

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT



NATIONAL INSTITUTE FOR  
COMMUNICABLE DISEASES

Division of the National Health Laboratory Service

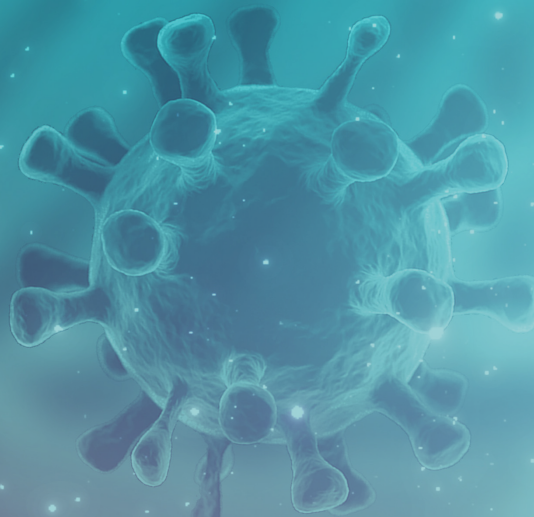
SOUTH AFRICA WEEK 32 2021

## 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 32

- Total number of respiratory hospitalisations have been decreasing in recent weeks but still, exceed high threshold.
- The percentage of respiratory general practitioner visits have been decreasing in recent weeks reaching below/low threshold.
- The percentage of respiratory emergency department visits have been decreasing in recent weeks reaching below/low threshold in all groups except for adults ≥20 years and the Western Cape province where it remains in moderate/very high threshold.



# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 32 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 32 2021

## 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 decreasing since then.

The proportion of admissions coded as confirmed COVID-19 (out of suspected) 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 decreased to 70%.

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 decreased. 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. Currently, the proportion is at 39%.

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 remains high at 96%.

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 decreasing but remain in the high 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 below 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 of 2020, week 53 of 2020 and week 27 of 2021. Currently, the admissions for adults aged  $\geq 20$  years is in the very high threshold and showing a decreasing trend in both groups.

Proportion of outpatient (general practitioner) respiratory or suspected COVID-19 consultations overall peaked in week 28 of 2020, week 53 of 2020 and week 26 of 2021, after which it has recently declined to low threshold. In recent weeks, the overall level declined to below/low threshold in all age groups.

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 recently decreasing to low threshold. By age group, percent emergency department visits showed similar trends. Currently, emergency visits are in the moderate/very high threshold for adults  $\geq 20$  years with the remaining age groups below or in low 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 only. The proportion of respiratory inpatients in all provinces excluding KwaZulu-Natal and Western Cape are currently in low thresholds. The proportion of inpatients in Kwazulu-Natal has increased to very high threshold, and while it is decreasing in Western Cape it remains in very high threshold. The proportion of outpatients/general practitioner consultations in all provinces are in low threshold, while the proportion of emergency department consultations have increased to high threshold for Western Cape.

