

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

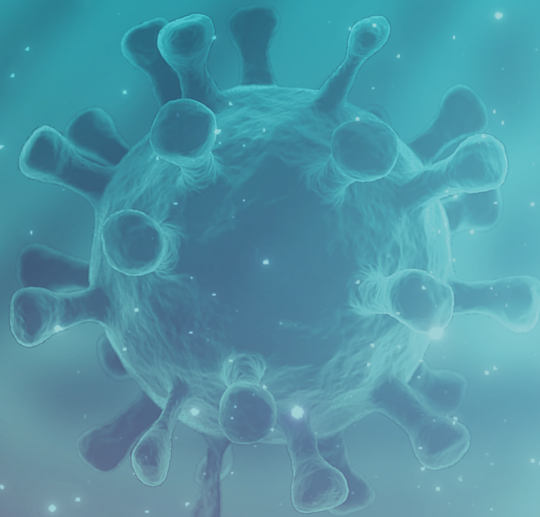
SOUTH AFRICA WEEK 22 2021

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## HIGHLIGHTS: WEEK 22

- Total number of respiratory hospitalisations have been increasing gradually in recent weeks reaching the low threshold.
- The percentage of respiratory general practitioner visits have been increasing in recent weeks reaching the low threshold.
- The percentage of respiratory emergency department visits have been increasing gradually in recent weeks reaching the low threshold.



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## 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.

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## INTERPRETATION OF DATA PRESENTED IN THIS REPORT

Total respiratory admissions peaked in the first COVID-19 wave in week 29 of 2020 reaching approximately double the level before the lockdown after which numbers decreased. In the second wave numbers peaked in week 1 of 2021, then decreasing. Numbers have begun increasing again since week 18 2021.

The proportion of admissions coded as confirmed COVID-19 (out of suspected) in the first COVID-19 wave peaked in week 31 2020, and again in the second wave in week 1 of 2021, then decreasing. The proportion began to increase again in week 11 2021.

Total and respiratory outpatient (general practitioner) consultations in the first COVID-19 wave peaked in week 28 2020, and again in the second wave in week 1 of 2021, then decreasing. The proportion of general practitioner consultations coded as confirmed COVID-19 (out of suspected) peaked in week 33 2020, and again in the second wave in week 2 of 2021. The proportion began to increase again in week 16 2021.

Total and respiratory emergency department consultations recovered to levels slightly lower than those preceding the lockdown from week 26 2020. The proportion of emergency department consultations coded as confirmed COVID-19 (out of suspected) peaked in week 30 2020 and again in week 2 of 2021. The proportion began to increase again in week 8 2021.

Proportion of admissions respiratory or suspected COVID-19 overall peaked in the very high level in the first COVID-19 wave in week 29 2021, peaking for the second wave in week 53 2021, and has been increasing gradually in the low threshold since week 6 2021. 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 2020. Among individuals 20-49 years and  $\geq 50$  years, percent respiratory admissions peaked in the very high level around week 29 2020 and again in week 53 2020. Currently, the admissions for individuals 20-49 years is in the moderate threshold and very high for those  $\geq 50$  years and showing an increasing trend in both groups.

Proportion of outpatient (general practitioner) consultations respiratory or suspected COVID-19 overall peaked in week 28 2020 and again in week 53 2020, after which it declined to below threshold. In recent 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 remained 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, and again in week 53 2020, and decreased to below threshold again but gradually increasing in recent weeks. By age group, percent emergency department visits showed similar trends. Currently, emergency visits are in the high threshold for adults  $\geq 50$  years with the remaining age groups below or in low threshold.

Trends in proportion of admissions and outpatient consultations respiratory or COVID varied by province. 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 respiratory in the Eastern Cape, KwaZulu-Natal and Western Cape are currently below/low threshold while the proportion has increased to moderate threshold in Gauteng. The proportion of outpatients/general practitioner consultations in the Eastern Cape sharply increased to very high threshold while in KwaZulu-Natal it rose to moderate threshold.

