

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

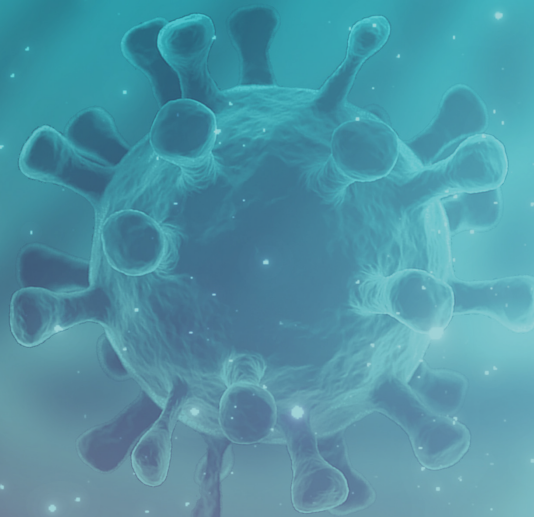
SOUTH AFRICA WEEK 49 2021

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## HIGHLIGHTS: WEEK 49

- Total number of respiratory hospitalisations increased in recent weeks in all age groups and provinces.
- The percentage of respiratory general practitioner visits has been increasing in recent weeks in all age-groups and provinces.
- The percentage of respiratory emergency department visits has been increasing in recent weeks in all age groups and provinces.



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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. The second wave numbers peaked in week 1 of 2021 while the third wave numbers peaked in week 20 of 2021. Numbers have been increasing since the resurgence of cases and the start of the fourth COVID-19 wave from week 45 of 2021.

The proportion of admissions coded as confirmed COVID-19 (among the suspected cases) in the first COVID-19 wave peaked in week 31 of 2020 at 79%, in the second wave in week 1 of 2021 at 95%, and in the third wave in week 27 of 2021 at 97%. It has since increased to 81% during the fourth wave, which is ongoing.

Total COVID-19 and respiratory outpatient (general practitioner) consultations peaked in week 28 of 2020 for the first COVID-19 wave, in week 1 of 2021 for the second COVID-19 wave and week 25 of 2021 in the third COVID-19 wave and have since increased from week 45 of 2021. The proportion of general practitioner consultations coded as confirmed COVID-19 (among the suspected cases) peaked in week 33 of 2020 at 34% for the first wave, in week 2 of 2021 at 34% for the second wave and again in week 28 at 50.1% for the third wave. The proportion of general practitioner consultations started to increase again from week 45 of 2021 and currently, is at 35%.

Total respiratory emergency department consultations coded as confirmed COVID-19 (among the suspected cases) peaked in week 30 of 2020 at 84% for the first wave, in week 2 of 2021 at 96% for the second wave and in week 25 at 98.4% for the third wave. The current proportion has increased to 99% from 36% in week 45 of 2021.

Proportion of respiratory or suspected COVID-19 admissions overall peaked in the very high level in weeks 29 of 2020, 53 of 2020 and 28 of 2021 for the first, second and third waves respectively. Currently, admissions are increasing to moderate threshold. By age group, percent respiratory or suspected COVID admissions for 0-4 years, remained below threshold

throughout the three waves, but have been increasing over the past weeks and is currently 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 aged 20-49 years and  $\geq 50$  years, percent respiratory admissions peaked in the very high level around week 29 of 2020, week 53 of 2020 and week 27 of 2021. Currently, the admissions for all age groups have increased with children and adolescents aged  $\leq 19$  years in low/moderate threshold and adults  $\geq 20$  years in high/very high threshold.

Proportion of outpatient (general practitioner) respiratory or suspected COVID-19 consultations peaked in week 28 of 2020, week 53 of 2020 and week 26 of 2021, after which it has recently increased to moderate threshold. In recent weeks, the overall level increased to varying thresholds in all age groups. The 20-49-year age groups recorded a high threshold whilst the remaining age groups are in low threshold.

Proportion of emergency department respiratory or suspected COVID-19 consultations peaked in week 28 of 2020, week 53 of 2020 and week 26 of 2021 and has since increased to a moderate threshold. By age group, percent emergency department visits showed increasing trends. Emergency visits are currently in moderate threshold in all age groups with increases in patients aged  $\geq 5$  years. The  $\geq 20$  years age groups increased to very high threshold and the 5-19 years age group increased to high threshold.

Trends in proportion of admissions, outpatient and emergency department respiratory or COVID consultations varied by province. The first wave peaked between weeks 27 and 30 of 2020 in the four provinces evaluated, the second wave in weeks 49 for Eastern Cape and 53 of 2020 for the remaining three provinces and the third wave in weeks 26 for Gauteng and 28 of 2021 for the remaining three provinces. The second wave peak exceeded the first wave peak in Gauteng, Kwazulu-Natal, and the Western Cape, and the third wave peak exceeded the second wave peak in Gauteng

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only. In recent weeks the proportion of respiratory inpatients increased in all provinces except for Eastern Cape, to moderate thresholds. The proportion of outpatients/general practitioner consultations increased in all provinces to moderate/high thresholds. The proportion of emergency department consultations increased in recent weeks in all provinces with Gauteng province in very high threshold and the others in low thresholds.

## Limitations

Thresholds are established based on the proportion of respiratory consultations. If the 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.

