

PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT



NATIONAL INSTITUTE FOR
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

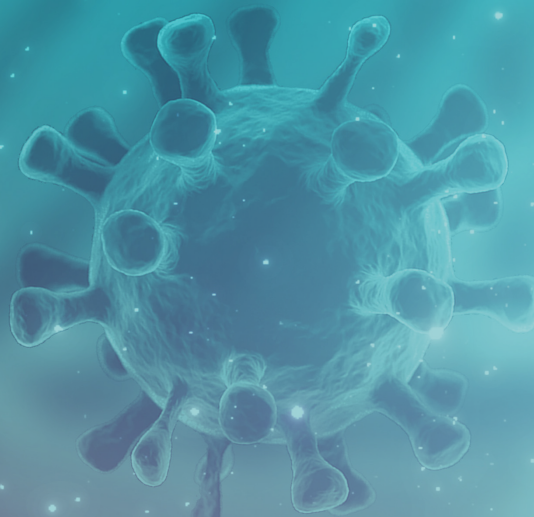
SOUTH AFRICA WEEK 20 2021

CONTENTS

Surveillance programme description and comments	2
Data from virologic surveillance to aid interpretation	4
• Influenza detections per week	
• Respiratory syncytial virus (RSV) detections per week	
• SARS-CoV-2 detections per week	
Number of consultations per week	5
Private consultation thresholds by age group: All Ages	6
<5 years	7
5-19 years	8
20-49 years	9
≥50 years	10
Private consultation thresholds by province: Eastern Cape	11
Gauteng	12
KwaZulu-Natal	13
Western Cape	14

HIGHLIGHTS: WEEK 20

- Total number of respiratory hospitalisations peaked for the second time in week 1 of 2021 at higher levels than the first and have decreased since with marginal increases in the last two weeks.
- The percentage of respiratory hospitalisations and GP consultations amongst children <5 years, increased over the past months, possibly related to increasing circulation of RSV and/or other respiratory viruses.
- The percentage of respiratory emergency department and general practitioner visits increased during the second wave, more markedly so in emergency department visits (vs general practitioner) and adults (vs children).
- Similar trends were observed in all provinces evaluated, differences by province should be interpreted with caution due to low numbers in some provinces.



PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 20 2021

PROGRAMME DESCRIPTIONS

Inpatient data from a large national private hospital group and outpatient data from a general practitioner network linked to the same hospital group were received for the last week. Data were obtained from eight provinces (Eastern Cape, Free State, Gauteng, Limpopo, KwaZulu-Natal, Mpumalanga, North West, Western Cape). Sufficient numbers for province-level reporting were available for four of these (bold). Consultations and admissions were coded based on discharge diagnosis using the International Classification of Diseases and Related Health Problems, 10th revision (ICD-10). Data were analysed using the indicator: All respiratory and confirmed or suspected COVID-19 (J00-J99 & U07.1 & U07.2)/Total consultations. Data on the indicator Pneumonia and Influenza (J10-J18)/Total consultations are available on request but were not included in this report.

Data were categorised in the following age groups: All ages, <5 years, 5-19 years, 20-49 years, ≥50 years

Epidemic Threshold

Thresholds were calculated using the Moving Epidemic Method (MEM), a sequential analysis using the R Language, available from: <http://CRAN.R-project.org/web/package=mem>, designed to calculate the duration, start and end of the annual influenza epidemic. MEM uses the 40th, 90th and 97.5th percentiles established from historical data (2015-2019 for inpatients, 2016-2019 for outpatients) to calculate thresholds of activity, defined as follows:

- Epidemic threshold: Median of weekly values for all baseline years
- Low activity: Between epidemic threshold including 40th percentile
- Moderate activity: Between 40th and 90th percentile
- High activity: Between 90th and 97.5th percentile
- Very high activity: 97.5th percentile and above

Hospitalization data for recent weeks are adjusted for delayed reporting (diagnosis codes assigned on discharge delayed for prolonged hospitalisations). Adjustment accounts for the probability of being admitted, but not yet discharged at the time of data drawdown using the age- and syndrome-specific probability distribution of duration of admission obtained from all hospitalizations that occurred during 2015-2019 and applied to weeks reported.

PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 20 2021

INTERPRETATION OF DATA PRESENTED IN THIS REPORT

Total admissions reduced from week 13 of 2020 when lockdown was implemented and have remained below pre-lockdown levels.

Total respiratory admissions increased peaking by week 29 of 2020 reaching approximately double the level before the lockdown after which numbers decreased. In week 49 numbers started to increase again, peaking in week 1 of 2021, since which numbers have decreased. The proportion of admissions coded as confirmed COVID-19 (out of suspected) increased from week 15 of 2020, peaked at ~ 79% in week 31, decreased for 13 weeks, after which it increased reaching a peak of 95% in week 1 of 2021, since when it has been decreasing and is currently <25%. Peak numbers of respiratory admissions and admissions coded as COVID-19 in the second wave exceeded peak numbers in the first wave.

Total and respiratory outpatient (general practitioner) consultations reduced from week 13 of 2020. Respiratory consultations peaked in week 28, after which it gradually decreased. The proportion of general practitioner consultations coded as confirmed COVID-19 (out of suspected) peaked in week 33 at 34% after which it decreased for 14 weeks before increasing again, peaking at 34% in week 2 of 2021.

Total and respiratory emergency department consultations reduced from week 13 of 2020. Respiratory consultations recovered to levels slightly lower than those preceding the lockdown from week 26. The proportion of emergency department consultations coded as confirmed COVID-19 (out of suspected) increased from week 15, peaked at 80% in week 30, declined for 10 weeks, increased again peaking at 96% in week 2 of 2021. Peak numbers of respiratory emergency department consultations and consultations coded as COVID-19 in the second wave exceeded peak numbers in the first wave.

Proportion of admissions respiratory or suspected COVID-19 overall remained below threshold until week 21 of 2020, increased rapidly peaking in week 29 and was in low threshold from week 36 to 49, peaking for the second time in week 53 and has been in low threshold

since week 6. By age group, percent admissions respiratory or suspected COVID for 0-4 years, remained below threshold throughout both waves, but has been increasing over the past months and is currently at low threshold. Among individuals aged 5-19 years, percent admissions mainly remained below threshold with a brief increase to low/moderate activity during weeks 27 to 32 and again briefly touching low level of activity in week 53 and week 16 of 2021. Among individuals 20-49 years and ≥50 years, percent respiratory admissions continuously increased from week 13 of 2020, reaching very high level from week 21, dropping since week 29 but increasing to very high level from week 49 and peaking in week 53 at higher levels than in the previous peak, then decreasing. Currently, the admissions for individuals 20-49 years is in the moderate threshold and low for those ≥50 years.

Proportion of outpatient (general practitioner) consultations respiratory or suspected COVID-19 overall peaked in week 28, dropped below threshold from week 31, and rose above threshold again in week 49, peaking in week 53, after which it declined to below threshold. In the past two weeks, the overall level rose to low threshold in all age groups five years and older, possibly due to circulation of SARS-CoV-2. In children under five, the threshold has been at low/moderate since mid-February probably related to increasing circulation of RSV.