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

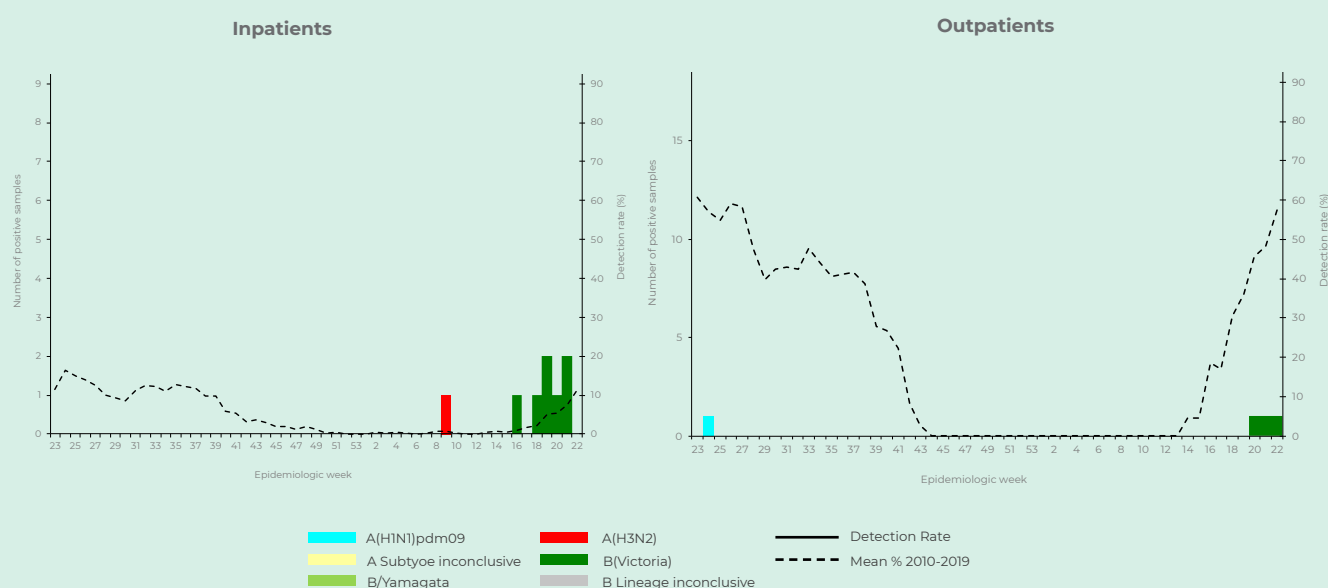


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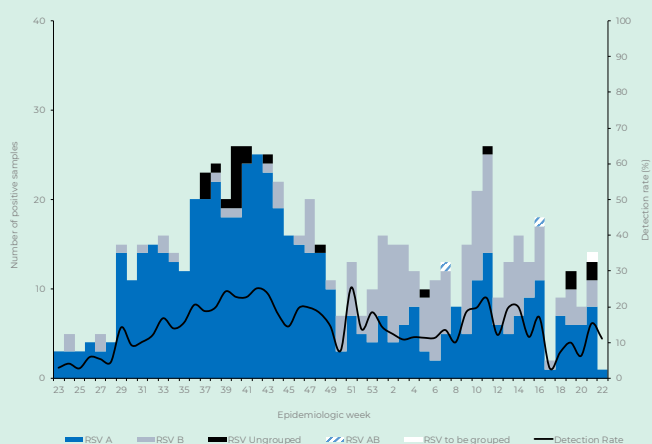
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## DATA FROM VIROLOGIC SURVEILLANCE PROGRAMMES TO AID IN INTERPRETATION OF CONSULTATION TRENDS

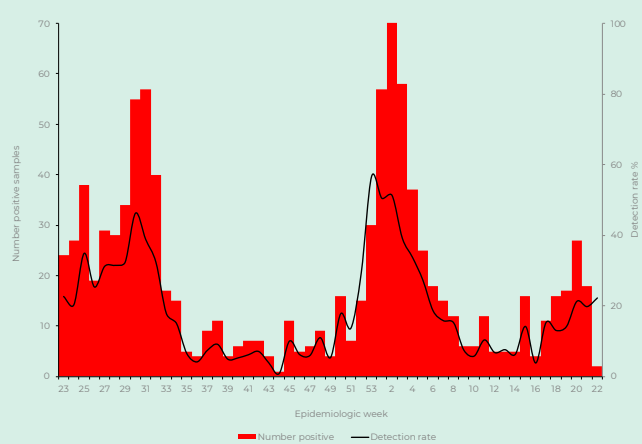
Number of influenza positive samples by subtype/lineage and detection rate by week



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)

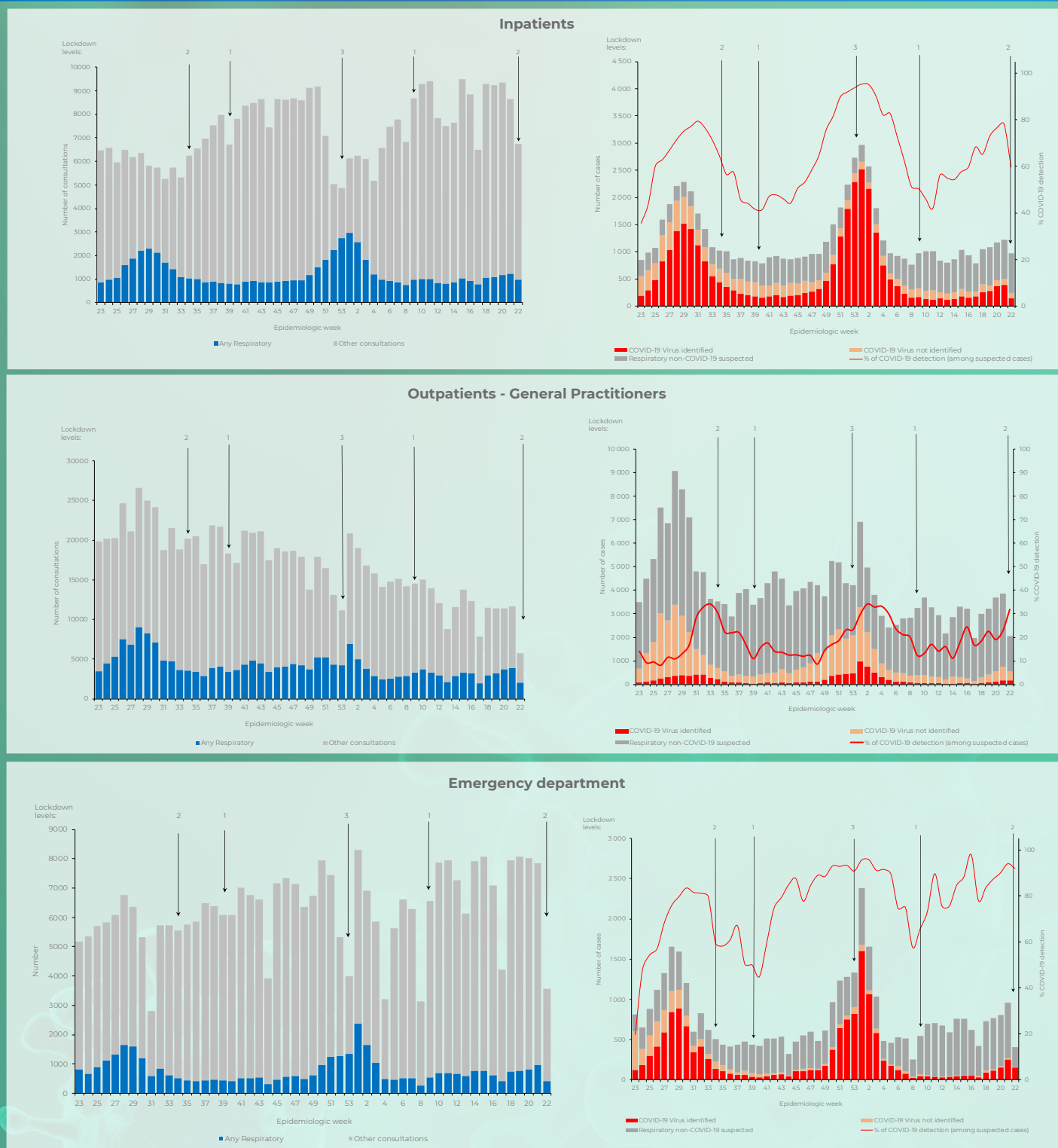


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**Number of consultations** - all respiratory including confirmed or suspected COVID-19 and other consultations by week

(ARROWS INDICATE WEEK OF ONSET OF LOCKDOWN LEVEL)