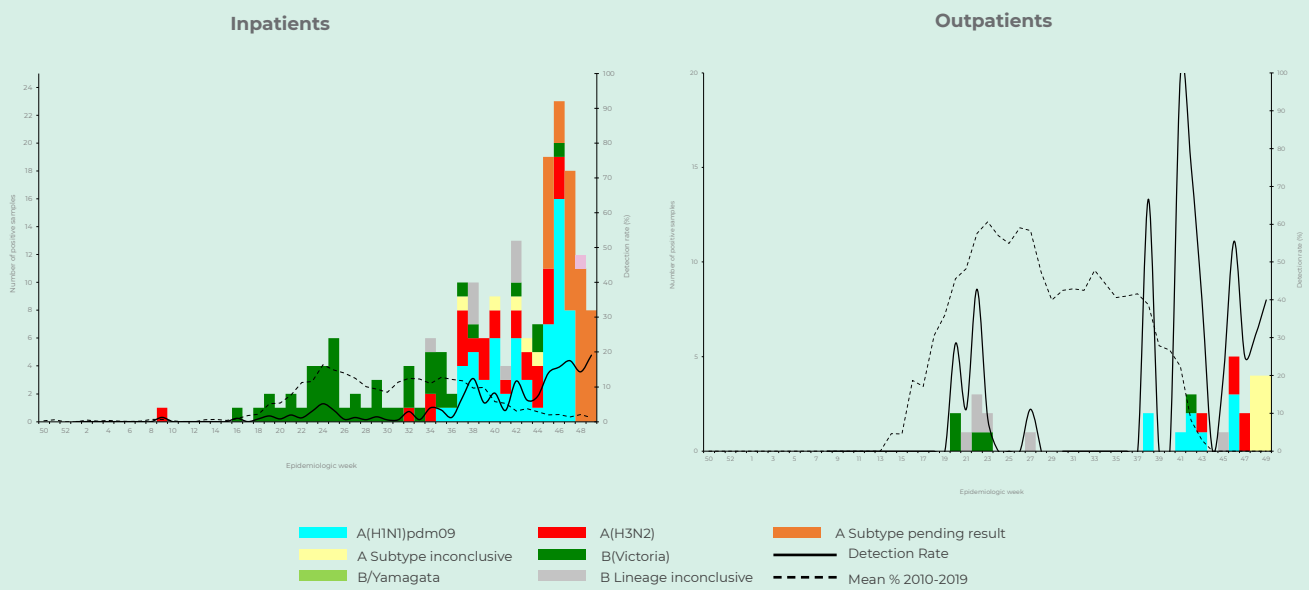


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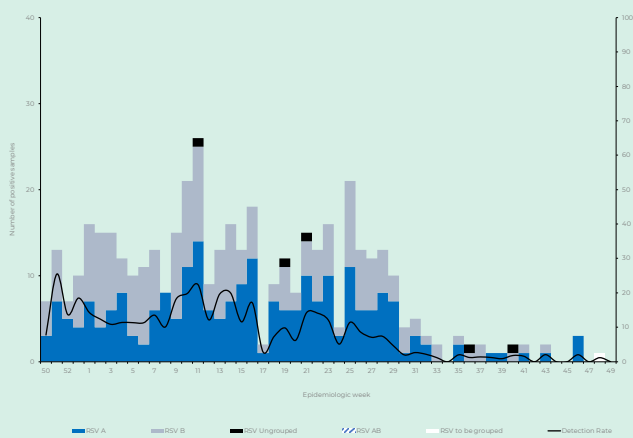
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## DATA FROM VIROLOGIC SURVEILLANCE PROGRAMMES TO AID IN INTERPRETATION OF CONSULTATION TRENDS

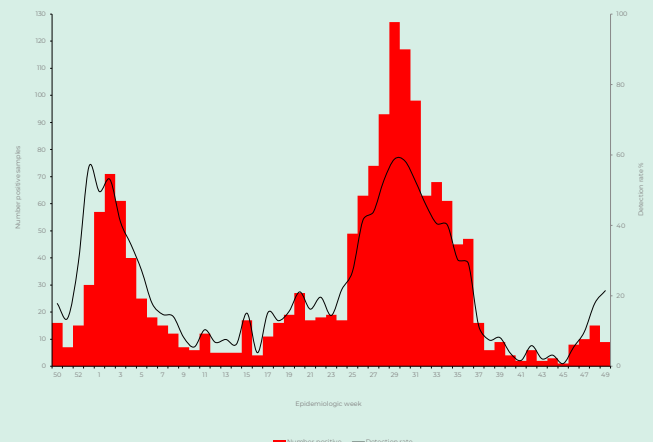
Number of influenza positive samples by subtype/lineage and detection rate by week



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)

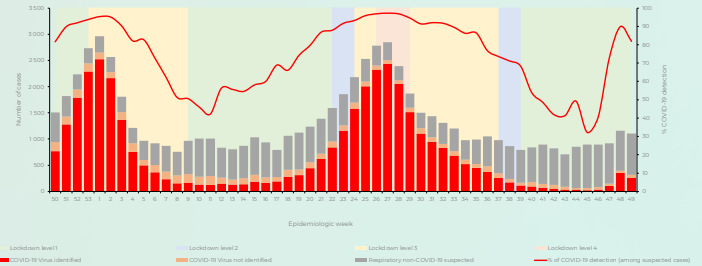
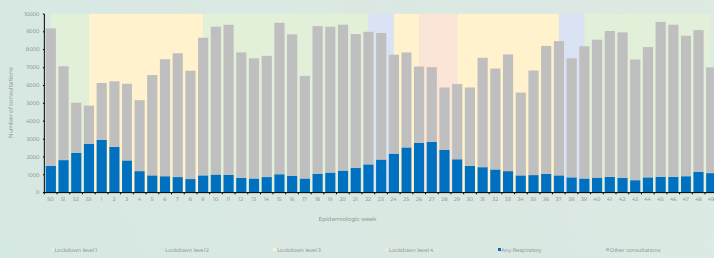


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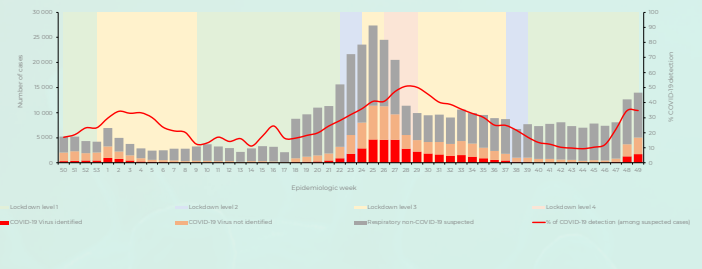
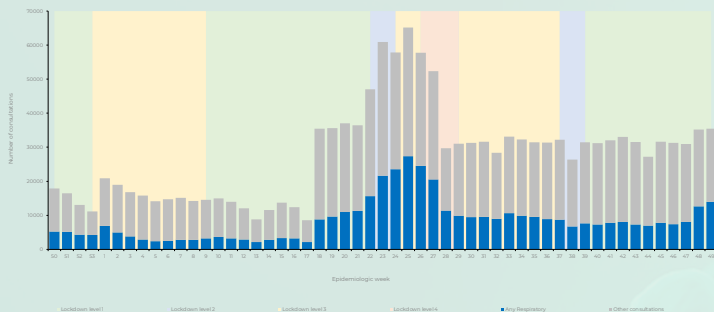
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**Number of consultations** - all respiratory including confirmed or suspected COVID-19 and other consultations by week

