is the risk assessments thus ensuring timely detection, investigation, and response to new clusters as it has been observed that some areas and certain schools were identified as clusters. This resurgence plan therefore will be a key framework that will be used to effectively anticipate, effectively detect and implement priority actions and to fully prepare for all future resurgences. The plan has been mainly informed by gaps identified by the Intra-Action Review (IAR), submission by pillar heads and the generic resurgence plan developed by the World Health Organization's April 2020 COVID-19 Strategy.

1.3 THE RESPONSE STRATEGY

1.3.1 The goal

This plan aims at providing guidance on early detection and response measures for COVID-19 resurgence with focus mainly at regional level to mitigate transmission thus minimizing the impact of public health threats and socio-economic status.

1.3.2 Strategic objectives

- 1. To suppress COVID-19 transmission
- 2. To reduce exposure to COVID-19
- 3. To counter misinformation related to COVID-19
- 4. To protect all vulnerable groups through vaccination
- 5. To reduce mortality and morbidity from all causes related to COVID-19
- 6. To accelerate equitable access to new COVID-19 tools

1.3.3 Interventions and key activities

Although there are six strategic objectives, two of them (to counter misinformation related to covid-19 and to accelerate equitable access to new covid-19 tools), are cross cutting for the other four and have therefore been incorporated in them, which resulted to four key strategic objectives which will be supported and enabled by multiple pillars of response.

1.4 COORDINATION, PLANNING, FINANCING, AND MONITORING

The Incident Management System (IMS) with all its components of watch staff, communication, physical resources and Incident Management Team is the coordination mechanism that will continue to respond to any possible resurgence of COVID-19 in the country. The Public Health Emergency Operation Centre (PHEOC), which is a physical site that facilitates coordination of the COVID-19 response, will ensure that information is shared from national, regional to communities for strategic decisions on the response. The Incident Management Team (IMT) will continue to drive the COVID-19 response during a resurgence until it is disbanded by the Honorable Minister of Health, following which the Public Health Emergency Management Committee will take over as the entity that normally oversees disease surveillance in the watch mode (before an epidemic is declared). The IMT is a technical forum that provides technical expertise to Government to monitor and review national response based on evidence.

The IMT reports on the COVID-19 situation on a weekly basis to Senior Management Team of the Ministry of Health, which is led by the Honorable Minister of Health. The weekly situation reports are critical in informing and facilitating the implementation of all recommendations made including setting up of levels of alert based on early warning indicators. The whole Government system is fully involved as the IMT reports on weekly basis to the Cabinet Ministers whilst other stakeholders are also informed on weekly basis through the inter-cluster meetings that are chaired by the Honorable Deputy Prime Minister. The stakeholders include Development Partners,



Figure 6 Incidence management leadership



Figure 7 Hierarch incidence management Team

eligious leaders, civil society organizations, private sector, cultural groups, security forces, media, communities, and individuals.

The national level therefore provides strategic direction to all stakeholders including the regional approach and resource mobilization. They also support coordination and leadership for COVID-19 response through operational support, regular supervision and onsite mentorship and deployment of human resource to high burden areas. The national level also has a role of ensuring that mental health and psychosocial support forms an integral part in COVID-19 response across all pillars. The regional level therefore becomes implementers of the strategic direction provided by the national level, therefore coordination at regional level ensures that there are resources for implementation of all activities.

Based on lessons learnt from COVID-19 response, the planning unit is in the process to re-orient budget arrangements in the context of IMT with focus on sustaining capacity to prevent, and

respond to health threats in the short, medium and long-term basis whilst on the other hand maintaining essential health services.

The country has adopted and is fully implementing the third edition, IDSR. In line with IDSR, the human resource supported by partners should focus on all outbreaks and continuously conduct risk assessments. The coordination pillar should ensure that the response activities are continuous throughout and in between waves by consistent monitoring.

1.4.1 Suppress transmission

One of the main objectives of the pandemic response is suppression of transmission. This can be done through the implementation of effective and evidence-based public health and social measures, and infection prevention and control measures, including detecting and testing suspected cases; investigating clusters of cases; tracing contacts; supported quarantine of contacts; isolating probable and confirmed cases; measures to protect high-risk groups; and vaccination.

Intervention	Activities	Response pillars
Prevent virus in high-risk settings	virus in high-risk Print and distribute Information Education and Communication materials.	
	Conduct timely interpersonal communication in high-risk settings	RCCE
	Continuous engagement with partners to assist in risk communication activities and community engagement	RCCE, IMT
	Monitor compliance for screening and testing services in high- risk settings i.e prison, school, church, workplace, public transport	Surv, IPC
Detect and test suspected cases	spected Provide supportive supervision and mentoring at all testing sites and health facilities	
	Establish more testing sites	Lab
	Stock all testing sites with supplies and testing kits	
	Revise COVID-19 testing SOPs	Lab
	Conduct refresher training on COVID-19 Testing	
	Revise case definitions to be used for case detection.	
	Assign vehicles that will allow for frequent/timely transportation of PCR samples and results from the health facilities including clinics to testing laboratories.	
	Conduct periodic accreditation of testing laboratories	Lab