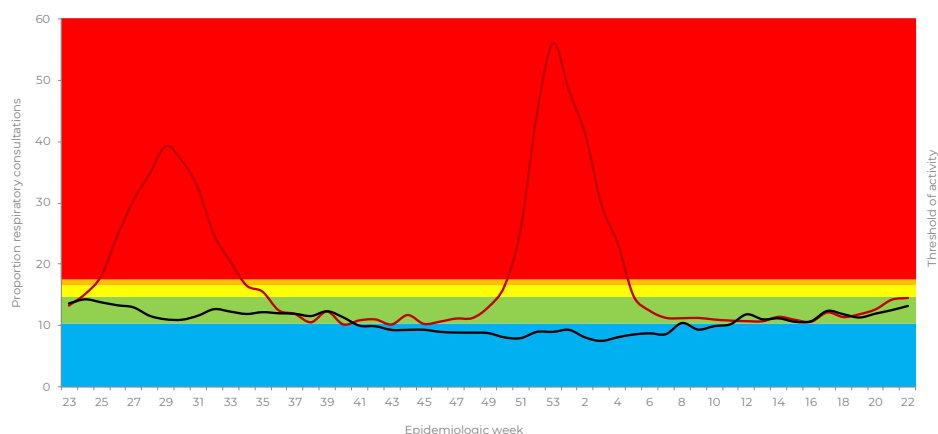


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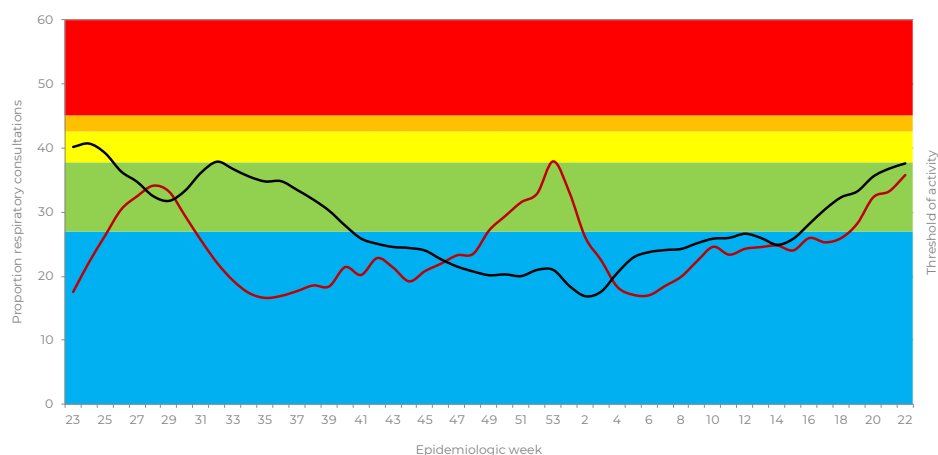
## ALL AGES -

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

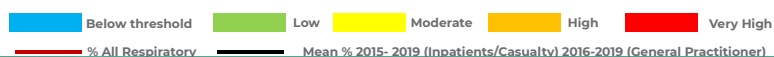
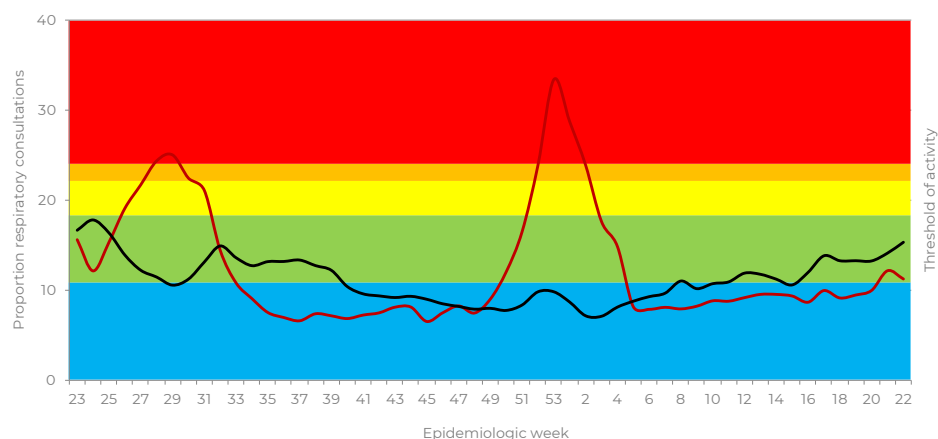