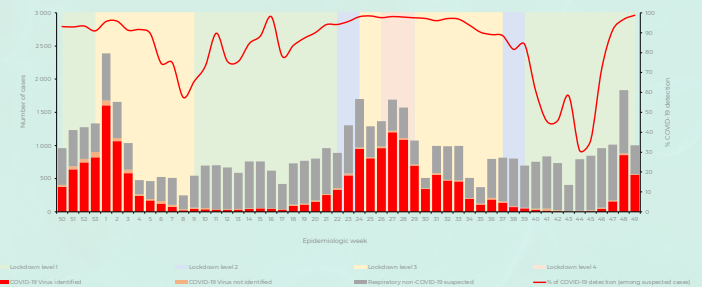
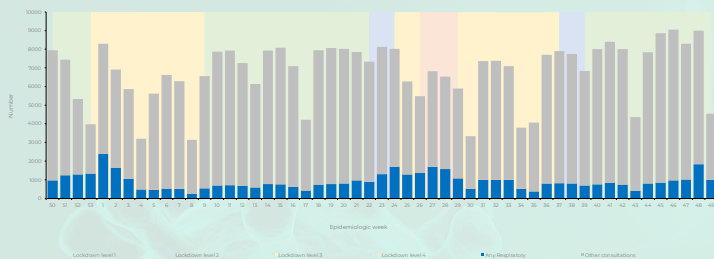
## Inpatients



## Outpatients - General Practitioners



## Emergency department

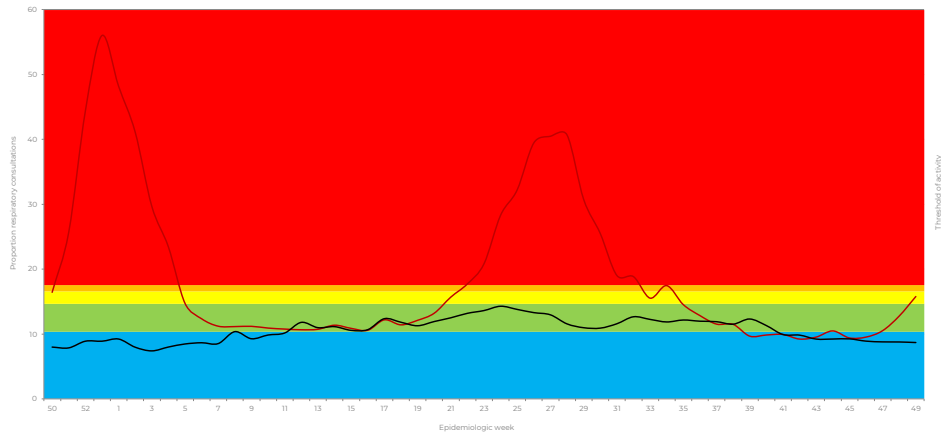


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WEEK 49 2021

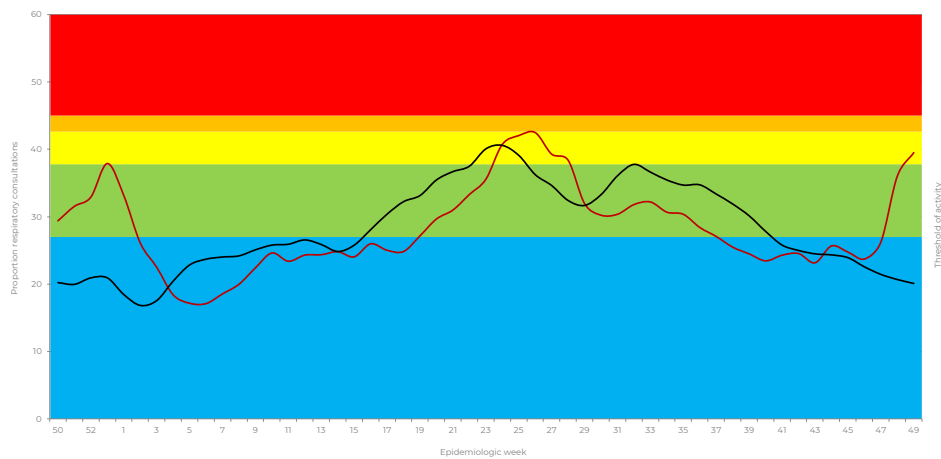
## ALL AGES

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

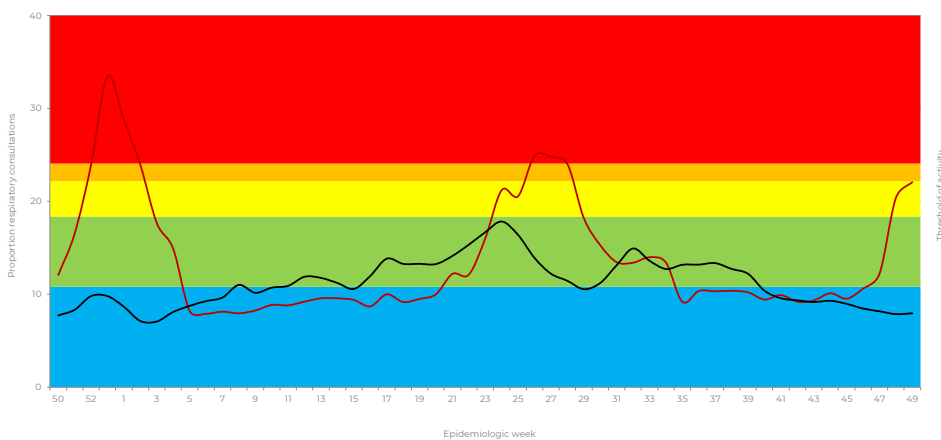


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



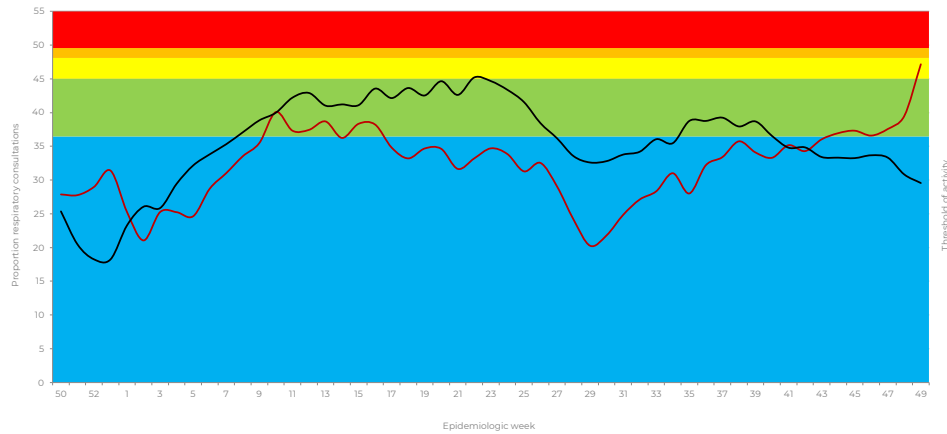
■ Below threshold   
 ■ Low   
 ■ Moderate   
 ■ High   
 ■ Very High  
— % All Respiratory   
— Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

