



health

Department:
Health
REPUBLIC OF SOUTH AFRICA



Date:	30 th June 2021		
To:	The Honourable Ms Mmamoloko Kubayi-Ngubane, Acting Minister of Health	From:	Ministerial Advisory Committee (MAC) on COVID-19

UPDATE: RECOMMENDATIONS TO INTENSIFY PREVENTION MEASURES AND BOLSTER HEALTH SYSTEM CAPACITY IN THE CONTEXT OF A RESURGENCE OF COVID-19 INFECTIONS “THIRD WAVE”

Request for Advisory sent to MAC/Problem/Concern

This advisory is provided by the MAC on COVID-19 to the Minister of Health as an urgent update to the prior advisory issued on 10th June 2021. A summary of this advisory was submitted on 26th June 2021.

Points of consideration

The MAC on COVID-19 provided an advisory on “Preparing for a Potential Third Wave” dated 31st March 2021. These recommendations were updated on 10th June 2021 with a related advisory highlighting key indicators of a rapidly expanding coronavirus infection rate and a possible “third wave”.

- The rapidly rising incidence of COVID-19 cases suggests that all nine provinces are now in the “Third-Wave” and are meeting the Alert Level for urgent intervention, with a rapid and sustained rise in hospitalization rates. In turn, the health system is at risk of becoming overwhelmed. The recommendation from the MAC on COVID-19 to the Incident Management Team is that all criteria for a resurgence of COVID-19 have been met. The criteria for a “third wave” have been met nationally, and the implementation of **mitigation interventions** is not keeping pace with the incidence of COVID-19, particularly in Gauteng.
- The reproductive rate (Rt) has increased in all nine provinces and is above 1 in all cases, with established “third wave” criteria already met in the Free State (FS), Gauteng (GP), Mpumalanga (MP), North West (NW) and Western Cape (WC) provinces. Signals of a sustained rise in case rates have been demonstrated in the Eastern Cape (EC), Limpopo (LP) and KwaZulu-Natal. Note: The Northern Cape (NC) province did not demonstrate an end to the second wave with sustained high case rates.
- Weekly incidence rates have exceeded the trigger value (greater than 10 per 100 000) for all provinces. An increase of >50% over the previous peak has been seen in GP, which has the highest weekly incidence rate value (>370 per 100 000 as of 25th June 2021).
- Analysis of hospitalizations in the first and second wave revealed that Case Fatality Rates (CFR) for hospitalized cases increased in the weeks with high admission loads. The priority should be to slow down the rate of new cases, and thus to reduce the rate of admissions. Urgent interventions are required to reduce COVID-19 transmission, so that provinces do not face the disastrous consequences of cases exceeding critical levels of the hospital bed capacity. This is already the case in GP. The aim is to slow spread and therefore mitigate against reaching the critical thresholds of weekly provincial admissions, where CFR was documented to be higher than 25%. The trigger

points for weekly hospitalization rates that were identified to be linked to a rise in CFR above 25% for each province are as follows:

Table 1: Current weekly COVID-19 admissions and threshold of weekly admissions at which CFR>25% in wave 1 and 2, by province, South Africa, 5 March 2020-19 June 2021

Province	Threshold of weekly admissions at which CFR>25%	Current weekly admissions
EC	>400	221
FS	>400	274
GP	>3500	3430
KZN	>2000	328
LP	>200	208
MP	>200	149
NW	>600	486
NC	>100	83
WC	>2500	884