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators - Outpatients

### General Practitioners



### Emergency Department

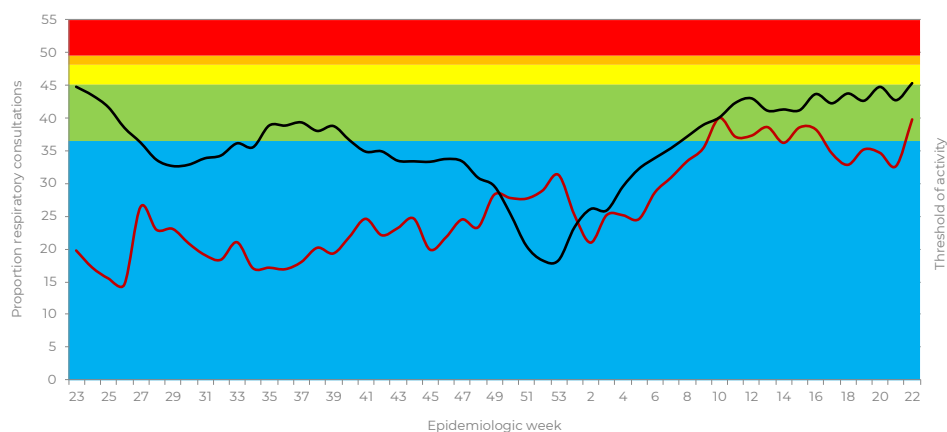


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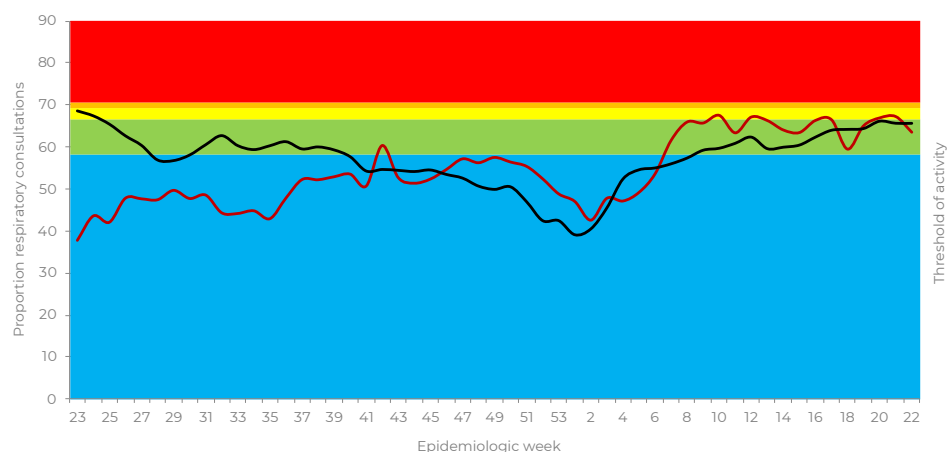
## 0-4 YEARS OF AGE

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

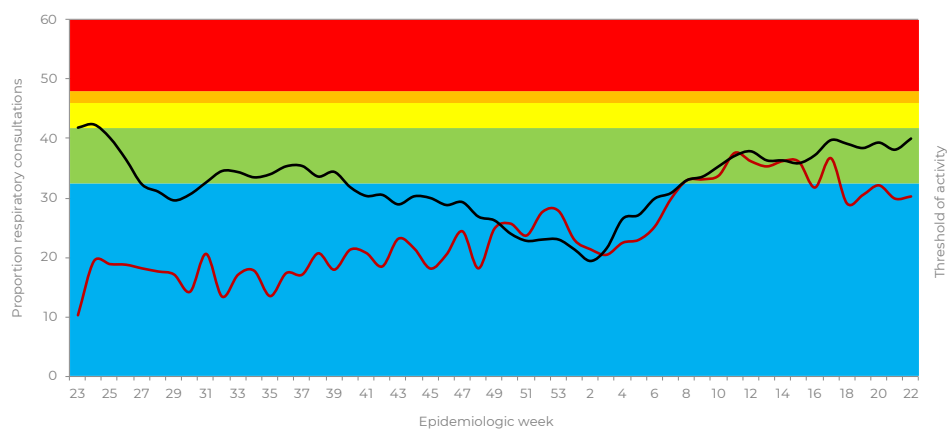


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



Below threshold Low Moderate High Very High  
 % All Respiratory Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

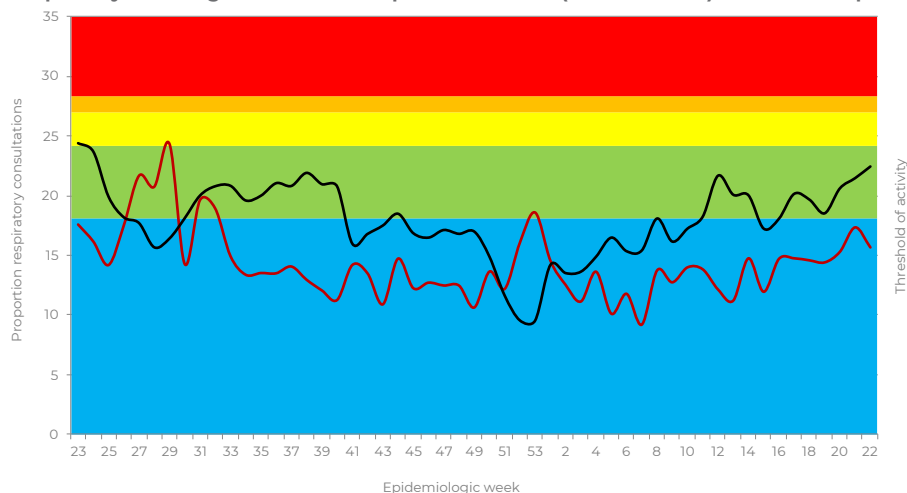


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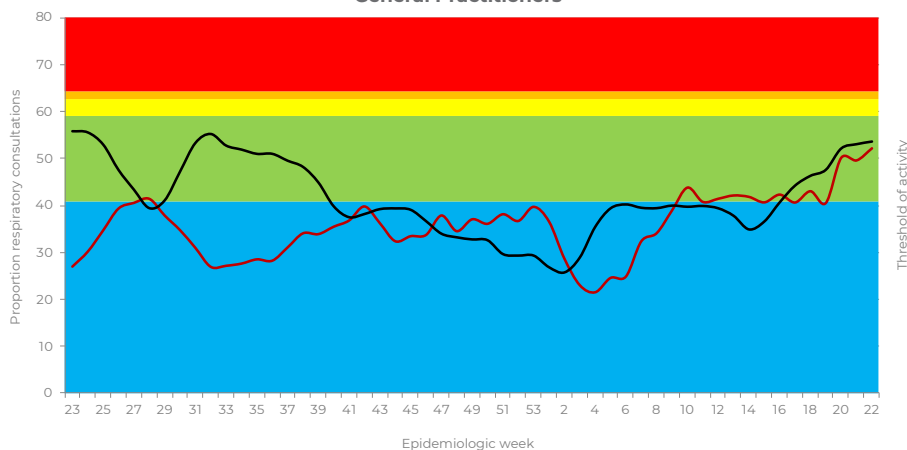
## 5-19 YEARS OF AGE