Proportion of emergency department consultations respiratory or suspected COVID-19 peaked in week 28 of 2020, decreased to below threshold, but increased to very high levels peaking in week 53, and decreased to below threshold again. By age group, percent emergency department visits showed similar trends, briefly breached the seasonal threshold in age group 5-19 years and reaching very high levels in individuals aged 20-49 years and ≥50 years, dropped to low threshold, but increased from week 49 with adults (20-49 years and ≥50 years) reaching very high levels exceeding the previous level reached in week 53, and then decreasing, currently below/low threshold.

PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 20 2021

Trends in proportion of admissions and outpatient consultations respiratory or COVID varied by province with proportion respiratory inpatients reaching very high levels in all provinces evaluated. The first wave peaked between weeks 27 and 30 in the four provinces evaluated, and the second wave in weeks 49 (Eastern Cape) and 53 in the remaining three provinces. Only in the Eastern Cape did the second wave level not exceed the first wave. The proportion of inpatients in the Eastern Cape and KwaZulu-Natal are currently below threshold with Gauteng and Western Cape in low threshold. The proportion of outpatients in the Eastern Cape rose marginally to the moderate threshold, while the rest of the provinces remained below/low threshold.

Limitations

Thresholds are established based on the proportion of respiratory consultations. If numbers of non-respiratory consultations drop substantially because of changes in health-seeking behaviour, this could lead to elevated respiratory proportions. Delays in the coding of consultations may lead to changes in data from previous weeks.

Assessment

Total numbers of respiratory hospitalisations which peaked in week 29 of 2020 and week 1 of 2021, decreased to inter-peak levels at the end of January 2021 remaining low in the last two weeks.

At the end of 2020, the percentage of hospitalisations coded as respiratory reached the very high level nationwide, reaching peak levels in the first wave, then falling to a low threshold for all ages and in the 20-49 and 50-year age group. However, in the past two weeks, the numbers have marginally increased for the 50-year age group.

The percentage of emergency department visits and general practitioner visits coded as respiratory also increased during the second wave with more marked changes in the emergency department visits and among individuals aged 20-49 and ≥ 50 years.

Similar trends were observed in all provinces evaluated with peak proportions of respiratory admissions in the second wave greater than in the first wave in three of the four provinces evaluated.

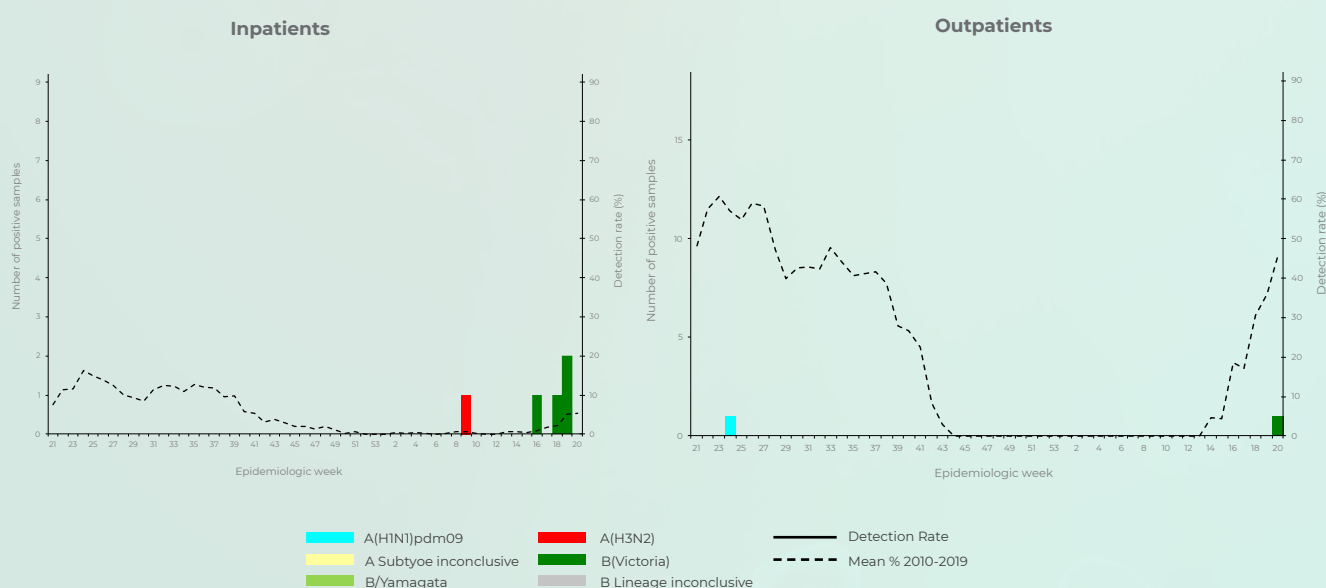
Differences by province and age group should be interpreted with caution due to low numbers in some groups.

PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

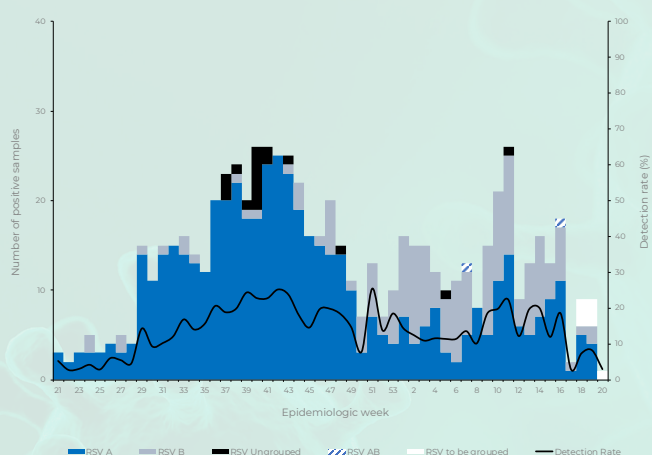
WEEK 20 2021

DATA FROM VIROLOGIC SURVEILLANCE PROGRAMMES TO AID IN INTERPRETATION OF CONSULTATION TRENDS

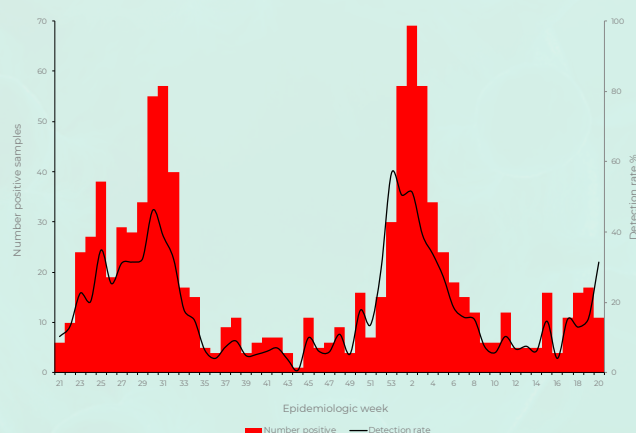
Number of influenza positive samples by subtype/lineage and detection rate by week