- The South African COVID-19 Modelling Consortium (SACMC) update of the 23 June 2021 estimates the national incidence of SARS-CoV-2 to be doubling approximately every 13 days, with concerning doubling times of 11-21 days in EC, GP, KZN, MP, NW and WC.
- SACMC short-term forecasts (next two weeks) estimate a significant increase in hospitalization admission rates for all provinces, with the highest being in GP.
- Internationally, four variants of concern (including N501Y.V2/ “Beta”) and numerous variants of potential interest (VOI) have been identified. Ongoing genomic surveillance is being conducted by the Network for Genomic Surveillance South Africa (NGS-SA). An increasing frequency of Alpha and Delta variants has been recorded since the beginning of May with the Delta variant becoming dominant by week 24 (19 June 2021). Of the 541 sequences performed in South Africa (all provinces) 91.3% of sequences are from a VOC (Alpha, Beta, Delta). Sequences are now dominated by the Delta variant (45.1%); the Beta variant (39.2%) and Alpha has increased slightly to 7%. The delta variant has been isolated in all provinces that have recent sequence data (week 24). The outstanding provinces where recent sequence data is not available includes NW and NC.
- The Delta variant was identified in South Africa during the first week of May 2021. Data from the United Kingdom (UK) suggests that Delta is approximately 150% more transmissible than the Alpha and Beta variants, and is associated with higher risk of hospitalization compared to the Alpha variant. Sequencing data is still pending for the current prevalence of the Delta variant in South Africa.

The MAC on COVID-19 expresses particular concern about the increasing incidence of COVID-19, with the impact on hospitalization already clearly evident.

- In GP, a rapid rise in hospitalization has been noted in both the private and public sectors. GP, as a high-density central province, is linked to movement to all nine provinces and internationally. The level of hospitalization has exceeded the capacity for Intensive Care (ICU) and High Care Beds in Johannesburg, which already has over 100% utilization of this level of care, with anecdotal reports of patients seeking beds in neighbouring provinces.
- The loss of major hospitalization capacity with the ongoing closure of the Charlotte Maxeke Johannesburg Academic Hospital is adding strain to other public sector hospitals. The MAC on COVID-19 recommends the urgent, safe re-opening of this hospital to accommodate the growing number of patients needing care.

- In both NC and FS, the number of patients currently hospitalized exceeds the peak of the second wave, with rates exceeding the capacity of the health system, particularly for critical care beds and ventilation. The MAC expects that similar situations will arise in all provinces as the expected rise in the case rates unfolds over the next two to three weeks.
- Case Fatality Rates among hospitalized cases in the public sector have increased to 28% in June from 23% in April; and has increased in the private sector to 20% in June from 14% in April. CFRs are rising above 20% in the EC, FS, GP, LP, MP, NW and NC and there is already a critical and urgent need to expand the capacity for critical care or referral particularly for the NC. Case fatality rates among hospitalized cases in GP are expected to rise dramatically in the next two weeks. *Ref. Analysis of the hospitalization and case fatality rates from NICD/DATCOV.*

Table 2: Case Fatality Ratio among hospitalized COVID-19 cases, by health sector and month of epidemic, South Africa, 5 March 2020-19 June 2021

Month	Public	Private
202003	3,0	9,1
202004	11,3	10,3
202005	17,8	12,3
202006	21,9	14,0
202007	25,9	15,2
202008	23,6	15,9
202009	18,4	13,1
202010	16,5	10,3
202011	23,1	15,0
202012	28,2	17,3
202101	32,1	24,1
202102	21,2	19,8
202103	20,1	16,2
202104	23,3	14,3
202105	28,2	16,9
202106	28,3	19,8

Table 3: Case Fatality Ratio among hospitalized COVID-19 cases, by province and month of epidemic, South Africa, 5 March 2020-19 June 2021

Month	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape
202003	0,0	20,0	3,2	13,0	0,0	50,0	0,0	0,0	3,1
202004	18,9	25,0	5,8	10,2	6,7	0,0	8,3	14,3	12,3
202005	25,4	5,0	7,8	5,6	5,3	0,0	7,5	2,6	18,5
202006	32,0	9,0	17,4	9,8	8,3	12,8	8,5	6,5	18,2
202007	31,1	25,0	21,7	17,7	21,3	23,3	10,1	11,9	15,1
202008	26,0	23,2	19,5	19,3	22,7	21,4	12,3	17,9	15,3
202009	20,2	16,2	16,5	17,1	20,0	18,1	9,4	16,1	11,8
202010	25,3	15,9	11,2	12,0	16,1	15,7	7,9	14,8	10,3
202011	32,1	16,4	13,4	13,0	11,2	15,6	6,9	14,7	11,1
202012	35,3	19,5	20,1	23,9	24,3	20,5	13,9	16,0	18,3
202101	35,7	28,1	25,3	32,9	38,2	34,9	20,9	28,8	21,7