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

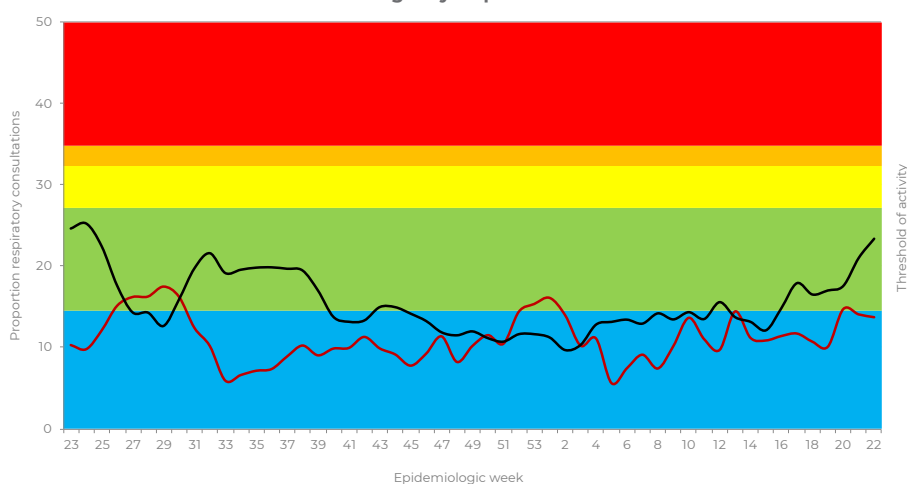


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



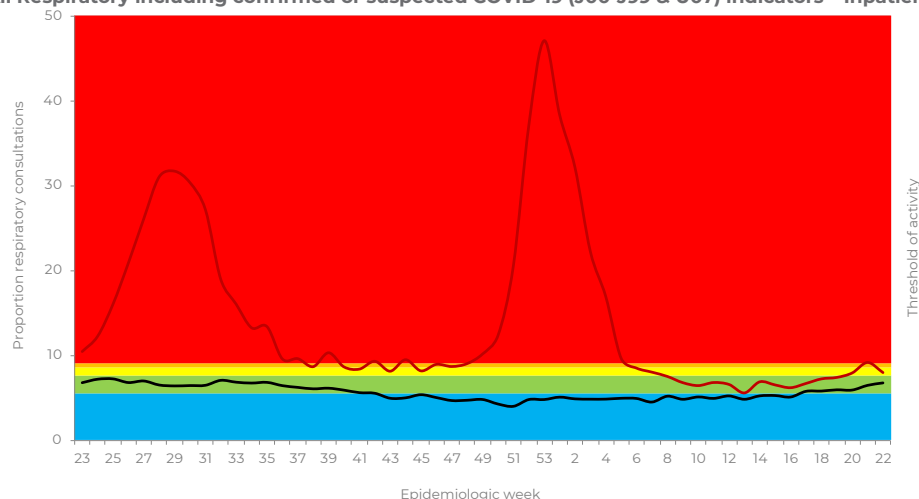
■ Below threshold   
 ■ Low   
 ■ Moderate   
 ■ High   
 ■ Very High  
— % All Respiratory   
— Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

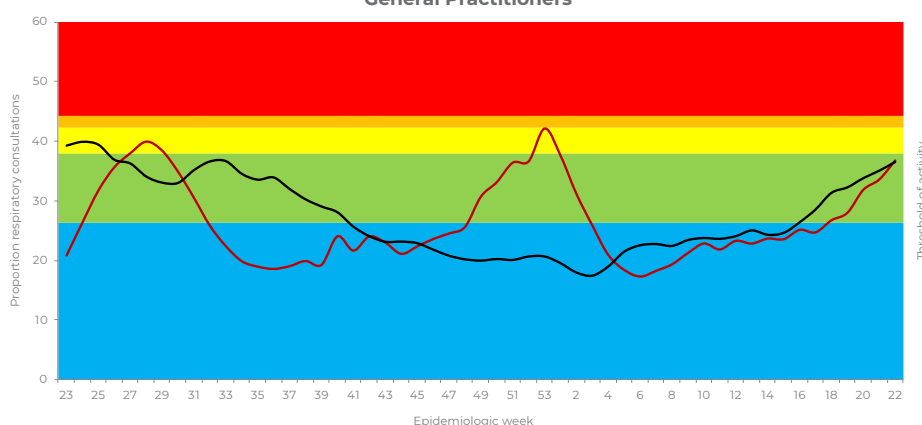
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## 20-49 YEARS OF AGE

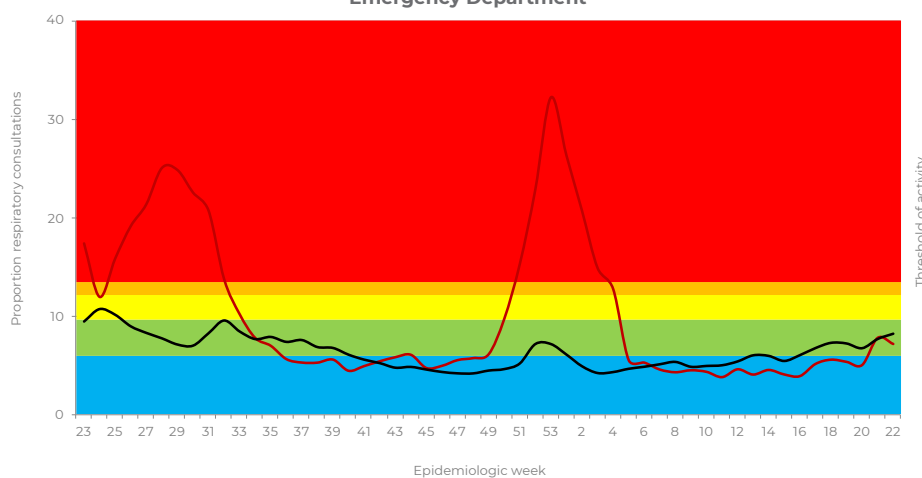
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



Below threshold
Low
Moderate
High
Very High

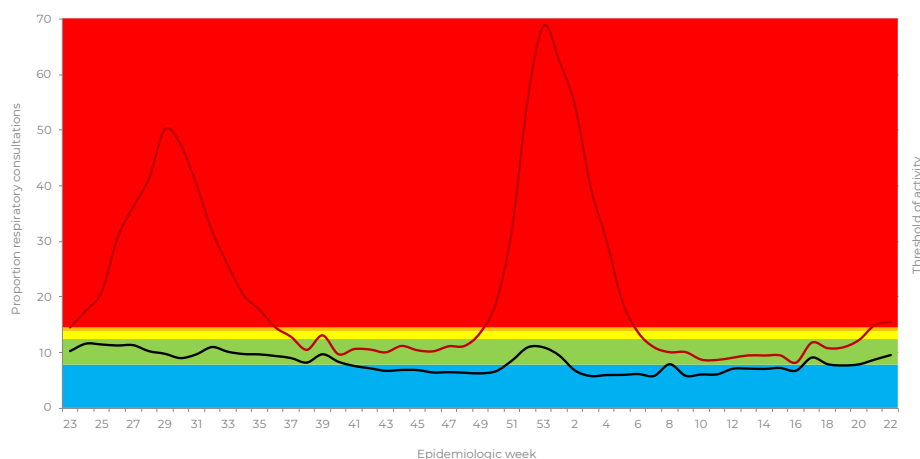
— % All Respiratory
 — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