Number of respiratory syncytial virus positive by groups and subgroups per week (inpatients) and detection rate per week (inpatients)



Number of SARS-COV-2 positive and detection rate per week (inpatients)

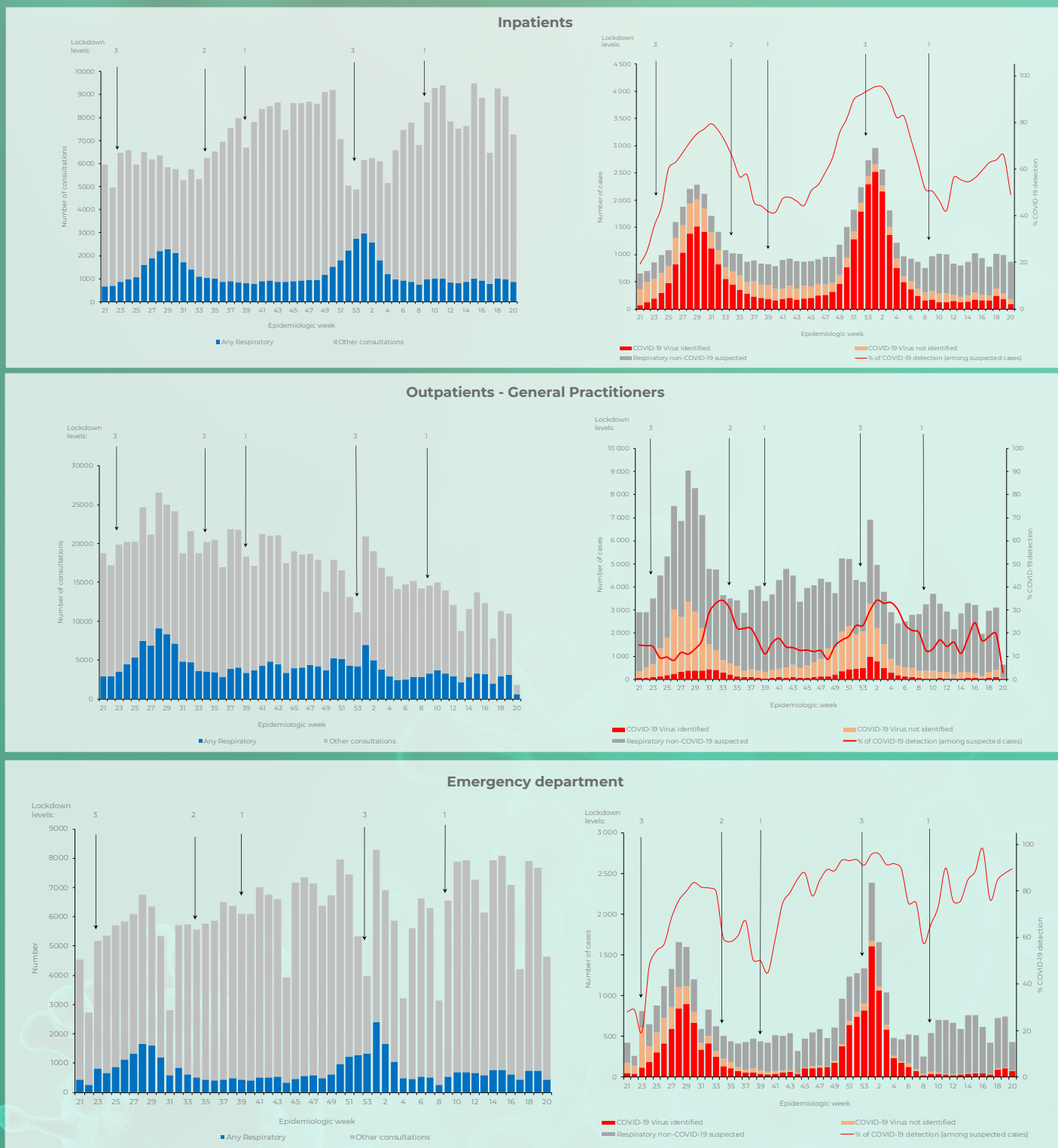


PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 20 2021

Number of consultations - all respiratory including confirmed or suspected COVID-19 and other consultations by week

(ARROWS INDICATE WEEK OF ONSET OF LOCKDOWN LEVEL)