202102	22,0	22,0	19,5	23,2	24,4	25,7	17,6	22,9	15,9
202103	20,1	24,6	19,9	18,8	24,8	22,6	16,0	16,9	12,1
202104	21,0	24,4	19,7	19,0	30,9	21,8	17,9	22,6	10,1
202105	22,0	27,3	22,1	21,3	25,2	21,3	19,7	28,2	13,7
202106	26,8	24,3	24,5	19,0	23,7	22,7	20,3	29,0	15,2

Surge Capacity Preparedness and Incident Management Team daily evaluation

Following representation from the National Department of Health (NDoH) Surge Capacity and Readiness Working Group, the MAC on COVID-18 notes the following essential items, with concern:

- The NDoH circular to provinces recommending the implementation of provincial command and control at a provincial Incident Management Team (IMT) level has not been implemented across all provinces.
- The critical shortage of hospital beds, particularly in GP, is poorly documented due to incomplete daily hospitalization data submissions to DATCOV. As a result, incomplete information is being provided to the Provincial IMT. This has led to the misperception that there is spare hospital capacity in the province. Significant effort from NICD to place data personnel at major hospitals is acknowledged, but the information system specialists in each province need to emphasize the value of accurate and timely data submissions.
- Hospital readiness for the “third-wave”, while planned, has not been activated in most of the provinces. In particular, there has not been a progressive escalation of the capacity for both general ward and high-care/ICU levels.
- Although oxygen dashboards monitoring liquid oxygen capacity have been introduced, the oxygen cylinder capacity has not been fully validated. There are potential oxygen shortages in district hospitals and Emergency Medical Services (EMS). Equipment from the national ventilator project and donated ventilators have been distributed, but in many cases this equipment has not been installed in hospitals.
- Critical staff shortages in many provinces have not been addressed, limiting the capacity of hospitals to expand the available bed capacity.
- In several provinces, EMS services (both public and private) are unable to meet the demand for first contact patient, PHC or private practitioner and patient transfer services. This is leading to late transfers, with significant mortality during transfer.

MAC on COVID-19 Technical Working Group (TWG) on School Closure

The MAC on COVID-19 also considered the impact of the current “Pandemic Third-Wave” on the continuation of education sector and schools in particular. A detailed advisory is under development. In summary, the following background will be provided in this advisory:

- Transmission of the SARS-CoV-2 virus has been associated with both asymptomatic and symptomatic carriers. Transmission is more likely via symptomatic (sick) individuals who have a higher viral load.
- Although with the surge in the COVID-19 pandemic in the community there is a higher possible risk of asymptomatic (but SARS-CoV-2 infected) learners attending schools, generally children of school-going age. Adolescents, compared to adults, are less likely to become infected with SARS-CoV-2. Adolescents have a higher rate of infection compared to younger children.
- Children younger than 12 years are less likely to transmit the SARS-CoV-2 virus than adults. Older adolescents (15-18 years) have a slightly lower or similar risk of transmitting the virus than adults.
- Recent (June 2021) epidemiological analysis of South African households shows that children are both less likely to acquire or transmit SARS-CoV-2 as compared to adults (C Cohen, personal communication).
- When children and adolescents are infected, they are more likely to have a milder clinical course