Table 14 National level interventions : Suppress transmission

Investigate clusters, including through use of	Revise standardized surveillance tools including case investigation forms	Surv
genomic tools	Build national capacity for COVID-19 geno-sequencing. (Procure reagents & train lab technicians)	Lab
	Review/develop SOPs and guiding documents to outline data collection, management, and dissemination.	Surv
Trace contacts	Revise and update contact tracing SOPs and guidelines	Surv, lab
Quarantine and support contacts	Revise and update guidelines for quarantine of suspected cases	Surv
Communicate and implement time-limited measures to reduce	Conduct tests and refer to cases management at PoE to ensure detection and communication of COVID-19 positive results at the point of entry.	Surv, Port, Case M
potentially infectious contacts	Conduct mass testing at special settings	Surv, PoE, Lab
	Environmental controls and public health and social measures at points of entry and onboard conveyances.	Port
	Develop IEC material including self-monitoring of signs, importance of quarantine and symptoms for travelers	Port
Prevent amplification events	Distribute Information and Education materials during national events	RCCE
	Dissemination of COVID 19 burial regulations related messages.	RCCE
	Supervise all COVID 19 related funerals	IPC, EHD
	Engage compliance teams to monitor adherence to public health measures during community events	IPC, Surv
Manage points of entry	Print and distribute revised PoE SOPs	PoE
	Advocate for resources for the PoEs including port health officers	PoE
	Revise travelling regulations and guidelines as per new development	РоЕ
	Mobilize resources for park homes (connection to water, electricity, and drainage system)	PoE
	Mobilize resources for maintenance of thermos scanners and installation of automated hand sanitizers at strategic areas (arrival and departure)	PoE
	Mobilize transport for evacuation of suspected and confirmed cases to isolation/quarantine sites	РоЕ
	Provision of communication means for result verification(authenticity)	РоЕ
	Create a platform for harmonization of COVID 19 test certificates with neighboring countries	РоЕ
	Empower armed forces at the informal crossings on COVID 19 issues.	РоЕ

	Conduct supervision and mentoring of Port health officers by REHO, PHA, RSO	PoE
Vaccinate priority groups	Deploy vaccine to priority groups in phases.	EPI
	Create means for vaccine data access for policy direction and programming	Surv
	Conduct vaccine acceptability surveys	Surv

Table 15 Regional level interventions: Suppress transmission

Intervention	Activities	Response pillars
Prevent virus in high-risk	Distribute IEC material for public transport sector	RCCE
settings	Disseminate and distribute IEC material on COVID 19 in high risk settings	RCCE
	Refresh teachers and educate schools on COVID19	RCCE
	Supply testing kits to congregate settings	Lab
Detect and test suspected cases	Provision of screening and testing services to eligible individuals during community events	Surv, Lab
	Roll out COVID 19 services to more facilities in the regions	Surv, lab
	Train RRTs COVID 19 testing	Surv, lab
	Respond to alerts on travelers that came into the country from high-risk countries	PoE, Surv
	Disseminate COVID-19 new case definition to facilities.	Surv
	Conduct case investigation and isolation of COVID-19 confirmed cases, contact tracing within 24hrs.	Surv, Lab
	Deploy mobile kiosks	Surv
	Deploy active case finders/door to door officer to do screening in the community	Surv
	Provide transportation of RDT for positive cases from facilities and testing sites to NRL	Coord
	Conduct refresher training on laboratory diagnosis for laboratory staff at Hospitals and Health centers	Lab
Investigate clusters,	Validate all line listing information from all service points	Surv
including through use of genomic tools	Identify clusters and investigate within 24hrs	Surv, lab
	Mentor and supervise all service points on correct capturing and reporting of all line listing information	Surv,
	Conduct IDSR trainings at all health facilities	Surv
	Conduct training for RRT composed of clinical management, public health, animal health and laboratory expert	Surv, Lab

	Submission of outbreak investigation reports for all clustered cases to the EDCU	Surv
Trace contacts	Involve community health workers in the response at community level to enhance case investigation, contact tracing and follow up	Surv
	Sensitizing health facilities on case investigation and eliciting of contacts	RCCE, Surv
	Expand contact tracing teams	Surv
	Private sector engagement regarding lost to follow up	Surv, lab
	Conduct follow ups (physically and/or telephonically) for all contacts/suspected cases for the duration of the specified period	Surv, Lab
	Conduct monitoring and supervision visits to facilities and testing sites for ensuring valid data collection especially demographics and contact numbers that are critical for follow up should the client test positive.	Surv
	Distribute symptoms diary during contact tracing and follow-up of identified contacts for 10 days.	Surv, lab
Quarantine and support contacts	Emphasize home quarantine for all contacts of confirmed cases with emphasis on self-monitoring of development of symptoms	Surv,
	Engage community volunteers to encourage compliance to IPC measures for all contacts	RCCE
	Conduct follow-up visits and testing of all contacts who are not able to quarantine due to their nature of work	Surv, lab
Communicate and implement time-limited	Conduct RCCE in collaboration with RRT as they respond in communities	RCCE
measures to reduce potentially infectious contacts	Sensitization of families with a COVID-19 confirmed case and deceased's family members on compliance.	IPC,RCCE
	Disinfection of containers and vessels in the points of entries per rising need.	IPC
Prevent amplification events	Coordinate with other community stakeholders such as NDMA, Red Cross to offer consolidated effort to communities to improve safety during community events	coord
	Provide COVID 19 screening and testing during mass gatherings	Surv, lab
Manage points of entry	Screen all incoming travelers from all points of entry	PoE
	Conduct health education sessions for all staff at Points of entries.	РоЕ
	Advocate for setting up of testing site at some points of entry.	PoE
	Set up isolation facilities for suspected cases at the point of entry (isolation room)	РоЕ
	Distribute IEC material at points of entry	RCCE, PoE
Vaccinate priority groups	Involve the regional surveillance office in the collection and capturing of vaccination data	Surv, EPI
	Carry out analysis focusing on identification of high-risk groups and follow-up on number vaccinated.	Surv

1.4.2 Reduce exposure

Communities should be enabled to adopt risk-reducing behaviors and practice infection prevention and control, including avoiding crowds and maintaining physical distance from others; practicing proper hand hygiene; using masks; and improving indoor ventilation. Misinformation and infodemic has been identified as a barrier to risk reduction. Countering misinformation and disinformation by building resilience through managing the info-demic, communicating with, engaging, and empowering communities, enriching the information eco-system online and offline through high-quality health guidance, and by communicate risk and distilling science in a way that is accessible and appropriate to every community is key.