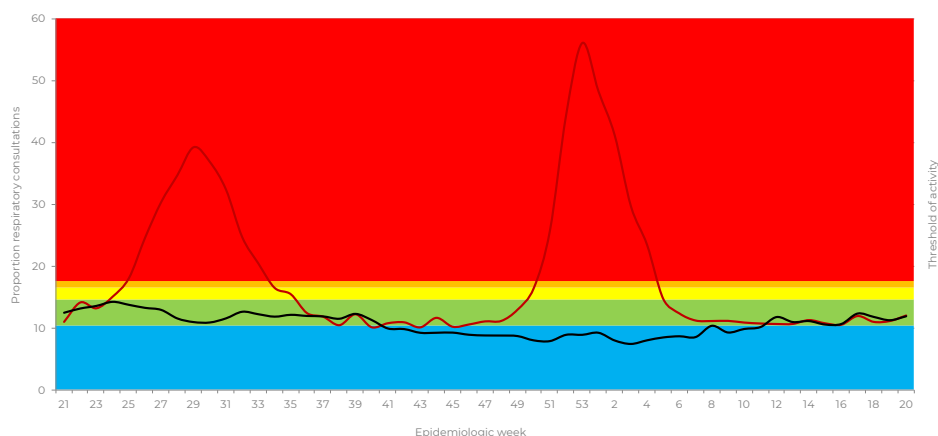


PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 20 2021

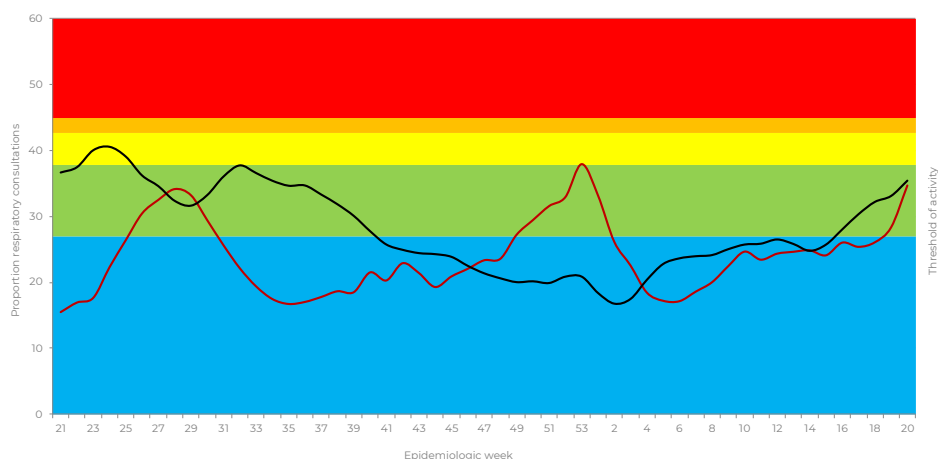
ALL AGES -

All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators - Inpatients

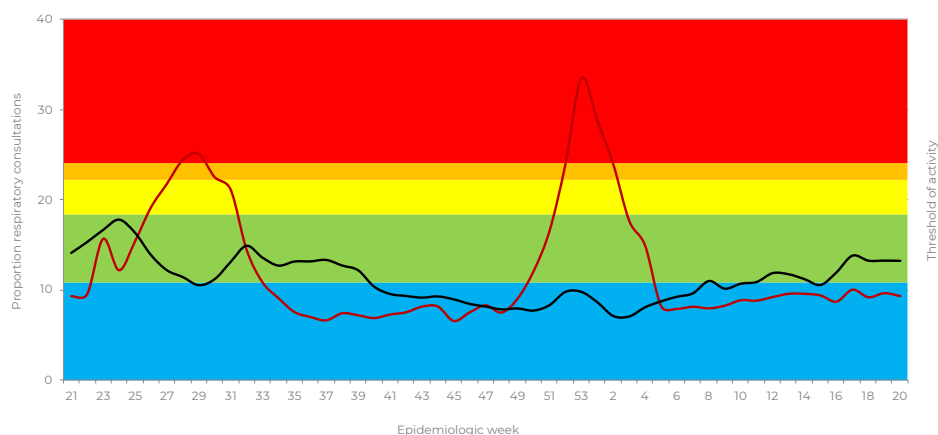


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators - Outpatients

General Practitioners



Emergency Department



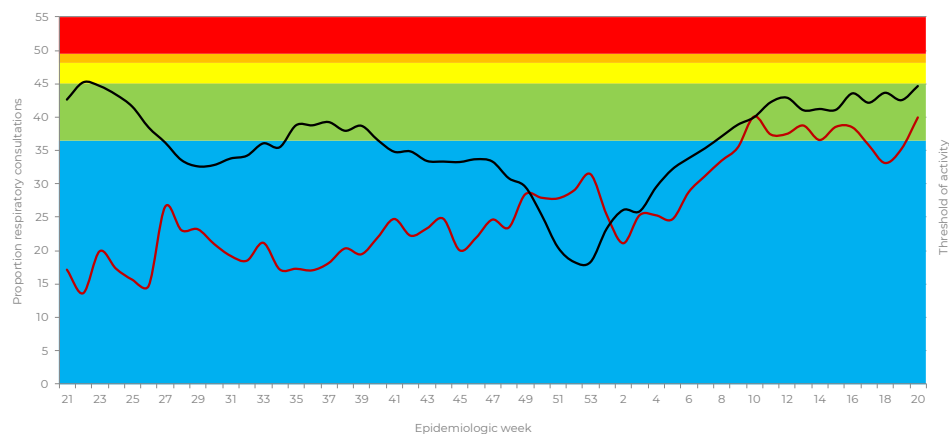
■ Below threshold
 ■ Low
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— % All Respiratory
— Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

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WEEK 20 2021

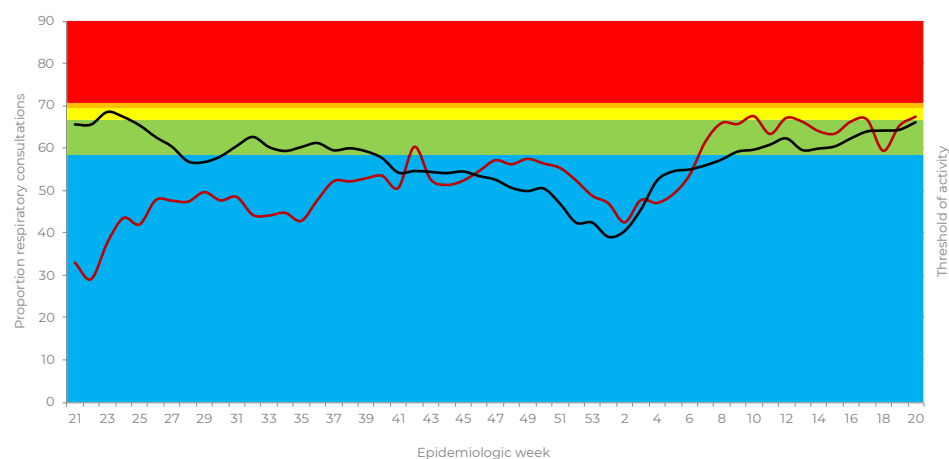
0-4 YEARS OF AGE

All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients

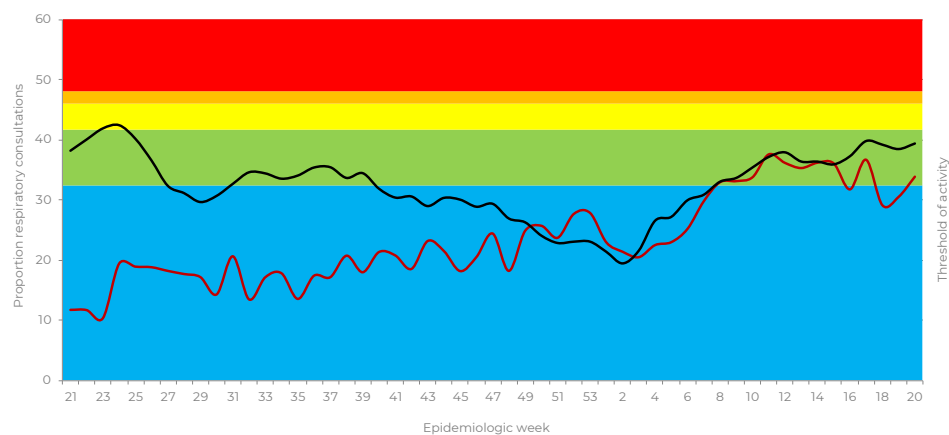


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



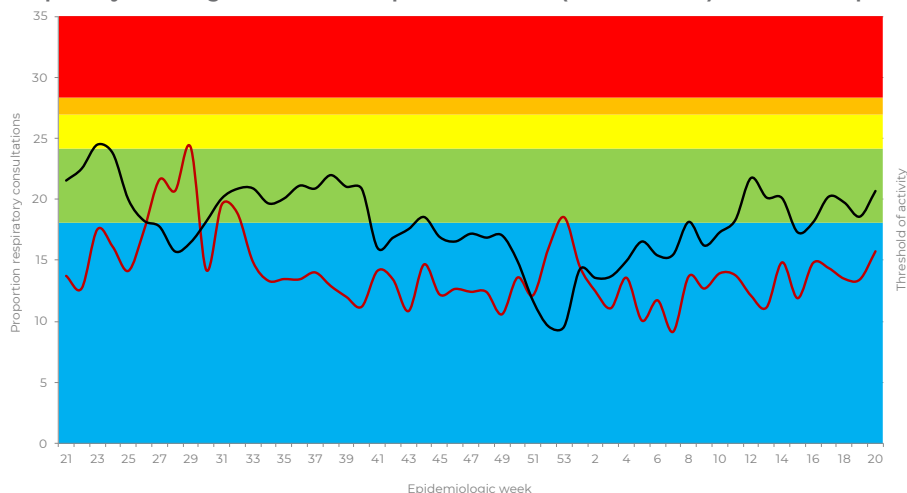
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WEEK 20 2021