of illness compared to adults.¹

- Children comprise 35% of the population. They account for a relatively small proportion (9%) of SARS-CoV-2 cases and even smaller proportion of admissions to hospitals (4%).¹ Most admitted children are infants (<1 year of age) or have associated co-morbidities (other underlying illnesses).
- Children rarely die from COVID-19. By June 2021, about 400 child deaths have been recorded in South Africa where a child was SARS-Cov-2 positive. Most had other severe associated conditions diseases (such as cancer, immunosuppression and being preterm). Few deaths were directly attributed to COVID-19.
- There is a paucity of evidence on the specific effects of the delta virus variant on children.
- There are no consistent changes in community incidence trends associated with timing of opening or closing of schools in South Africa.¹ The inference is that school transmission has a nominal role in community transmission.
- Analysis of teacher payroll data showed no relationship between excess teacher mortality and the opening and closing dates of schools between March 2020 and February 2021.²
- Emerging evidence from systematic reviews of global school transmission studies suggest very low infection attack rates and SARS-CoV-2 positivity rate in students and staff but eligible studies remain at risk of methodological biases.^{3,4}
- Layered protective measures (ventilation, masking, daily screening, etc.) have been shown to be effective in mitigating (reducing) any risk of transmission from school attendance
- There are multiple negative consequences of school closure including:
 - learning losses (at the primary school level in 2020 have amounted to 50-75% of a year of learning lost relative to the 2019 cohort).^{2,5,6,7}
 - nutrition and food security; and
 - psychological safety.
- Adherence to prevention interventions can make a significant reduction to risk of acquiring SARS-CoV-2. These include:
 - Ensuring good ventilation and sufficient space;
 - Symptom screening of learners and staff prior to entry;
 - Regular hand-washing and/or sanitizing;
 - Mask wearing;
 - Cough etiquette; and
 - Regular environmental cleaning.
- Where schools are able to fully implement prevention measures, they can provide a relatively safer and contained environment for children than at home or the community, particularly in poorer communities.

¹ Epidemiology and clinical characteristics of laboratory- confirmed covid-19 among individuals aged ≤19 years, South Africa, 1 March 2020 – 1 May 2021. Quarterly COVID-19 in children surveillance report. National Institute for Communicable Diseases.

² Shepherd, D., Mohohlwane, N., Taylor, S., & Kotze, J. (2021). Changes in education: A reflection on COVID-19 effects over a year. NIDS-CRAM. (Online). Available: <https://cramsurvey.org/wp-content/uploads/2021/05/10.-Shepherd-D.-Mohohlwane-N.-Taylor-S.-Kotze-J.-2021.-Changes-in-education-A-reflection-on-COVID-19-effects-over-a-year.pdf>

³ Xu W, Li X, Dozier M, He Y, Kirolos A, Lang Z, Mathews C, Siegfried N, Theodoratou E. What is the evidence for transmission of COVID-19 by children in schools? A living systematic review. *Journal of Global Health*. 2020, 10 (2).

⁴ Xu W, Li X, Dozier M, He Y, Kirolos A, Lang Z, Mathews C, Siegfried N, Theodoratou E. What is the evidence for transmission of COVID-19 by children in schools? A living systematic review. <https://uncover-livingreview.shinyapps.io/schoolreview/> (accessed 24th June 2021)

⁵ Spaul, N., & Daniels, R (2021). NIDS-CRAM Wave 4 Synthesis Report. National Income Dynamics Study Coronavirus Rapid Mobile Survey (NIDS-CRAM). (Online). Available: <https://cramsurvey.org/wp-content/uploads/2021/05/11.-Van-der-Berg-S.-Patel-L.-Bridgman-G.-2021-Hunger-in-South-Africa-Results-from-Wave-4-of-NIDS-CRAM.pdf>

⁶ Ardington, C. (2021). COVID-19 Learning Losses: Early grade Reading in South Africa. (Online). SALDRU. Available: [https://fundawande.org/img/cms/news/Ardington%202021%20-%20Funda%20Wande%20EC%20learning%20losses%20report%20\(24%20May%202021\)_1.pdf](https://fundawande.org/img/cms/news/Ardington%202021%20-%20Funda%20Wande%20EC%20learning%20losses%20report%20(24%20May%202021)_1.pdf)

⁷ Reddy, V. (2021). Counting the cost of lost schooling in South Africa. *The Conversation*. (Online). Available: <https://theconversation.com/counting-the-cost-of-lost-schooling-in-south-africa-160031>

Recommendations

To avert the impact of the “third wave” on the health sector, leading to an overwhelming COVID-19 admission rate, the primary recommendation is to increase the level of restriction imposed in terms of the Disaster Management Act.