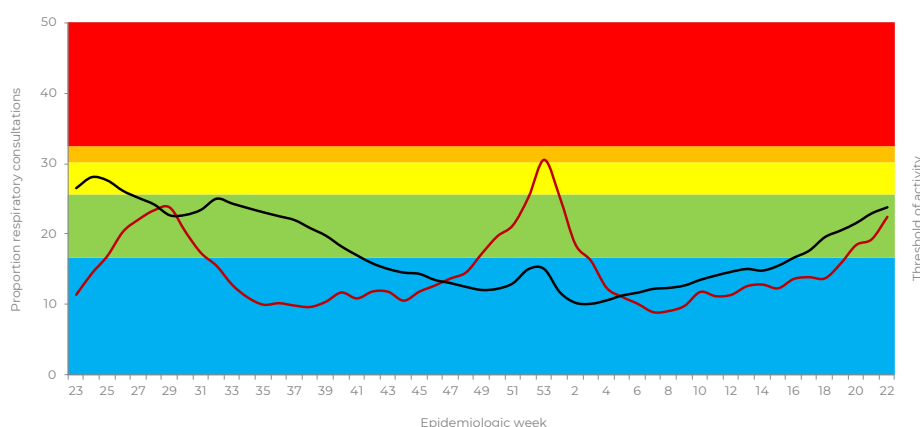
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## ≥50 YEARS OF AGE

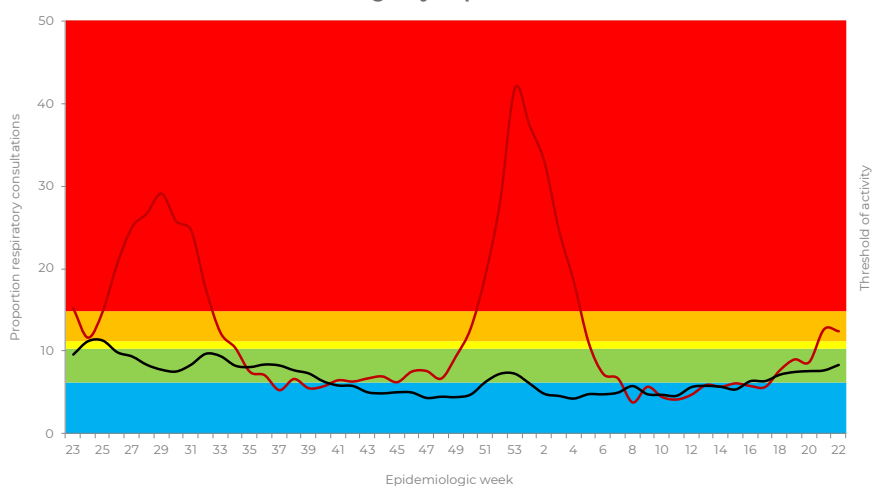
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



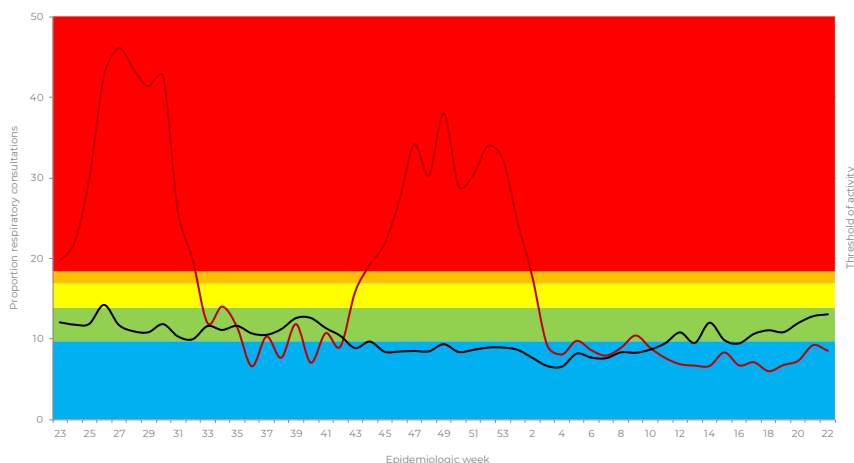
Below threshold Low Moderate High Very High  
— % All Respiratory — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

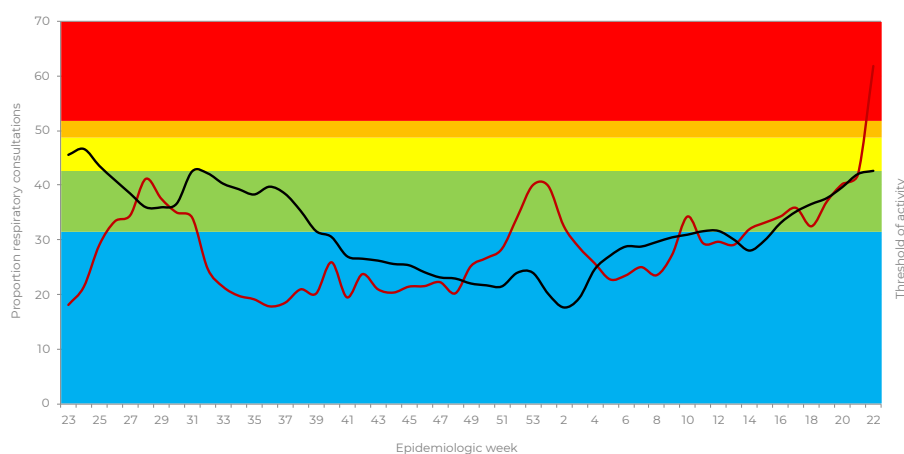
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## EASTERN CAPE PROVINCE