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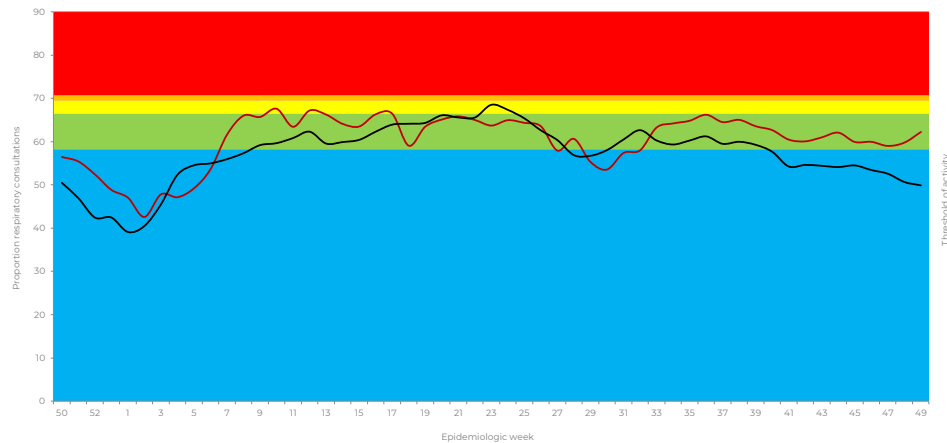
## 0-4 YEARS OF AGE

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

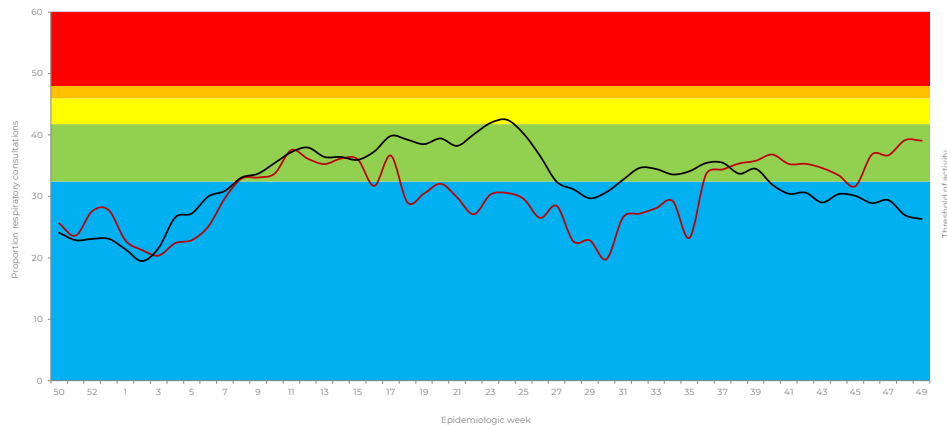


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



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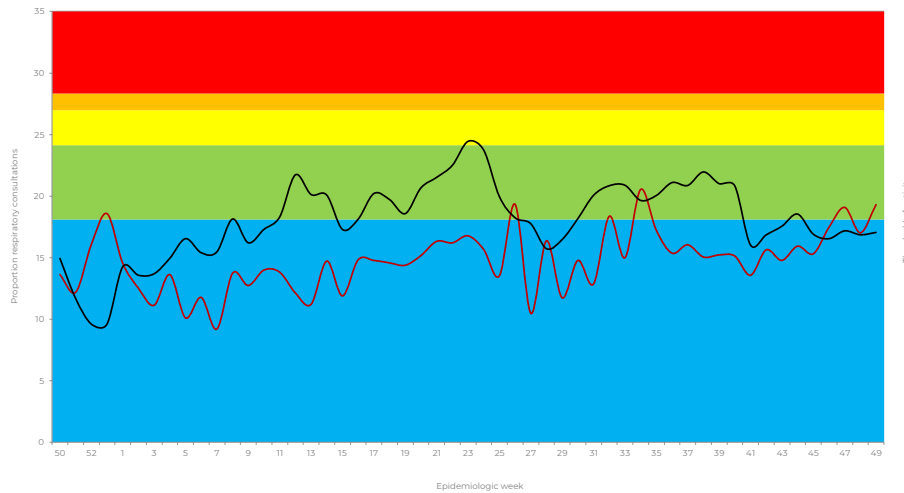


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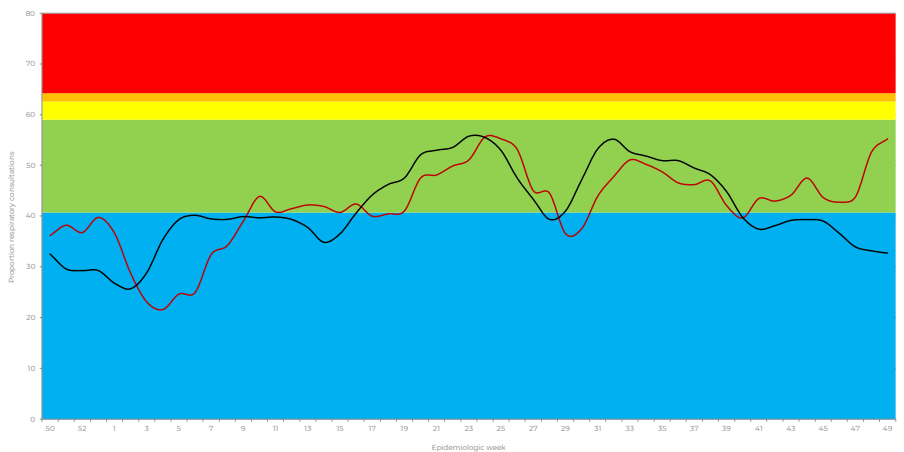
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## 5-19 YEARS OF AGE