Intervention	Activities	Response pillars
Counter misinformation and disinformation	Use bulk SMS system to disseminate information to counter misinformation and disinformation	RCCE
	Use of social media platforms to address myths and misconceptions and manage info-demics	RCCE
	Sensitize and monitor public usage of health social media platforms	RCCE
	Engage with the public through call in radio and TV sessions	RCCE
	Monitor COVID 19 related events and rumors through using a rumor logbook	RCCE, Surveillance
Communicate, engage with, enable and educate communities about risk reduction	Review risk communication and community engagement strategy.	RCCE
	Appoint additional RCCE officers (2 national RCCE officers and 8 for the regions)	Coordination
	Timely disseminate new development on COVID-19 with RHMTs and relevant stakeholders.	Surveillance, RCCE
	Intensify local level risk communication through local leadership and volunteers	RCCE, Research
	Identification and designation of COVID-19 regional champions in all sectors	RCCE
	Allocate vehicles for RCCE (1 national and 4 for the regions)	RCCE
	Identify and train community-based volunteers to support COVID 19 prevention initiatives	RCCE
	Conduct survey using the u-report platform to get community feedback on Covid-19 national response	RCCE
	Mobilization of resources for conducting road shows	RCCE

Table 16 National level intervention: Reduce exposure

	Use community feedback mechanism to design solution to behavioral change challenges	RCCE, Research
Enhance IPC measures in health facilities	Lobby for PPE funding from the government supporting partners.	Logistics, IPC
	Distribution of PPE to all strategic areas	Logistics, RCCE
	Print and distribute of the revised IPC guidelines	Infection Prevention and Control
	Review health worker infection risk assessment tool and orient IPC focal points on the tool	Infection Prevention and Control
	Zone COVID-19 isolation areas in health facilities	Infection Prevention and Control
	Conduct IPC readiness and preparedness assessment for health facilities	Infection Prevention and Control
	Conduct supportive supervision at all health facilities	Infection Prevention and Control
	Advocate for isolation units in all health facilities,	Infection Prevention and Control
	Review and print IPC IEC for health facilities and public areas	Infection Prevention and Control
	Conduct IPC refresher trainings at all levels	Infection Prevention and Control
	Develop PPE tracer tool for health facilities	Infection Prevention and Control
	Conduct resource mobilization for procurement of PPE and IPC commodities	Infection Prevention and Control
Enhance IPC measures in communities	Development of maintenance and replacement plan for hand hygiene facilities	Infection Prevention and Control
	Review, print and distribute guidelines for handling COVID 19 bodies	Infection Prevention and Control
	Mobilize resources for Maintenance and operation of thermo scanners, automated hand sanitizers positioned in strategic areas (arrival and departure)	Infection Prevention and Control

Mobilize transport for evacuation of suspect and confirmed cases to isolation/quarantine sites	Infection Prevention and Control
Train the public through IPC Materials on vaccines and benefits.	Infection Prevention and Control
Monitor and share findings of compliance on IPC activities	Infection Prevention and Control
Document good practices on IPC compliance	Infection Prevention and Control

Table 17 Regional level interventions: reduce exposure

Intervention	Activities	Response pillars
Communicate,	Conduct weekly meetings to coordinate response amongst all RCCE stakeholders in the region	RCCE
educate communities about risk	Conduct door to door visits by community volunteers with focus on COVID 19 vaccine hesitance and adoption of public and social measures	RCCE
	Conduct road shows in busy areas which are hot spots for COVID19 information dissemination	RCCE
	Conduct refresher trainings for all RCCE stakeholders	RCCE
	Conduct community dialogues in communities that are hotspots	RCCE, Surveillance
	Mobilize community organizations to spearhead COVID19 at community level	RCCE, Surveillance
	Share timely regional situational report to all relevant stakeholder for planning and implementation.	Surveillance
Enhance IPC measures in	Provide health talks in facilities	RCCE
health facilities	Sensitize facilities on importance of data to inform quantities of PPE and other hygiene commodities needed	Surveillance
	Allocate vehicles for waste transportation	Infection Prevention and Control
	Conduct IPC trainings in facilities in the region	Infection Prevention and Control
	Train healthcare workers on donning and doffing	Infection Prevention and Control

	Engagement of store men (who supply detergents to facilities) to procure detergents with Material Safety Data Sheets (MSDS) and avoid dilution before provision to facilities.	Infection Prevention and Control, CMS
	Strengthen triaging and patient flow at testing facilities	Laboratory, Infection Prevention and Control
	Screening of all HCW and clients on the entrance to facilities.	Infection Prevention and Control
Enhance IPC measures in communities	Capacitate communities with safety precautions on COVID 19 transmission.	Infection Prevention and Control
	Provide storage tanks and timely water supply to facilities and communities with inaccessible water	Infection Prevention and Control
	Promote hand washing, wearing of masks and social distance at community level	Infection Prevention and Control

1.4.3 Protect the vulnerable

This objective aims to ensure that systems are put in place to identify and protect the vulnerable groups to COVID-19 infection, ultimately reducing morbidity and mortality. The attainment of protection of these groups can be through the roll-out of several activities at national, regional and community level. This may be achieved through vaccination, ensuring vaccine deployment readiness in the country, communicating, implementing, and monitoring COVID-19 vaccination campaigns, engaging health workers, and building vaccine acceptance and demand based on priority groups, considering gender and equity.