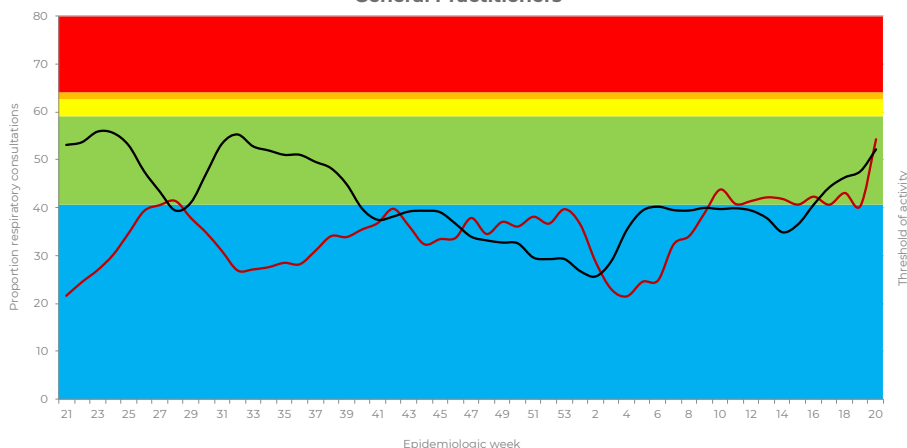
5-19 YEARS OF AGE

All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients

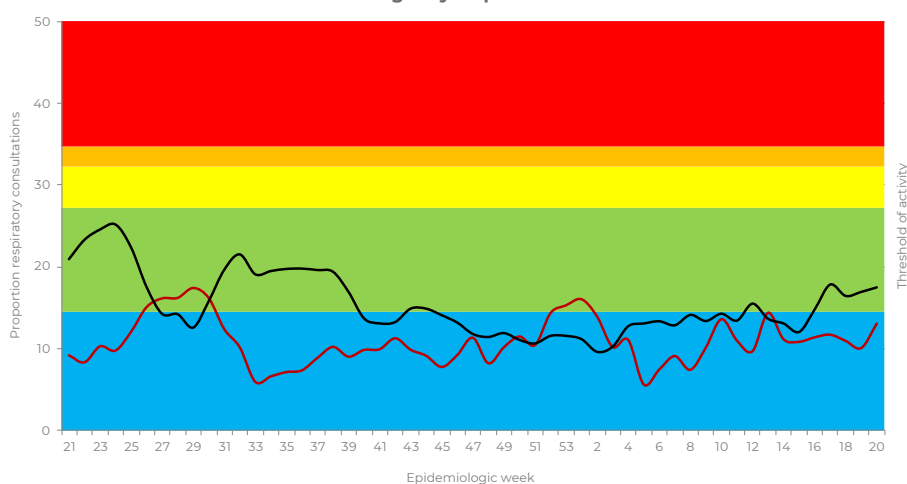


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



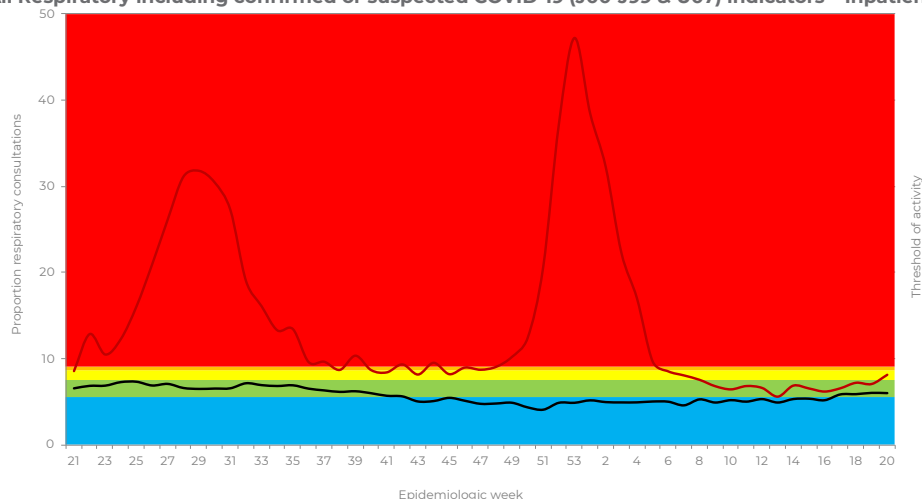
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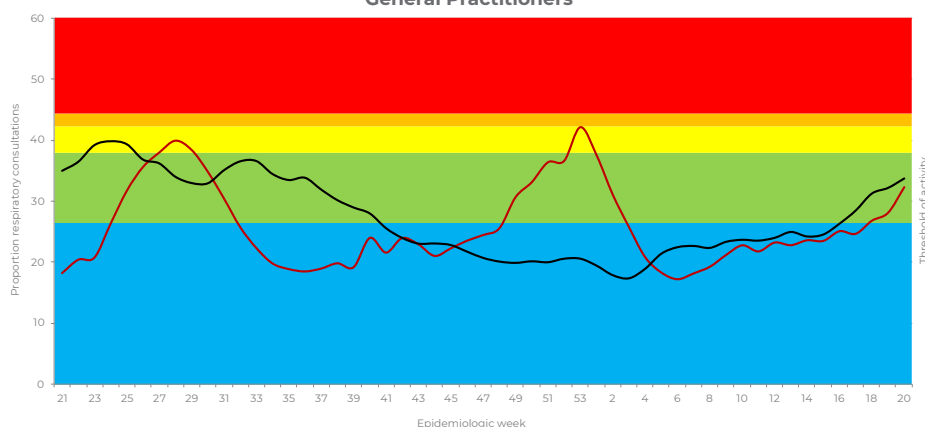
WEEK 20 2021

20-49 YEARS OF AGE

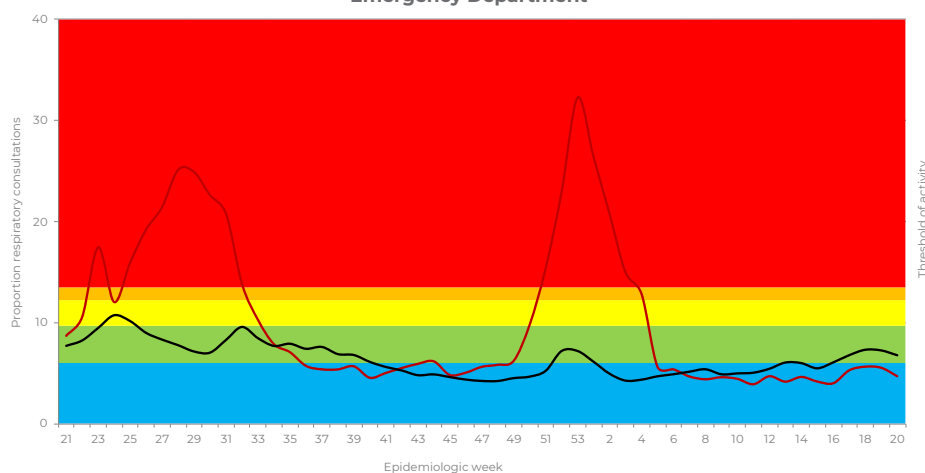
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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General Practitioners