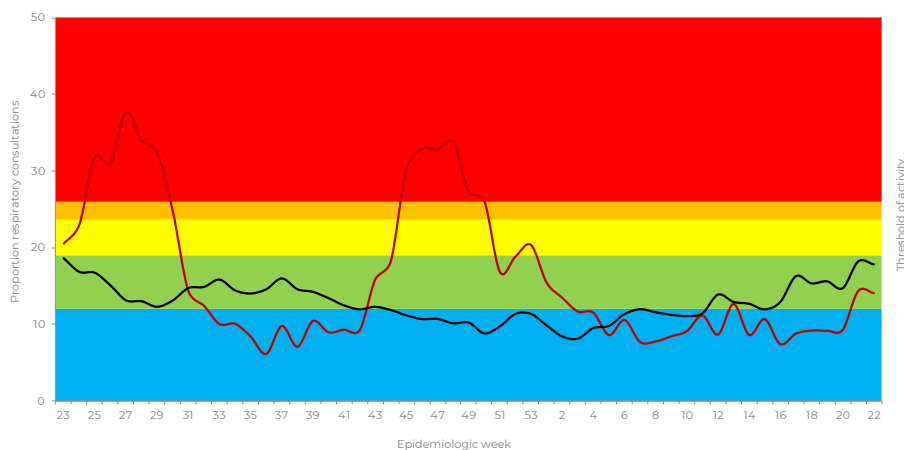
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



Below threshold
Low
Moderate
High
Very High

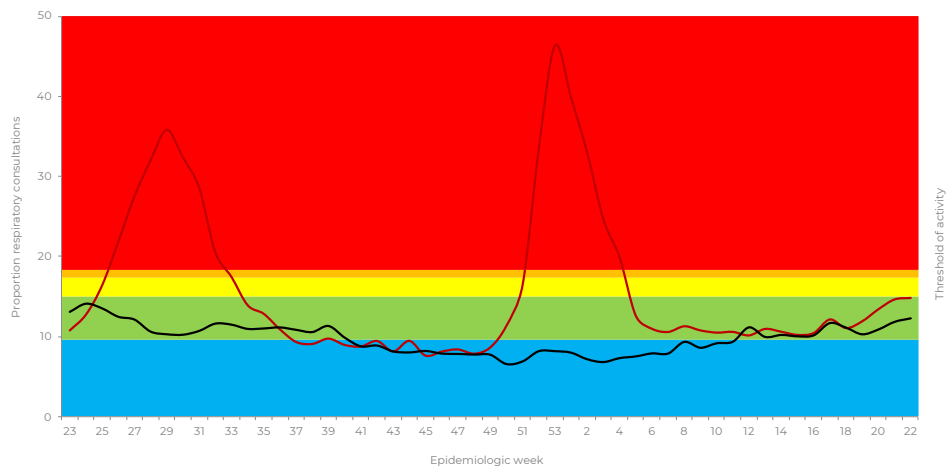
— % All Respiratory
 — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

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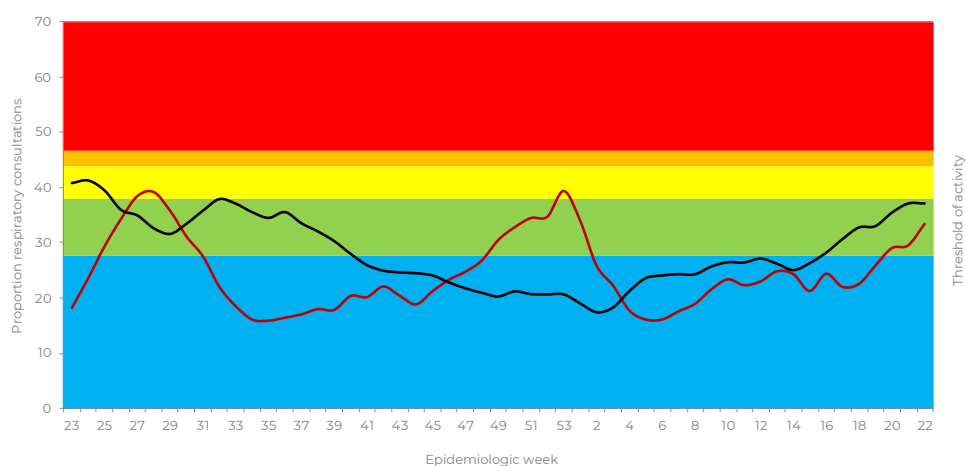
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## GAUTENG

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
  Moderate
  High
  Very High

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

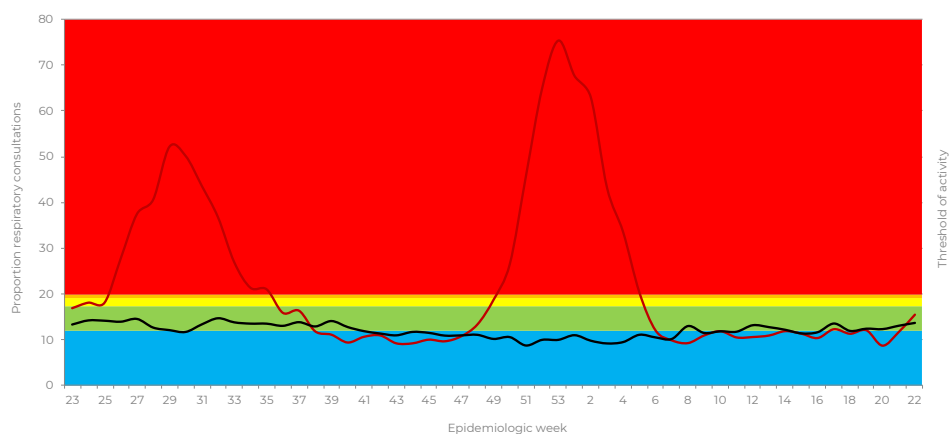


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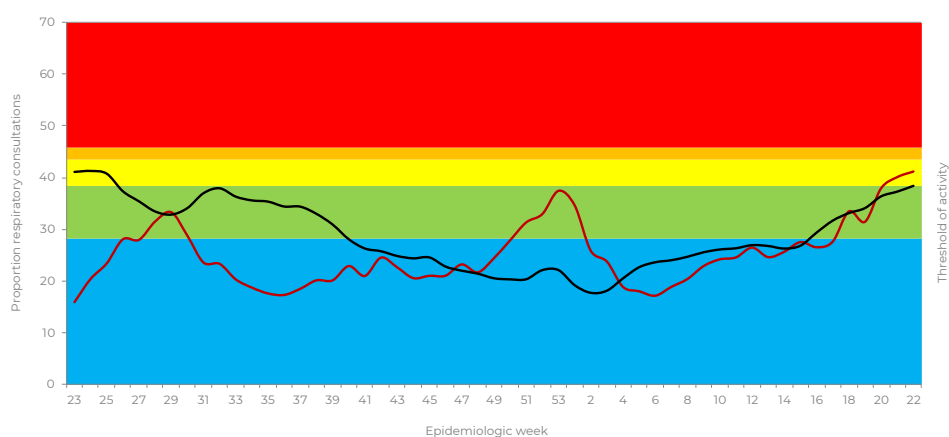
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## KWAZULU-NATAL