Consideration should be given to imposing restrictions similar to the “Lockdown Level 4” proposals submitted to the Minister of Health and National Coronavirus Command Council in December 2020. The MAC on COVID-19 has reviewed the “Lockdown 4” regulations and recommends that these are implemented immediately across all provinces for a three-week period, with specific adjustments:

1. *Movement of persons*

(16.2(a)) - *walk, run or cycle between the hours of 06H00 to 09H00, within a five kilometre radius of their place of residence; Provided that this is not done in organised groups.*

This should be adjusted to permit exercise between 05h00 and 20h00 daily.

(16.2(g)) – (The addition of an explicit definition of) Essential services including all health and animal welfare services should continue, with the explicit continuation of COVID-19 vaccine services particularly those with an appointment generated by the Electronic Vaccination Data System (EVDS) with appointment generated up to 14 days in advance.

2. *Movement of children and school closure*

Given that the national school holidays are planned to begin 1st July 2021, the MAC supports the early closure of all schools. The re-opening of schools should occur independently of the lockdown level, in accordance with the revised school calendar.

- The MAC on COVID-19 explicitly recommends the continuation of the Teacher Vaccination Programme to complete this effort despite school closure and/or modified Lockdown 4 regulations.
- There is no medical or public health related evidence to support closure of primary and high schools.
- Epidemiologic evidence suggests that children are less likely to become infected with COVID-19 and present with a milder course of disease. The benefit of continued education and social support of children is considered important.
 - Emerging evidence from systematic reviews of global school transmission studies suggest very low infection attack rates and SARS-CoV-2 positivity rate in students and staff but eligible studies remain at risk of methodological biases.^{8,9}
 - Adherence to prevention interventions can make a significant reduction to risk of acquiring SARS-CoV-2 is recommended. Layered protective measures (ventilation, masking nose and mouth, daily screening, etc.) have been shown to be effective in mitigating (reducing) any risk of transmission from school attendance.
- The need for closure of any school should continue to be determined on an individual school basis and not at a district, provincial or national level.
- Guidelines should be developed by the MAC on COVID-19 School Technical Working Group on how schools best manage any increases in COVID-19 for affected learners or staff.

⁸ Xu W, Li X, Dozier M, He Y, Kirolos A, Lang Z, Mathews C, Siegfried N, Theodoratou E. What is the evidence for transmission of COVID-19 by children in schools? A living systematic review. *Journal of Global Health*. 2020, 10 (2).

⁹ Xu W, Li X, Dozier M, He Y, Kirolos A, Lang Z, Mathews C, Siegfried N, Theodoratou E. What is the evidence for transmission of COVID-19 by children in schools? A living systematic review. <https://uncover-livingreview.shinyapps.io/schoolreview/> (accessed 24th June 2021)

3. *Closure of Borders*

The closure of international borders is not recommended, with travel permitted for foreign nationals and South Africans required to travel for one of the following key reasons:

(21.1) Essential services, medical care and critical support for neighbouring countries to address the health services and COVID-19 pandemic response.

(21.2) Returning employees of companies registered in South Africa

(21.3) Transfer of essential food and goods across borders to ensure the continuation of the regional economy.

(21.4) Returning students transferring across borders to attend institutions of higher learning or schools as these close or open following "Lockdown 4".

4. *Gatherings*

All gatherings should be prohibited, as per "Lockdown 4" regulations.

5. *Places and premises closed to the public*

Access to outdoor spaces for the objective of exercise should be allowed, by deleting regulation 24(2)(a), as applied to public parks, sports grounds and fields, beaches and swimming pools.

6. *Retail outlets, malls and restaurants*

Retail outlets, shopping malls and other privately-owned venues must define the maximum number of persons admitted to achieve social distancing, not exceeding 50% of the registered maximum capacity. In terms of regulation 24.5, restaurants and food outlets will be permitted to serve "take-away" meals, but not provide on-site dining.