 Table 18 National level interventions: Protect the vulnerable

Intervention	Activities	Response pillars
Build vaccine acceptance	Sensitization of healthcare workers on IPC guideline compliance	IPC
	Mobilization of funds to meet the quantification demands for PPE	IPC
	Develop training plan for health care workers on IPC	IPC
	Monthly review of IPC compliance reports by regions and develop improvement plan	IPC
	Develop IPC job aids	IPC

	Quantify and procure of waste disposal equipment (medical and non-medical)	IPC
	Develop and roll out a Vaccination acceptance campaign for the public	RCCE
	Stakeholder sensitization on raising heightened awareness on vaccination	RCCE
	Educate the public on emerging information on vaccines and benefits	RCCE
	Bring together all communication stakeholders to be part of the national risk communication team to avoid duplication of messages	RCCE
	Develop and share communication plan to harmonize stakeholder communication	RCCE
	Sensitize community leadership structures on communication plan	RCCE
	Resource mobilization for procurement of vaccines	VACCINATION
	Communicate delays in supply to the public to ensure transparency	VACCINATION
	Develop and disseminate testimonials from those vaccinated to encourage public to vaccinate	VACCINATION
	Regular communication of vaccination data to public to help improve uptake	VACCINATION
Ensure vaccine deployment readiness	Quantification exercise to determine quantity of needed vaccine per age cohort prioritized	Operational support and logistics
	Procurement of adequate quantities of vaccines for each prioritized age cohort	Operational support and logistics
	Procurement of injection equipment and supplies for vaccination sites	Operational support and logistics, and supply chains
	Revise and cost Operational plan for vaccine roll-out	Operational support and logistics, and supply chains
	Advocate for additional vehicles and human resource for vaccine roll out	Operational support and logistics, and supply chains
	Establish a fueling system (bowser) at CMS to ensure uninterrupted supply for delivery vehicles	Operational support and logistics, and supply chains
	Harmonization of vaccine roll out plans between government departments and partners	Operational support and

		logistics, and supply chains
	Quantification exercise to determine quantity of needed vaccine per age cohort prioritized	Operational support and logistics, and supply chains
	Procurement of adequate quantities of vaccines for each prioritized age cohort	Operational support and logistics, and supply chains
	Provide adequate human resource and plan strategies for crowd control at vaccination sites	IPC
	Develop and roll-out a communication campaign to sensitize the public on side effects of vaccination and AEFI	RCCE
	Establish a COVID-19 help desk at 977 for public to report AEFI	RCCE
	Develop and roll-out a communication campaign to sensitize the public on side effects of vaccination and AEFI	RCCE
	Plan vaccine specific trainings for HCWs performing vaccination exercise	VACCINATION
Communicate, Implement, and monitor	Provide buffer vehicles for logistical support for vaccination campaign and supportive supervision	Operations and supply chain
vaccination campaign	Waste management plan for Vaccination campaign	IPC
	Develop monitoring and evaluation framework for IPC implementation	IPC
	Use of vaccine data to communicate vaccine uptake to encourage others to enroll	RCCE
	Manage and monitor vaccination campaign schedule	VACCINATION
	Stock management of vaccines at national level	VACCINATION
	Advocate for accessibility to vaccination database for regional officers	SURVEILLANCE
	Compilation and monitoring of data on AEFI	SURVEILLANCE
	Identify and secure channels of data sharing mechanisms to share COVID-19 vaccine safety data and findings with relevant regional and international partners.	SURVEILLANCE
	Reporting of vaccine coverage to IMT	SURVEILLANCE
	Quantification and Procurement of essential laboratory commodities needed during vaccination	LABORATORY AND DIAGNOSTICS

Intervention	Activities	Response pillars
Build vaccine acceptance	Distribution of PPE to health facilities	IPC
	Conduct IPC trainings of Health care workers	IPC
	Monitor and share findings on health facility IPC compliance	IPC
	Dissemination of IPC guidelines to health facilities	IPC
	Conduct health education on vaccine to the public	RCCE
	Conduct risk communication refresher trainings for health care workers	RCCE
	Conduct community dialogue on vaccinations	RCCE
	Use vaccination champions or influencers to encourage community members to vaccinate	RCCE
	Conduct health education on vaccine to the public	RCCE
	Conduct risk communication refresher trainings for health care workers	RCCE
	Monitor severity of disease among those vaccinated	VACCINATION
	Decentralize vaccination operations to take the form of community outreach events	VACCINATION
	Scale up number of vaccination sites to improve coverage (mobile and accessible locations)	VACCINATION
	Monitor of AEFI and reporting incidents	VACCINATION
	Capacitation of regional staff on vaccine monitoring and reporting	VACCINATION
	Monitor severity of disease among those vaccinated	VACCINATION
Ensure vaccine deployment readiness	Timely ordering of vaccines for regional sites	Operational support and logistics
	Develop vaccine roll out schedule for the region's sites	Operational support and logistics
	Communication of vaccine roll-out schedule to respective tinkhundla	Operational support and logistics
	Ordering of commodities for proper waste management	IPC
	Ensure availability of all ordered PPE and sanitizers for vaccination sites	IPC
	Refresher trainings on IPC in the context of COVID-19	IPC
	Decontamination of vaccination sites	IPC
	Educate the public on IPC during vaccination	IPC
	Proper waste management	IPC