Emergency Department



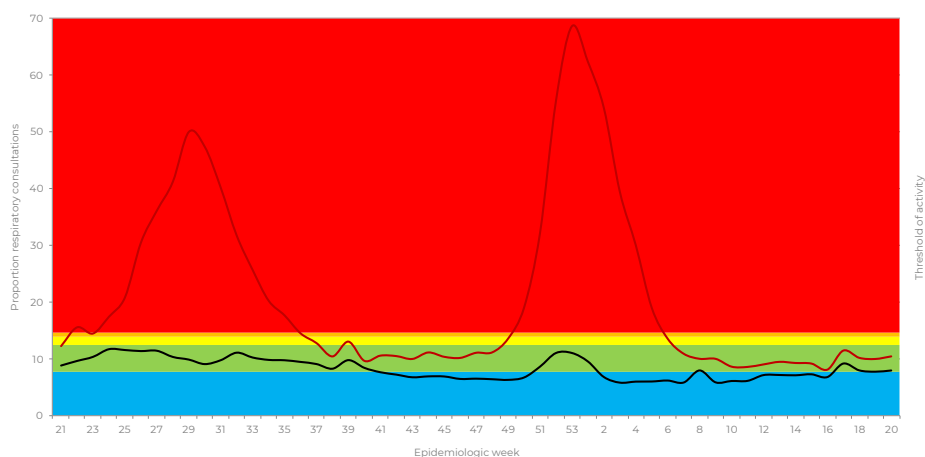
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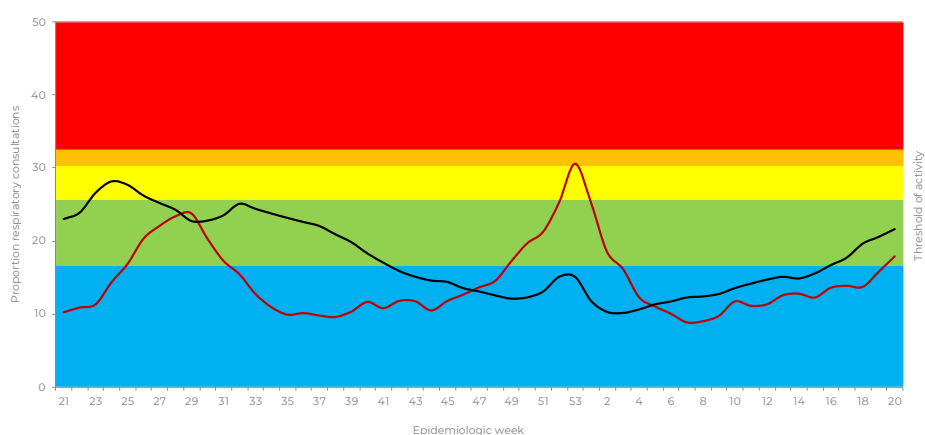
WEEK 20 2021

≥50 YEARS OF AGE

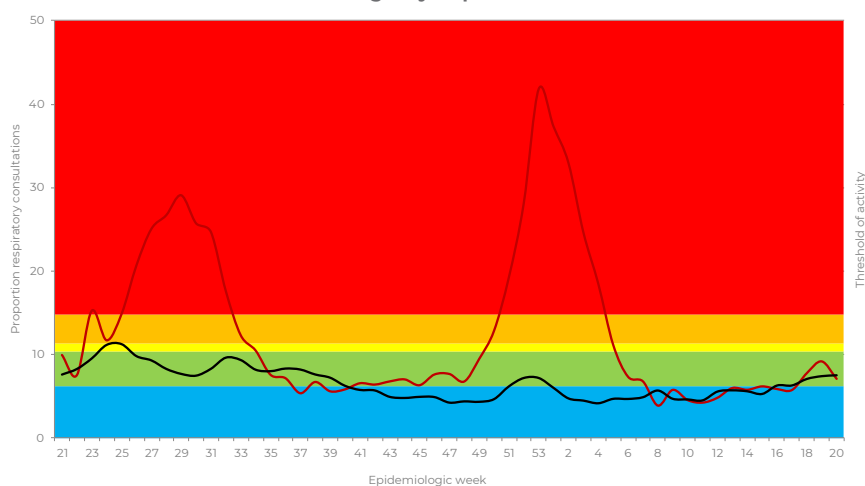
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients
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Emergency Department



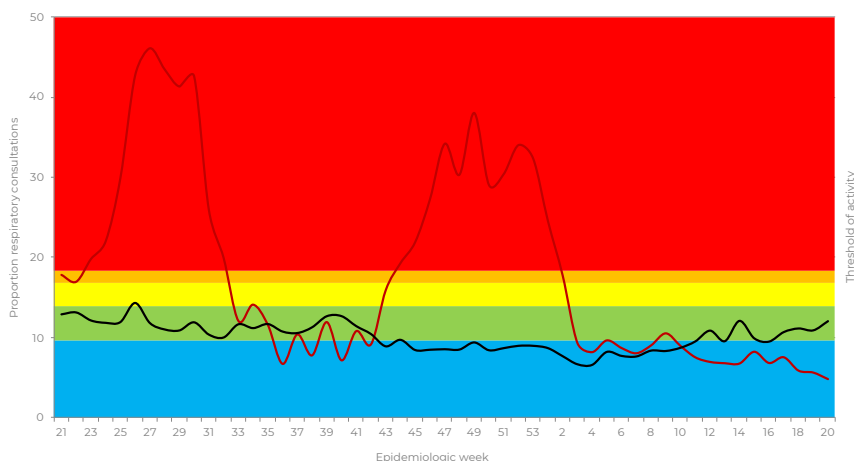
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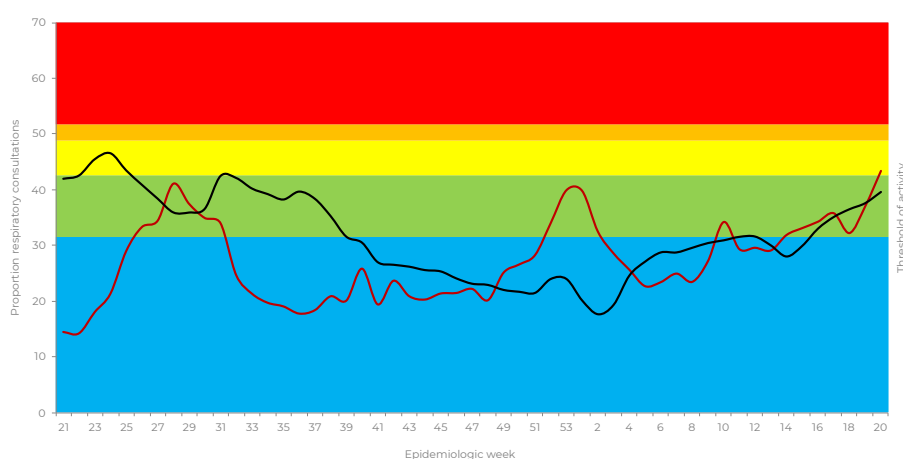
WEEK 20 2021