7. *Tobacco products, e-cigarettes and related products*

The MAC on COVID-19 recommends that the sale of Tobacco products, e-cigarettes and related products are NOT prohibited. There is no scientific evidence that the sale of tobacco products provides a short-term health benefit or reduce SARS-COV-2 transmission.

The escalation of Disaster Management Act regulations to "Lockdown Level 4" should be combined with recommendations from the "third wave" advisory with respect to facility preparedness and surge capacity, in particular:

1. The critical increase in COVID-19 case rates requires urgent dissemination communication with the population of South Africa to reinforce the severity of the situation, to re-engage the population on the need to comply with strict non-pharmaceutical interventions.
2. Co-ordinated with the National and Provincial Joint Command Centres, the health sector Incident Management Teams need to be activated to provide daily support to the health facilities.
3. Implementation of the following key Disaster Medicine advisories are supported by the MAC.
 - 3.1 The implementation of DATCOV at all hospital facilities, with public reporting of the bed statistics to enable medical practitioners and the public to refer patients to facilities where capacity is available. Accurate and complete "midnight statistics" must be reported by all registered hospitals (public and private) to the central dashboard. This capability has been developed in DATCOV, but requires urgent activation and integration with the command and control centres in each province, and the EMS services.
 - 3.2 All hospitals to plan and prepare for 80% beds to be ACCESSIBLE for COVID-19 patients, BUT activated as needed, with pro-rata scaling down of elective interventions.
 - 3.3 Facilities to identify additional surge capacity over-and-above the approved / used beds that can be activated should the surge continue to escalate beyond the total bed capacity of the health sector.

- 3.4 Human resource planning with recommendations for the Disaster Management Act to regulate the use of additional health care personnel in non-standard roles, such as registered specialist doctors, veterinarians, veterinary laboratory technicians, medical and dental students, nurses and other health care workers.
- 3.5 Implementation of the national oxygen planning concept, with dashboard monitoring of the oxygen situation from all hospitals and emergency services, with consideration to include the demand for oxygen from neighbouring countries.
- 3.6 Expand the training of health care workers focused on the implementation of alternative oxygen therapy modalities such as the CPAP devices of the National Ventilator Project.
4. Reference is made to the MAC on COVID-19 Advisory entitled “Preparing for a Potential Third Wave” submitted on 31st March 2021 for a detailed account of the recommendation with particular reference to health system capacity and preparedness.
 5. Disaster Management interventions are needed in the health sector, including command and control at every level, and activation of facility preparedness resurgence plans. Urgent intervention is required in the provinces GP, NW, FS, NC and LP. The MAC is particularly concerned about the urgent activation of the Field Hospital Capacity in GP (*Reference is made to the NDoH COVID-19 Facility Resurgence Plan for details of the recommendations for the COVID-19 disaster response*).
 6. Particular emphasis is placed on the availability of testing, person under investigation (PUI), quarantine, isolation, hospitalization, and critical care bed capacity in all provinces. Reactivation of rapid antigen testing capacity at primary healthcare (PHC) level should be considered.
 7. Quarantine and isolation facilities should also be activated in all other provinces to enable quarantine and isolation where this is not possible at home, with particular emphasis on early access to care.
 8. Collaboration with the private sector, with pre-arranged outsourcing agreements, is recommended for GP, to offset the major deficit that has emerged due to the closure of the Charlotte Maxeke Johannesburg Academic Hospital.
 9. Provincial Health Departments must consider interventions to mitigate the risk of COVID-19 transmission during activities related to the winter initiation season, to meet the regulation limiting gatherings to less than 50 persons.

Thank you for consideration of this advisory.

Kind regards,



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CO-CHAIRPERSONS: MINISTERIAL ADVISORY COMMITTEE ON COVID-19

DATE: 30 June 2021

CC:

- » **Dr S Buthelezi (Director-General: Health)**
- » **Dr T Pillay (Deputy Director-General)**
- » **Incident Management Team**