Table 19 Regional level interventions: Protect the vulnerable

	Engage community leadership and partners to provide volunteers for crowd control in adherence to COVID-19 IPC guidelines	IPC
	Ordering of commodities for proper waste management	IPC
	Educate the public on side effects of vaccination and AEFI	RCCE
	Educate the public on utilizing 977 help desk for reporting AEFI	RCCE
	Conduct trainings on COVID-19 vaccinations for HCW	VACCINATION
	Capacitate regional staff on vaccine monitoring and reporting	VACCINATION
Communicate, Implement, and monitor	Provide sufficient vehicles and human resource to efficiently operate vaccine sites	Operations and logistics
vaccination campaign	Manage stock and record consumption and report for each vaccination sites	Operations and logistics
	Communicate and monitor implementation of IPC measures at vaccination sites	IPC
	Ensure availability and replenishment of proper PPE for vaccination sites	IPPC
	Promote wearing of masks, handwashing and social distancing of the public being vaccinated	IPC
	Decontamination of vaccine sites	IPC
	Monitoring of adherence to IPC guidelines	IPC
	Engage communities showing up for vaccination to identify issues relating to COVID-19 that need to be addresses and health education strengthening	RCCE
	Gauge level of knowledge of the public following COVID-19 communication strategy roll-out	RCCE
	Distribute IEC material on COVID-19	RCCE
	Engage communities showing up for vaccination to identify issues relating to COVID-19 that need to be addresses and health education strengthening	RCCE
	Gauge level of knowledge of the public following COVID-19 communication strategy roll-out	RCCE
	Distribute IEC material on COVID-19	RCCE
	Engage communities showing up for vaccination to identify issues relating to COVID-19 that need to be addresses and health education strengthening	RCCE
	Gauge level of knowledge of the public following COVID-19 communication strategy roll-out	RCCE
	Compile vaccination data from vaccination sites to inform vaccine coverage	VACCINATION
	Monitoring packaging, cold chain, handling and logistics according to WHO standards.	VACCINATION

Distribution of vaccines to vaccination sites	VACCINATION
Reporting of vaccine coverage to RHMT	SURVEILLANCE
Monitoring of data for COVID-19 patients infected after receiving vaccination	SURVEILLANCE
Distribute essential laboratory commodities needed during vaccination to vaccination sites and manage commodity stock levels	LABORATORY
Order Diagnostic test kits for diagnosis of COVID-19	LABORATORY
 Ensure timely submission of PCR sample to National lab.	LABORATORY

1.4.4 Reduce mortality and morbidity from all causes

The response aims to reduce mortality and morbidity from all causes by ensuring that patients with COVID-19 are diagnosed early and given quality care. The health systems should be able to surge to maintain and meet the increasing demand for both COVID-19 care and other essential health services. The core health systems should be strengthened and the demand-side barriers to care are addressed as well as ensuring that all priority groups in the country are vaccinated. Equitable access to new COVID-19 tools including vaccines, diagnostics and therapeutics should be accelerated.

Table 20 National level interventions: Reduce mortality and morbidity from all causes

Intervention	Activities	Response pillars		
Early diagnosis and care	Develop and Disseminate (IEC materials, mass media, community engagement) health information that will educate the public on early health seeking behavior.	RCCE, Case management		
	Develop and Disseminate (IEC materials, mass media, community engagement) health information that will educate on early health seeking behavior targeting the reach of patients at risk for severe diseases.			
	Communicate COVID-19 testing and treatment service delivery points to the public through IEC materials, mass media, community engagement and social media	RCCE, Case management		
	Communicate to the public essential services and their delivery points			
	Decentralize PCR testing to 4 regional laboratories and PoEs	Laboratories and diagnostics		

	Decentralize rapid testing from the regional hospitals and health centers to clinics, formal and informal points of entry.	Laboratories and diagnostics
	Develop a real-time system that will allow for timely reporting of results (i.e., go-data, google app, CMIS).	Laboratories and diagnostics
	Develop dashboards to allow for weekly analysis of case management and surveillance data to identify risk factors for COVID-19 related morbidity and mortality.	Surveillance, Case management
Manage clinical pathways	Review and define the level of care packages for COVID-19 services (Home care package, clinic, KIOSK, health centers and referral hospitals for acute COVID-19 infection and post-acute COVID-19 sequella) promote integrated screening for communicable and non-communicable diseases.	Case management
	Update COVID-19 national clinical guidelines in line with WHO recommendation and emerging local evidence.	Case management & Laboratory
	Develop and disseminate referral guidelines across all levels of care	Case management
Increase health care capacity	RHMTs to appoint regional focal persons for case management, home care and essential services to establish and coordinate regional sub-committee.	Maintain essential health services
	Disseminate and orient essential services packages in line with COVID-19 risk level	Maintain essential health services
	National, Regional and Health facilities to review preparedness and allocate resources (HR, infrastructure) in line with essential service package and COVID-19 risk level.	Maintain essential health services
	Revive and expand the integrated essential service package for Outreach services	Maintain essential health services
	Monitoring of the implementation of essential services guidelines through integrated supportive supervision	Maintain essential health services
	National program to define priority indicators to monitor access to clinical services and or performance of national programs.	Maintain essential health services
	Increase critical care bed capacity from the July 2021 baseline (110 beds).	Case management
	Review data collection tools (EPR, Case management, surveillance, laboratory) to ensure integration and improved data quality.	Surveillance-, case management and laboratory
Ensure healthcare worker is trained and protected	Conduct trainings on case management and critical care guidelines for Health care workers at all levels including private facilities and EPR.	Case Management