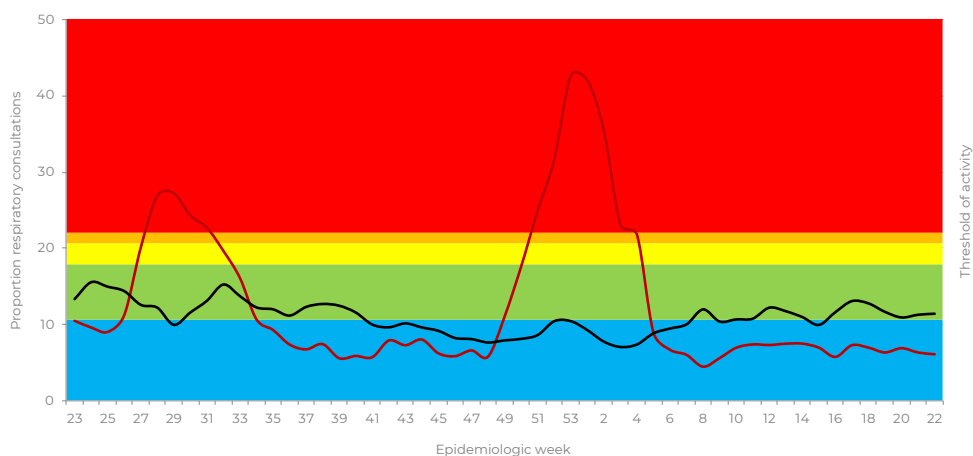
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



Below threshold
  Low
  Moderate
  High
  Very High

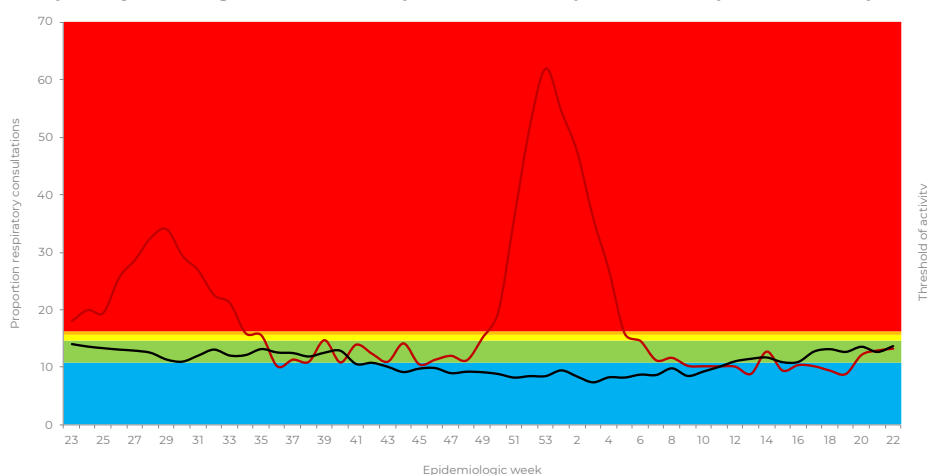
— % All Respiratory
 — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

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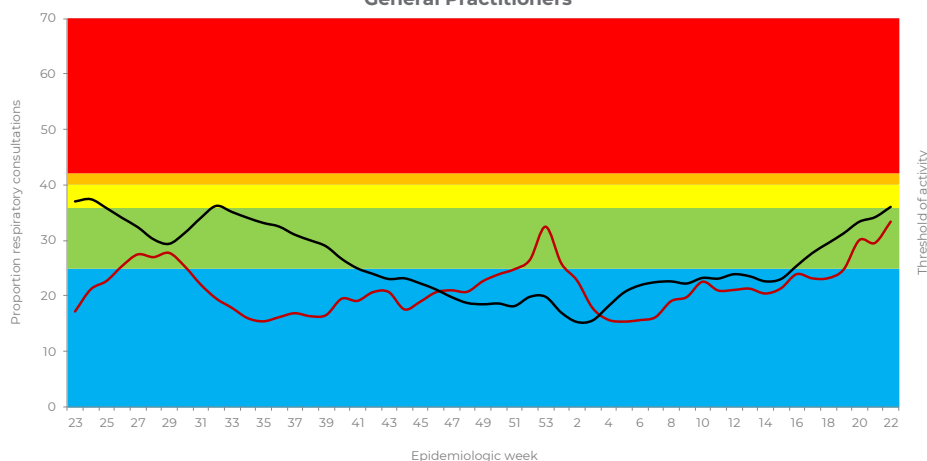
## WESTERN CAPE PROVINCE

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

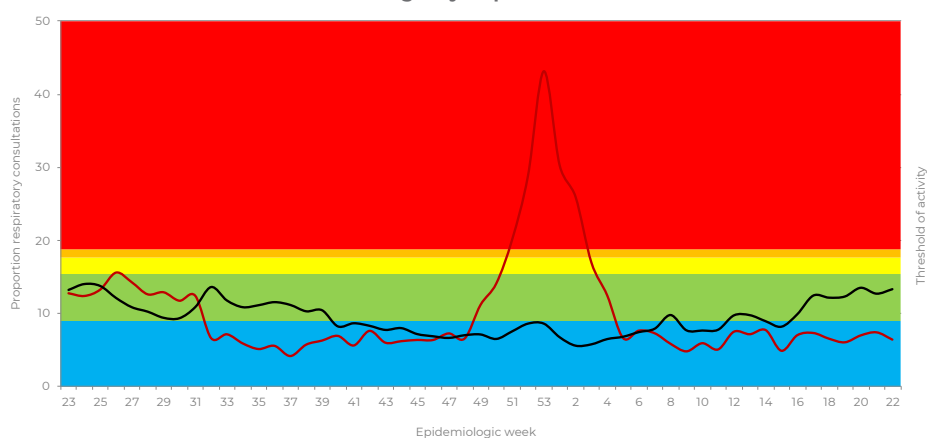


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



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

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## ACKNOWLEDGEMENT

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