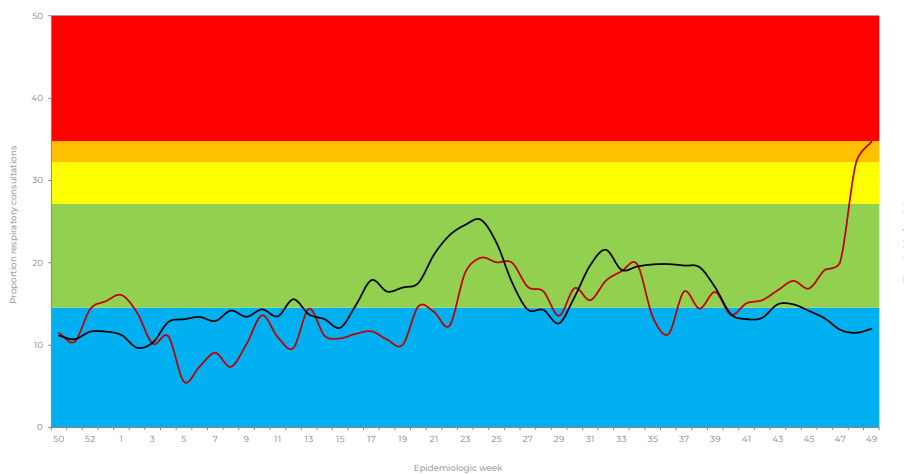
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



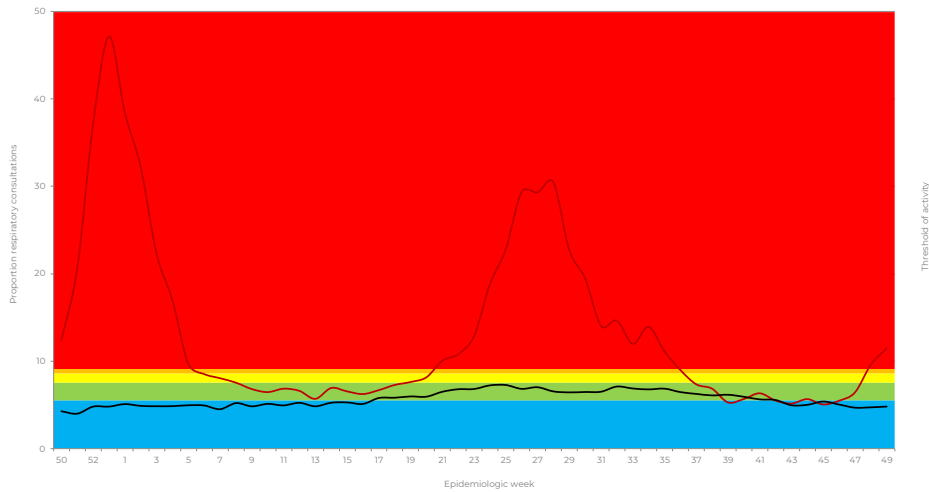
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## 20-49 YEARS OF AGE

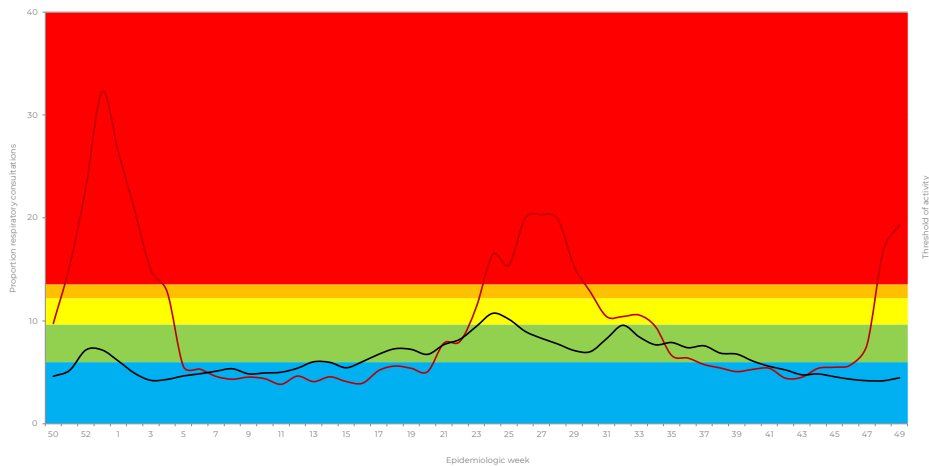
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



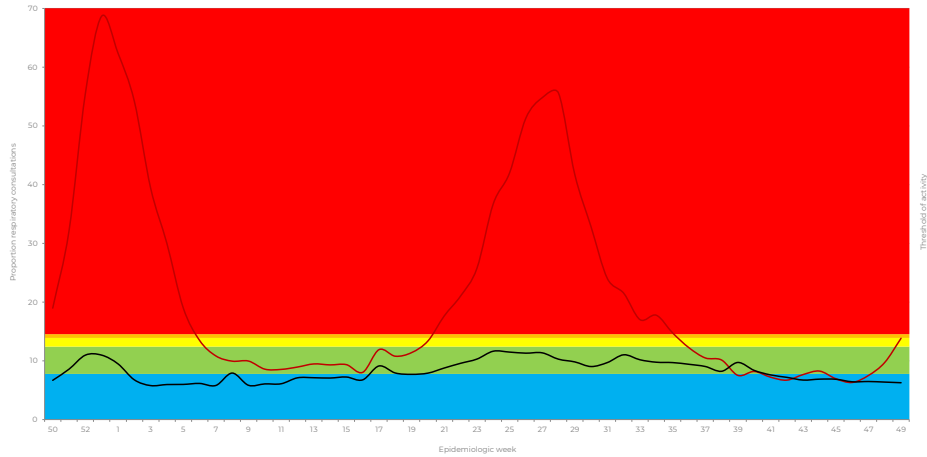
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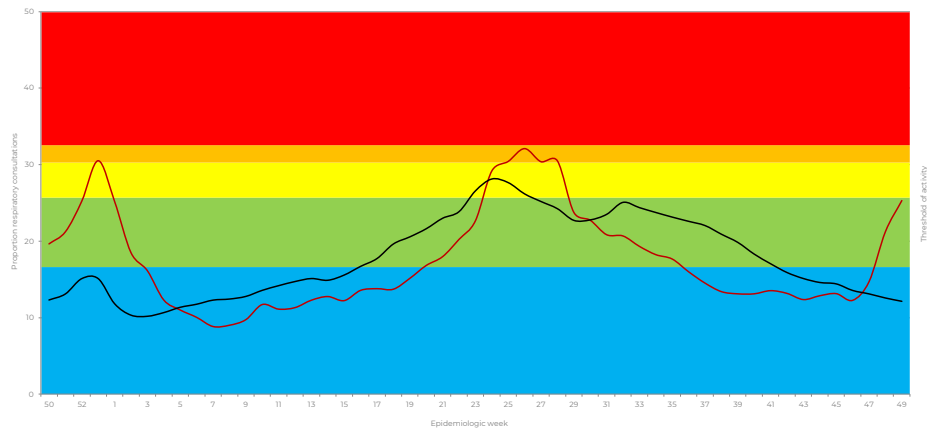
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## ≥50 YEARS OF AGE