	Conduct IPC trainings for health care workers at all levels including private and community workers.	Infection Prevention and Control
	Train Biomed officers on preventive and corrective maintenance for biomedical equipment.	Case Management
	Conduct Integrated supportive supervision and active surveillance in HF.	Case Management
	Provision and maintenance of hand washing facilities in the isolation areas	Infection Prevention and Control
	Training of community workers on basic COVID-19 information (screening, testing and referral).	Case Management
	Recruit international experts to provide onsite mentorship and skills transfer on critical care quarterly	Case Management
	Review resource needs for home care	Case Management
	Develop a training and mentorship plan for COVID-19 treatment facilities.	Case Management
Guarantee access to essential commodities:	Weekly reporting of stock status of for COVID-19 commodities (diagnostics, PPE, biomedical supplies, and therapeutics)	Logistics/CMS
personal protective equipment, biomedical supplies: oxygen and	Monthly reporting of essential/tracer commodities for essential services	Logistics/CMS
therapeutics	Train health facilities on oxygen supply planning.	Logistics, Case management
	Provide, maintain, and repair facility biomedical equipment.	Logistics/CMS
	Conduct forecasting, supply planning quarterly and to mobilize resources for purchasing	Logistics/CMS
	Expand facility oxygen storage through expanding the oxygen cylinders and installation of bulk liquid oxygen tanks (2 oxygen tanks) piping of health facility to improve oxygen supply to service areas.	Logistics, Case management
	Initiate processes to establish the PSA oxygen plant in Mbabane Government Hospital.	Logistics, Case management
	Monitor availability of COVID 19 management supply in all COVID 19 management sites based on consumption at admitting facilities on a weekly basis	Logistics, Case management
Vaccinate priority groups	Review data collection tools to capture vaccination status (line list)	Surveillance
	Develop a national surveillance system for investigating adverse events following vaccination (AEFI).	Vaccine group

Intervention	Activities	Response pillars
Early diagnosis and care	Prepare high volume clinics in readiness for COVID 19 testing.	Laboratory
Manage clinical pathways	Strengthen referral systems	Case management
	Conduct compile and share a report on mortality audits conducted with the RHMT	Case management, Surveillance
	Orient health workers on escalation of care	Case management
Increase health care	Training of facilities on new CMIS COVID-19 module.	Surveillance
capacity	Capacitate health centers and clinics to assess and manage non- complicated cases	Surveillance
	Conduct COVID 19 home care services to confirmed cases	Case management
	Disseminate guidelines on the continuity of essential health services	RCCE and Essential health services
Ensure healthcare worker is trained and protected	Train more HCWs on critical care	Case management
	Conduct trainings to improve health worker competency on case management	Case management
	Conduct bed side mentorship for Covid-19 units health care workers through attachments at Critical care facilities	Case management
	Conduct onsite refresher trainings of Health care workers on case management	Case management

Table 21 Regional level interventions: Reduce mortality and morbidity from all causes

1.5 IMPLEMENTATION MODALITIES

This plan is intended for decision makers at all operational level (national, regional, community and individual) to detect and manage the risk of COVID-19 thus tracking resurgence by closely monitoring the early warning indicators. We must redouble our efforts and adapt our response and capacities to achieve six key strategic public health objectives. All of the interventions and capacities must be underpinned and facilitated by a multidisciplinary national and or regional response structure, with the national level focusing on the strategic direction, and regional level focusing on the implementation of the interventions, as stipulated from 2.3.2 to 2.3.5. The success of every intervention is supported and enabled by multiple pillars of the response.

The country has integrated the resurgence threshold into the Integrated Disease Surveillance and Response (IDSR) as severe acute respiratory infections (SARI) and influenza like illness (ILI) has been incorporated to the list of priority notifiable diseases. The country has also established the influenza sentinel surveillance system as four regional hospitals have been designated as sentinel sites. On the other hand, genomic sequencing has been conducted for early detection of new variants. Towards the end of 2020 88% of samples were found to be of the B.1.351 as like the variant identified in South African which had a conclusion that there was a community transmission of the variant circulating across the country and as a result routine genomic surveillance is conducted with representative samples across the country.

1.6 MONITORING AND EVALUATION

The monitoring and evaluation section of the surge plan lays out the details of how performance will be measured. For the COVID-19 surge plan, the Kingdom of Eswatini will be using output, outcome and impact indicators. The M&E function will be performed by the M&E team, which will be working closely with the EDCU team. These indicators will be collected and updated as per stated frequency of reporting and presented to the IMT.

	Output Indicators						
Ob	jective	Indicator	Disaggregation	Data Source	Data Collection Frequency		
1.	To accelerate equitable access to new	1.1 Percentage of pillars having90% of scheduled pillarmeetings	Pillar	Quarterly Reports	Quarterly		
	COVID-19 tools	1.2 Percentage of activities implemented by quarter	Pillar, Region	Quarterly Reports	Monthly		
		1.3 Percentage funds received and utilized as per plan budget (burn/ fund utilization rate)	Pillar Quarterly Report		Monthly		
2.	To reduce exposure to COVID-19	2.1 Percentage of essential medicines delivered to regions by quarter time	Region, facility	Quarterly report, CMIS	Quarter		
	(continuity of essential services)	2.2 Percentage of HMIS reports reported on time	Region, facility	Quarterly Reports, HMIS	Monthly		
		2.3 Number of children under 5 with vaccine preventable disease vaccinated	Region	Quarterly Report, HMIS, EPI	Monthly		
3.	Suppress COVID-19	3.1 Total Number of new tests done	Region, lab type	SITREP	Weekly		
	Transmission	3.2 Percentage pf alerts investigated with 48 hours of notification	Region	SITREP	Weekly		
		3.3 Percentage of contacts traced	Region	SITREP	Weekly		
		3.4 Percentage of contact tested	Region		Weekly		