EASTERN CAPE PROVINCE

All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients
General Practitioners



Emergency Department



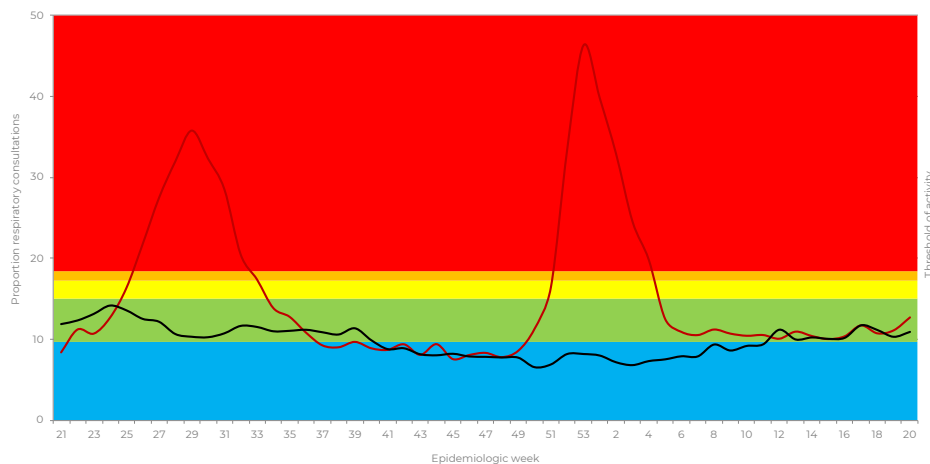
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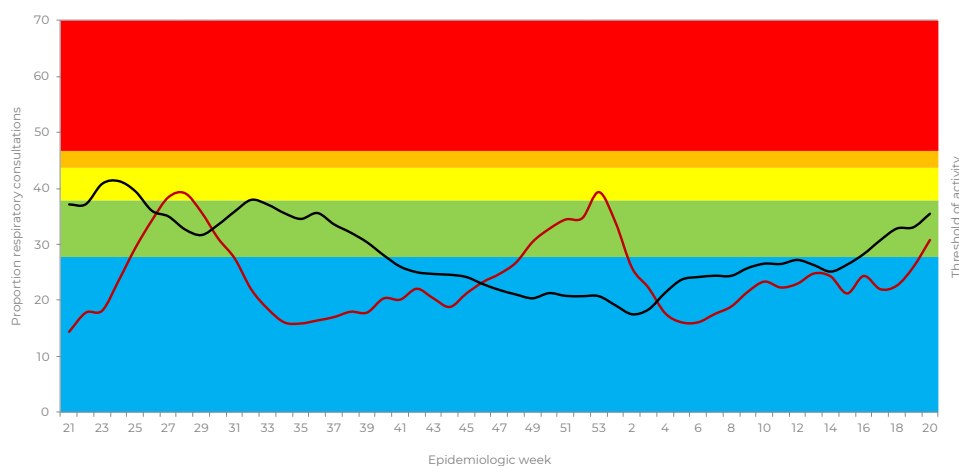
WEEK 20 2021

GAUTENG

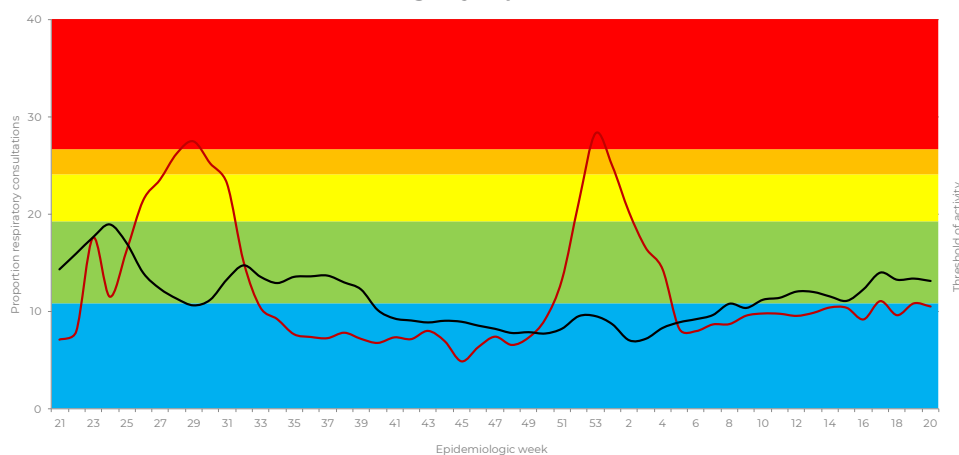
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All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients
General Practitioners



Emergency Department



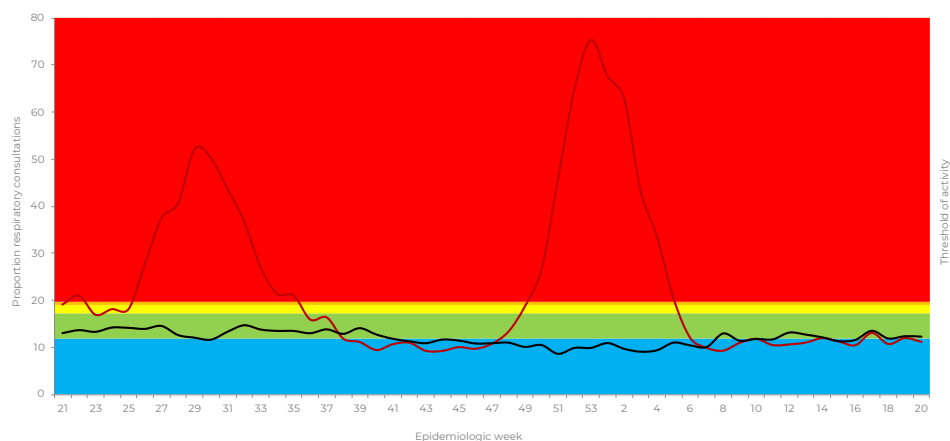
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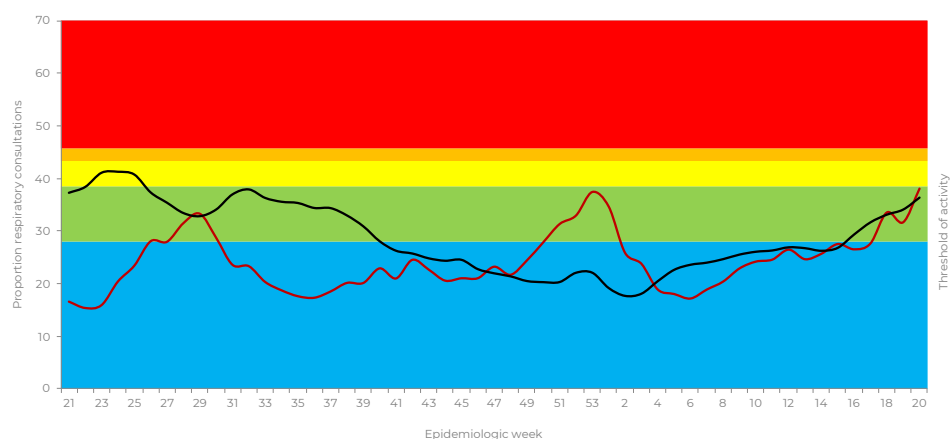
WEEK 20 2021