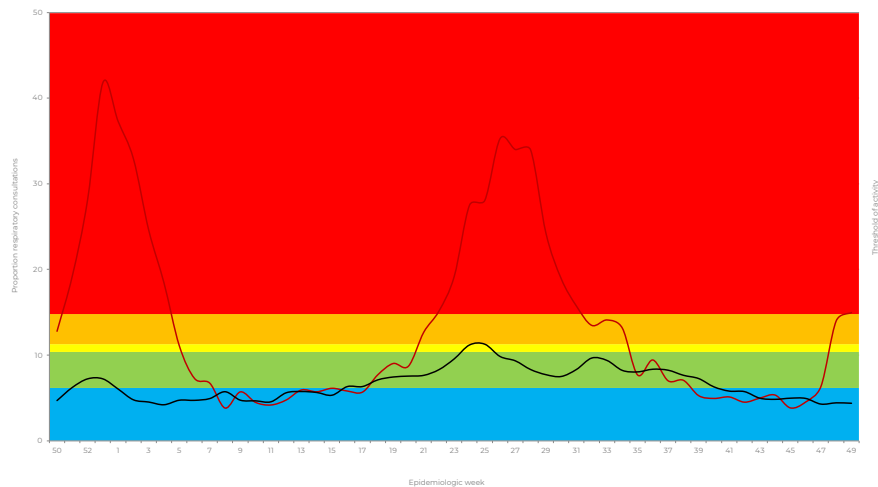
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



Below threshold
  Low
  Moderate
  High
  Very High

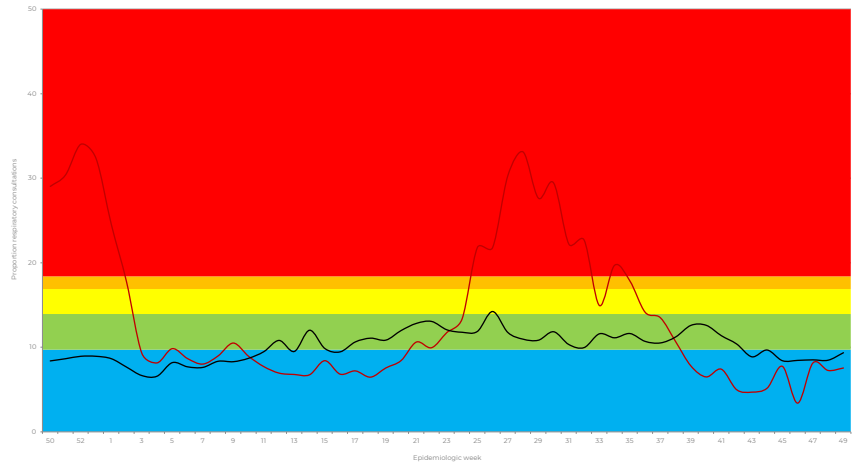
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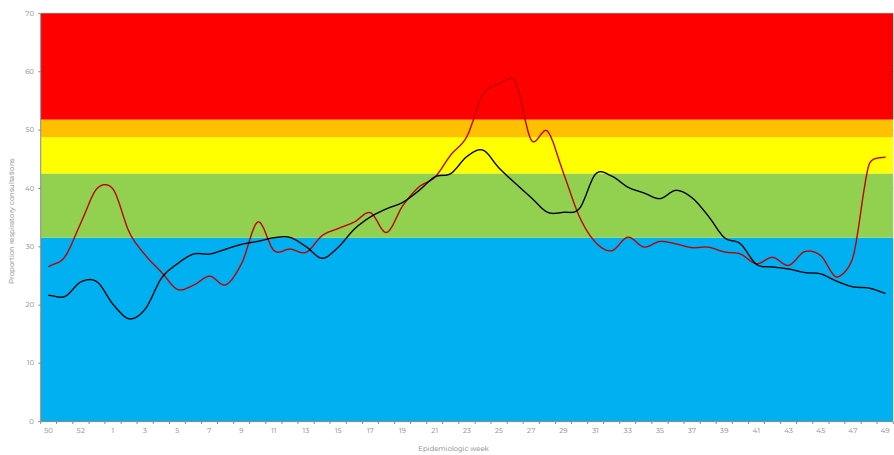
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## EASTERN CAPE PROVINCE

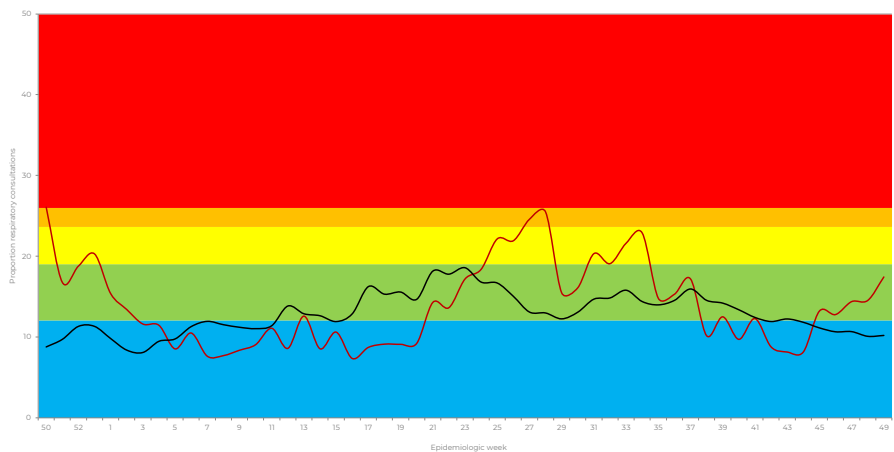
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