Table 22 Monitoring and Evaluation Work-plan

		3.5 Percentage of samples results returned	Region, facility	SITREP	Weekly		
		3.6 Percentage of daily summary reports sent on time	Region	Quarterly report	Quarterly		
4.	To reduce mortality and morbidity from all causes	4.1 Percentage of COVID-19 cases admitted to treatment sites	Region, facility, severity, comorbidity	SITREP	Weekly		
	and save lives	4.2 ICU Bed capacity	Region, facility		Monthly		
		4.3 Percentage of treatment sites with adequate oxygen capacity	Region, facility		Monthly		
5.	To protect all vulnerable	5.1 Number of targeted groups registered for vaccination	Region	SITREP	Weekly		
	groups through vaccination	5.2 Percentage of target group vaccinated (1 st dose)	Region, target group	SITREP	Weekly		
		5.3 Percentage of target group vaccinated (2 nd dose)	Region, target group	SITREP	Weekly		
6.	To reduce mortality and morbidity from all causes and save lives	6.1 Total number of COVID-19 cases	Region, sex, age	SITREP	Weekly		
		6.2 Total number of new confirmed COVID-19 cases	Region, sex, age	SITREP	Weekly		
		6.3 COVID-19 test productivity rate	Region	SITREP	Weekly		
		6.5 Total number of confirmed cases among Health Care Workers	Region		Monthly		
		6.6 Recovery rate	Region	SITREP	Weekly		
		6.7 Percentage vaccinated	Region	SITREP	Daily		
		Outcome I	ndicators				
7.	Counter misinformatio n related to	7.1 Percentage of general public taking prevention and control measures	Region	Surveys	Quarterly		
	COVID-19	7.2 Percentage of general public with COVID-19 general knowledge	Region	Surveys	Quarterly		
	Impact Indicators						

8. To reduce mortality and morbidity from all causes and save lives	8.1 Total Number of COVID-19 related Deaths	Region, sex, diseases severity, facility	SITREP	Weekly
	8.2 Average Length of stay for admitted COVID-19 cases	Region		Monthly

Evaluation of the Plan

An evaluation response plan will be conducted at the end of the plan will be conducted to establish the overall performance and inform another plan. The evaluation will include desk review of all quarterly reports. In addition, key informant interviews with program staff and other stakeholders will be conducted to establish how well the program worked and recommendations for the future. There are also two studies that will also assist in establish the impact of services provided by the program, these are; Eswatini Sentinel Surveillance for COVID-19 and Similar Illnesses; Population-based sero-epidemiological investigation of SARS CoV-2 virus infection in the Kingdom of Eswatini.

1.7 BUDGET

Table 23 Budget

Pillar	Estimated Total Cost (SZL)		Estimated Cost (USD)
Suppress transmission	SZL	18,911,400.00	\$1,260,760.00
Reduce exposure	SZL	1,870,850.00	\$124,723.33
Protect the vulnerable	SZL	1,310,620.00	\$87,374.67
Reduce mortality and morbidity	SZL	6,537,400.00	\$435,826.67
Grand total	SZL	28,630,270.00	\$1,908,684.67