KWAZULU-NATAL

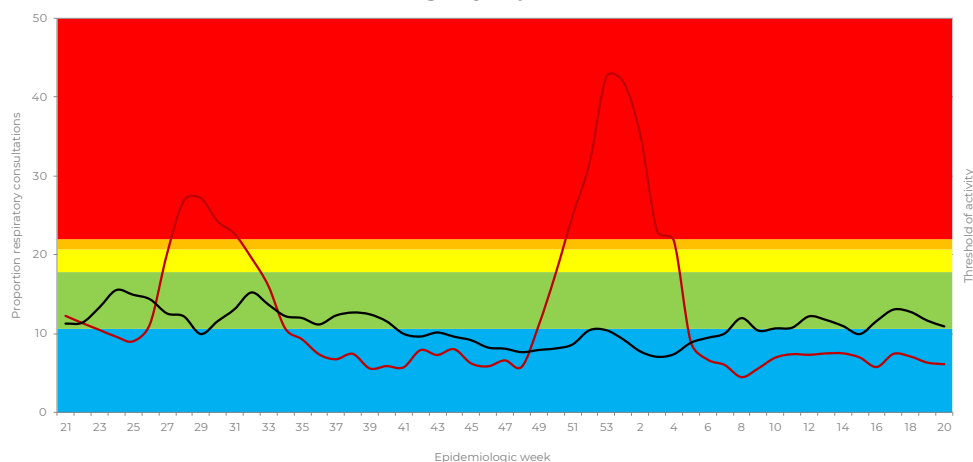
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All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients
General Practitioners



Emergency Department



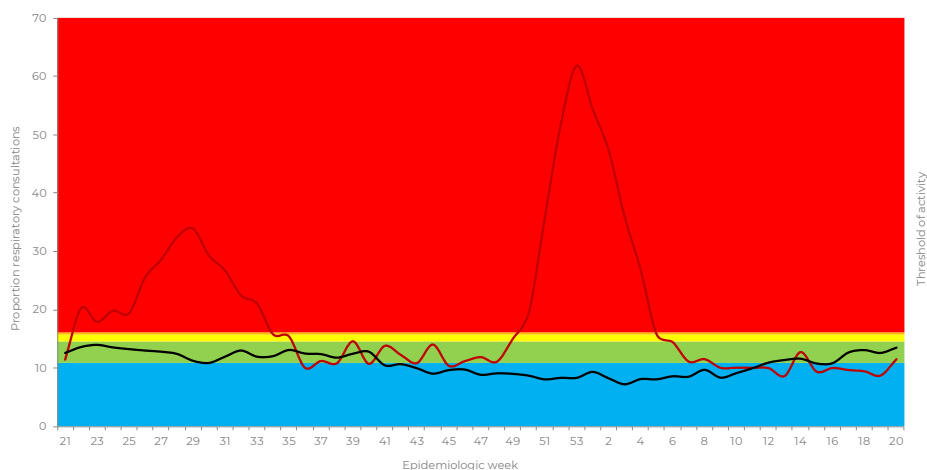
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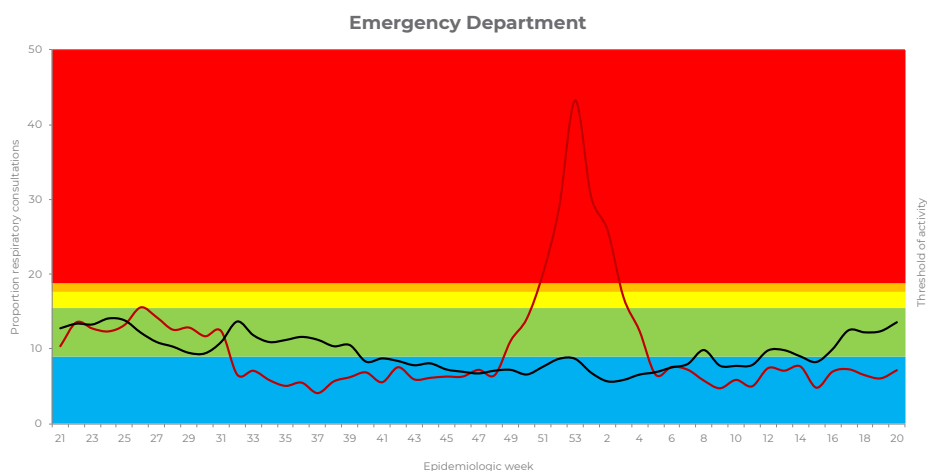
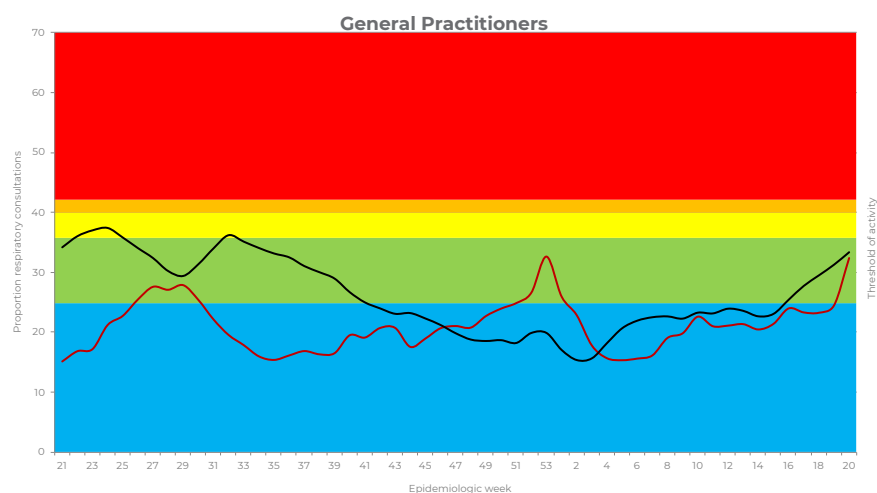
WEEK 20 2021

WESTERN CAPE PROVINCE

All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients



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WEEK 20 2021

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