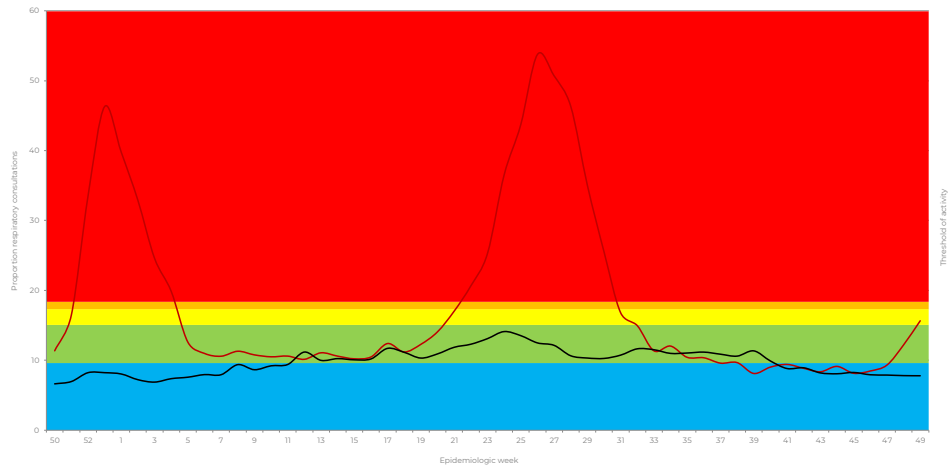
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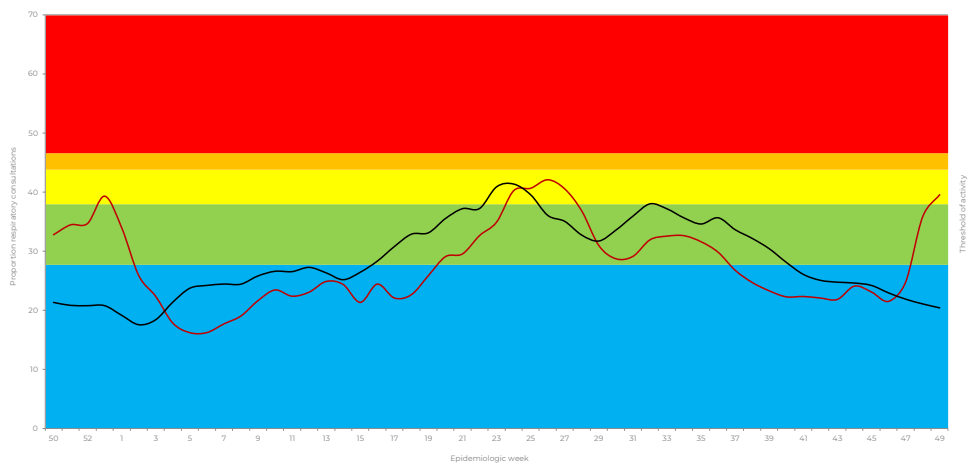
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## GAUTENG

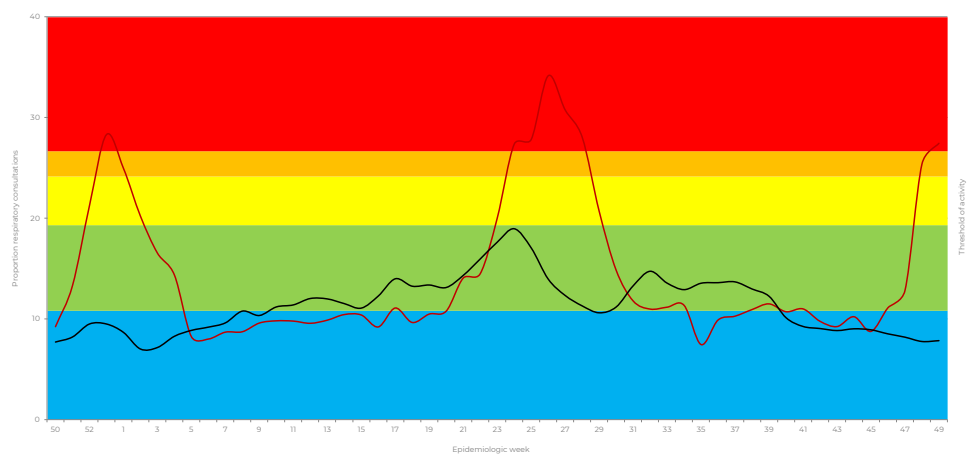
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



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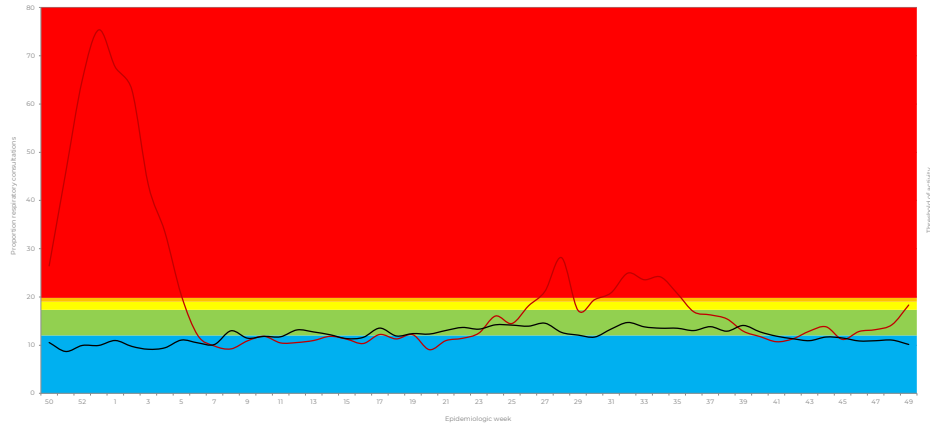


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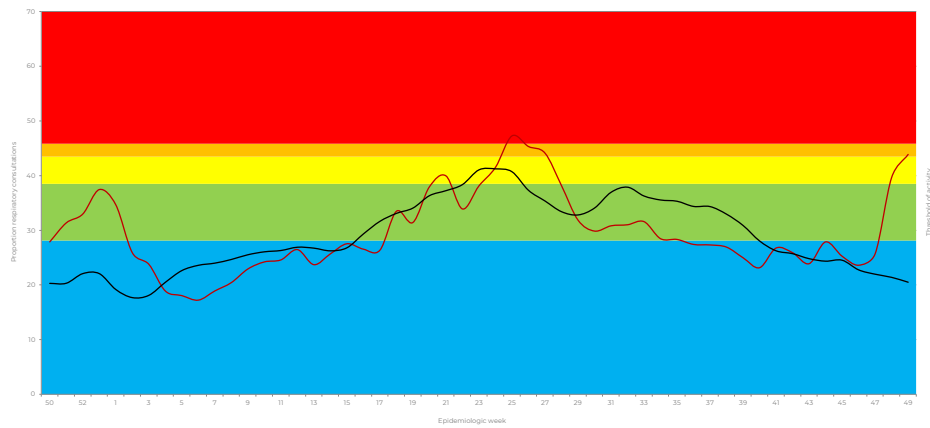
## KWAZULU-NATAL