	KINGDOM OF ES	WATINI NATIONAL & REGIONAL COVID-1	9 RE:	SURGENC	E RESP	ONSE CO	OSTING	G 08.2021-01.2	2022
Strategic Obiective	Intervention	Activities	Uni	t Cost(SZL)	Quanti	it Davs	Tota	Cost (SZL)	Total Cost (USD\$)
		Prevent Virus in High Risk Population	571	15.00	100	1	571	1 500 00	\$ 100.00
	Description in high	Transport Fuel (~65KM)	SZL	500.00	10	180	SZL	900,000.00	\$ 60,000.00
	risk settings	IEC material distribution transport	SZL	1,000.00	200	1	SZL	200,000.00	\$ 466.67 \$ 13,333.33
		Testing Kits (RDT) Training to refresh teachers and educate schools	SZL SZL	44.00 350.00	1000 1000	26 1	SZL SZL	1,144,000.00 350,000.00	\$ 76,266.67 \$ 23,333.33
		Airtime Sub total	SZL	100.00	20	26	SZL	52,000.00	\$ 3,466.67
		Detect and test Suspected cases					521	2,034,300.00	¢ 170,500.07
		Transport for site visit - targetting 104 Sites Mentoring and capacity Building	SZL SZL	500.00 350.00	200 100	26 2	SZL SZL	2,600,000.00 70,000.00	\$ 173,333.33 \$ 4,666.67
	Detect and test	Print screening/case identification tools Sample collection kits (RDT Ag)	SZL SZL	70.00	500 500	26 180	SZL SZL	910,000.00	\$ 60,666.67 \$ 240.000.00
	suspected cases	SOPs BDT Ag logbooks	SZL	70.00	200	1	SZL	14,000.00	\$ 933.33
		Refresher training on smaple collection - TOT Lodging	SZL	350.00	200	2	SZL	140,000.00	\$ 9,333.33
		Refresher training on smaple collection - Health Facilit Refresher training on smaple collection - RRTs	SZL SZL	350.00 350.00	200 200	2	SZL SZL	140,000.00 140,000.00	\$ 9,333.33 \$ 9,333.33
\$		Sub total Investigate clusters, including thorough use of geno	mic to	ools			SZL	7,914,000.00	\$ 527,600.00
ddh	Investigate clusters, including thorough use	Mentor and supervise all service points	SZL	350.00	10	2	SZL	7,000.00	\$ 466.67
ress	of genomic tools	Conduct ISDR training Conduct training for RRT	SZL	350.00	200	5	SZL	350,000.00	\$ 5,833.33 \$ 23,333.33
Tran		Sub total Trace Contacts					SZL	444,500.00	\$ 29,633.33
smis	Trace Contacts	Personnel(contact tracing) Airtime	SZL SZL	10,000.00	50 500	6 26	SZL SZL	3,000,000.00	\$ 200,000.00 \$ 86,666,67
sion		Transport - fuel	SZL	500.00	330	2	SZL	330,000.00	\$ 22,000.00
		Sub total	321	80.00	330	÷	SZL	4,656,400.00	\$ 310,426.67
	Quarantine and	Quarantine and support contacts Transportation - fuel	SZL	500.00	20	26	SZL	260,000.00	\$ 17,333.33
	communicate and	Sub total Tommunicate and implement time - limited measur	es to	reduce pote	ntially in	fectious c	SZL	260,000.00	\$ 17,333.33
	to reduce potentially	Conduct RCCE training	SZL	350.00	200	1	SZL	70,000.00	\$ 4,666.67
	infectious contacts	Sub total	SZL	1,050.00	100	ь	SZL	700,000.00	\$ 46,666.67
	Prevent amplification	Prevent amplification events IEC materials	SZL	70.00	10000	1	SZL	700,000.00	\$ 46,666.67
		Sub total Manage points of entry					SZL	700,000.00	\$ 46,666.67
	Manage points of	Staff meeting	SZL	150.00	20	6	SZL	18,000.00	\$ 1,200.00
	entry	Distribute IEC material	SZL	120.00	100	1	SZL	12,000.00	\$ 1,200.00 \$ 800.00
	Marchard and a data	Sub total Vaccinate priority groups					SZL	48,000.00	\$ 3,200.00
	groups	Logbooks (vaccine Transport Fuel (~65KM)	SZL SZI	49.00	1000	26	SZL SZI	1,274,000.00	\$ 84,933.33 \$ 17,333.33
		Sub total	amuni	ities about r	isk reduc	tion	SZL	1,534,000.00	\$ 102,266.67
	Communicate,engage	Conduct weely meetings	SZL	150.00	200	26	SZL	780,000.00	\$ 52,000.00
	educate communities	Venue hire(2 towns/region) - roadshow	SZL	1,000.00	8	8	SZL	64,000.00	\$ 11,800.00 \$ 4,266.67
Rec	about risk reduction	Sound hire(roadshow) Refresher training	SZL SZL	4,000.00 350.00	8 200	8	SZL SZL	256,000.00 70,000.00	\$ 17,066.67 \$ 4,666.67
duce		Sub total Enhance IPC measures in health facilities					SZL	1,347,000.00	\$ 89,800.00
Exp	Enhance IPC measures in health facilities	Sensitization of HCW	SZL	150.00	200	1	SZL	30,000.00	\$ 2,000.00
osun		IPC Trainings	SZL	350.00	100	1	SZL	35,000.00	\$ 2,333.33
е		Sub total Enhance IPC measures in communities					SZL	165,000.00	\$ 11,000.00
	Enhance IPC measures in communities	Community sensitization meetings	SZL	150.00	59 50	1	SZL	8,850.00	\$ 590.00
		Sub total	JEL	7,000.00	50	±	SZL	358,850.00	\$ 23,923.33
		Build vaccine acceptance Distribute PPE	SZL	50.00	200	1	SZL	10,000.00	\$ 666.67
	Build vaccine	IPC training Disseminate IPC guidelines	SZL SZL	350.00 70.00	200 200	1	SZL SZL	70,000.00	\$ 4,666.67 \$ 933.33
	acceptance	Health education	SZL	120.00	330	1	SZL	39,600.00	\$ 2,640.00
Pa		Health education on vaccines	SZL	150.00	50	1	SZL	7,500.00	\$ 500.00
oteci		Ensure vaccine deployment readiness					SZL	211,100.00	\$ 14,073.33
The second	Ensure vaccine	Airtime, sms Waste container	SZL SZI	0.30	200	180	SZL SZI	10,800.00	\$ 720.00 \$ 533.33
<u>Yu</u>	deployment readiness	Refresher Trainings on IPC	SZL	350.00	200	1	SZL	70,000.00	\$ 4,666.67
nura		Conduct trainings on COVID 19 vaccinations	SZL	350.00	800	1	SZL	280,000.00	\$ 4,800.00 \$ 18,666.67
ıble		Sub total Communicate, Implement, and monitor vaccination	camp	oaign			SZL	440,800.00	\$ 29,386.67
	Communicate,	Vehicles and human resource	SZL SZI	15,000.00	10 50	1	SZL SZI	150,000.00	\$ 10,000.00 \$ 8,666,67
	monitor vaccination	Funigation	SZL	2,000.00	30	6	SZL	360,000.00	\$ 24,000.00
	campaign	Logsheet	SZL	80.00	200 59	1	SZL	4,720.00	\$ 933.33 \$ 314.67
7	Early diagnosis and	Sub total Early diagnosis and care					SZL	658,720.00	\$ 43,914.67
ledu	care	Personnel RDT Testing kit	SZL SZI	10,000.00	104 100	6 26	SZL SZI	6,240,000.00	\$ 416,000.00 \$ 6.933.33
F Z		Sub total					SZL	6,344,000.00	\$ 422,933.33
lorta	ivianage clinical pathways	Manage clinical pathways Training of HCWs	SZL	350.00	104	1	SZL	36,400.00	\$ 2,426.67
All C		Sub total					SZL	36,400.00	\$ 2,426.67
And	Increase health care capacity	Training of HCWs	SZL	350.00	100	1	SZL	35,000.00	\$ 2,333.33
BS		Disseminate guidelines Sub total	SZL	500.00	104	1	SZL SZL	52,000.00 87,000.00	> 3,466.67 \$ 5,800.00
bidit	់ Ensure healthcare worker is trained and	Ensure healthcare worker is trained and protected Train HCWs	SZL	350.00	200	1	SZL	70,000.00	\$ 4,666.67
~		Sub total					SZL	70,000.00	\$ 4,666.67 \$ 1,908,684,67
		Total					- 32L .	20,030,270.00	, 1,908,084. 67