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

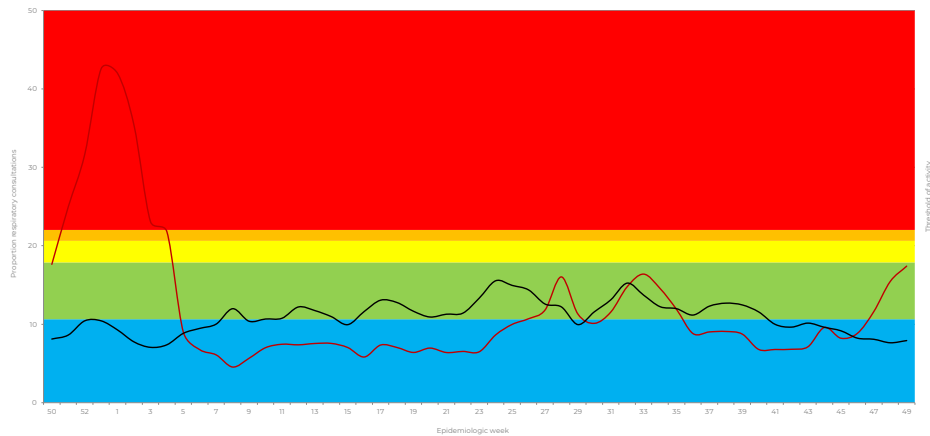


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



Below threshold
  Low
  Moderate
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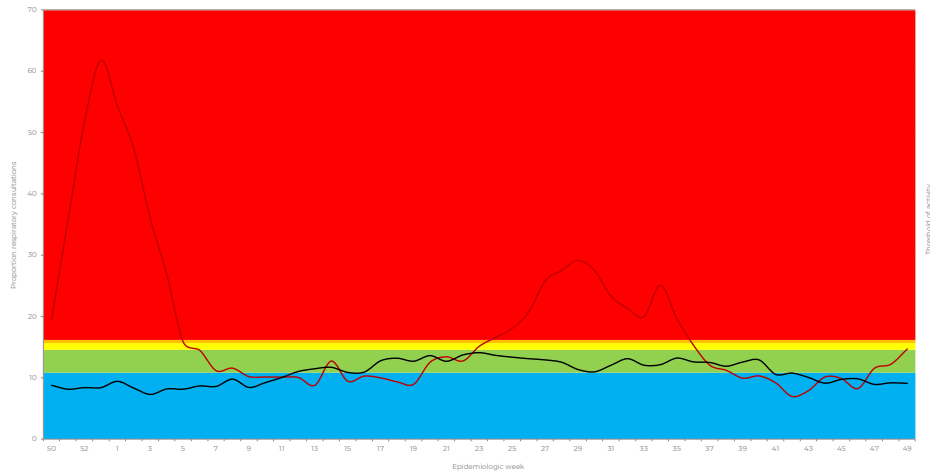
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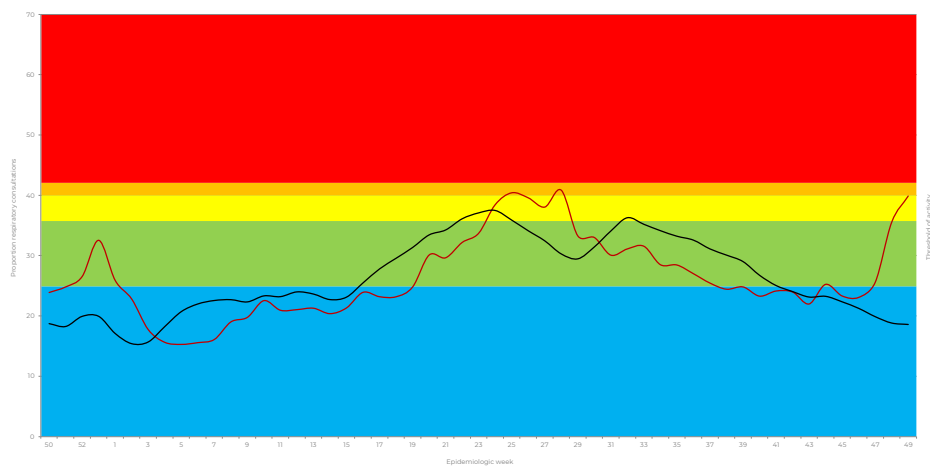
## WESTERN CAPE PROVINCE

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

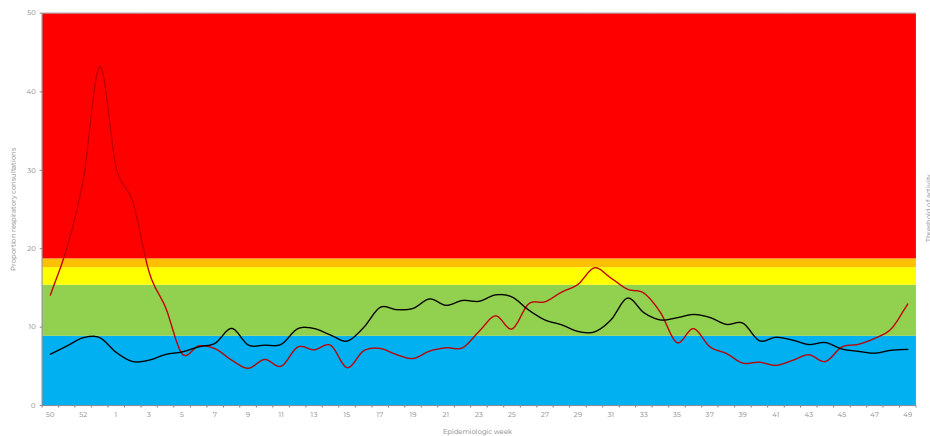


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



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## ACKNOWLEDGEMENT

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