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK **32** 2021

## 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.

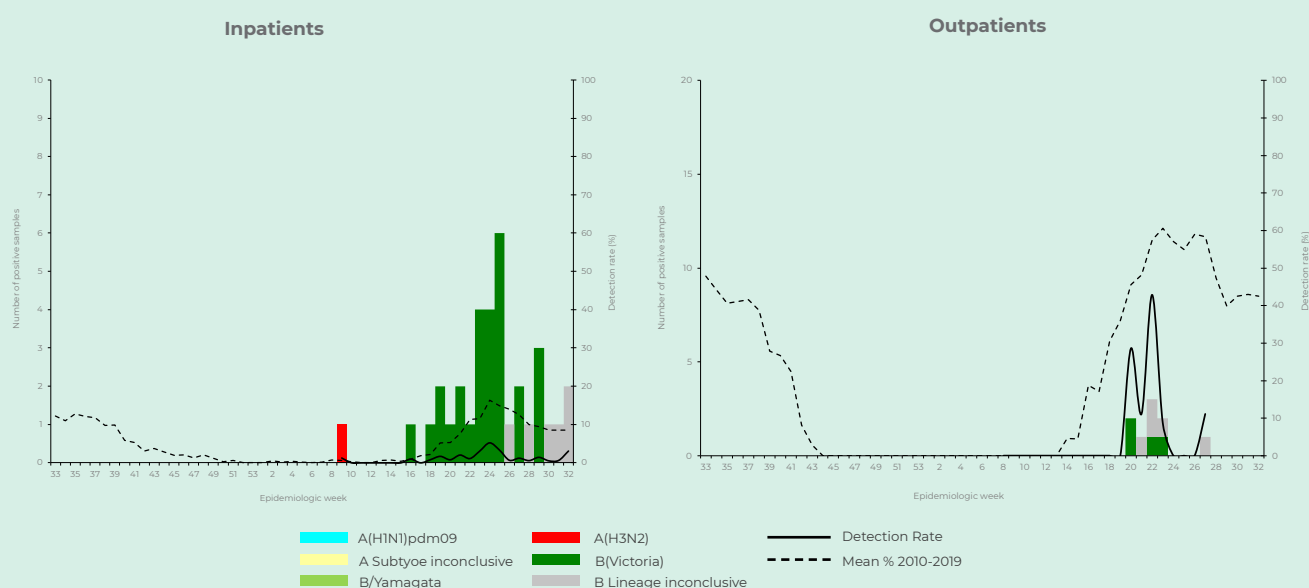


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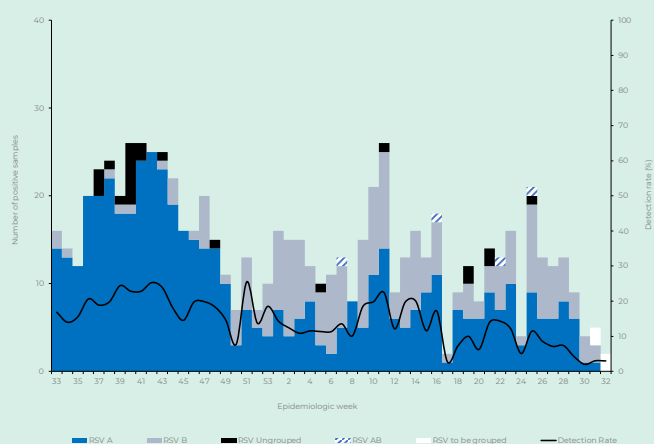
WEEK 32 2021

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

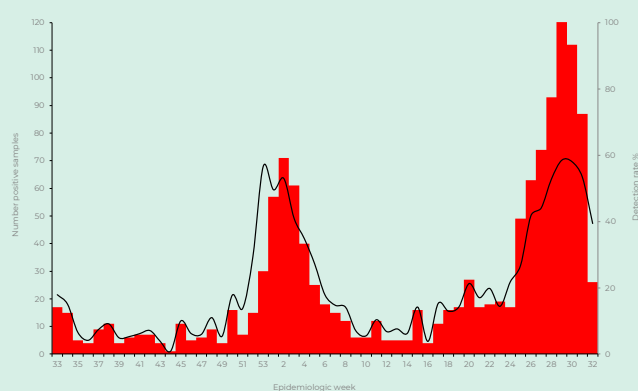
Number of influenza positive samples by subtype/lineage and detection rate by week



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)

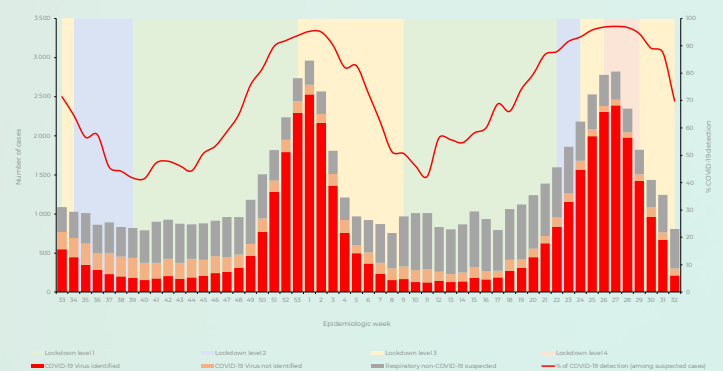
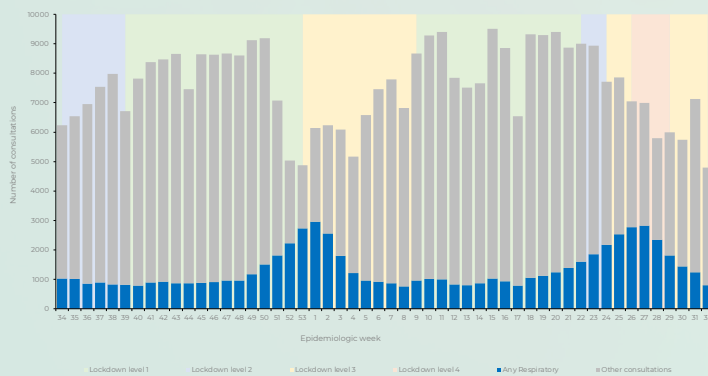


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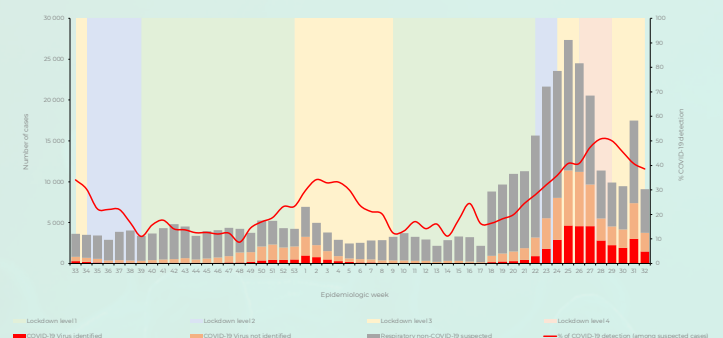
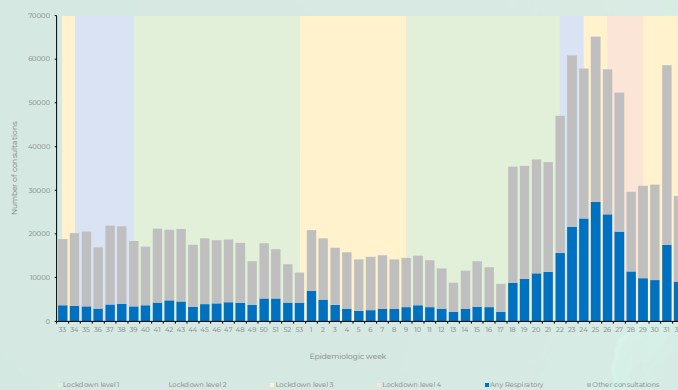
WEEK 32 2021

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

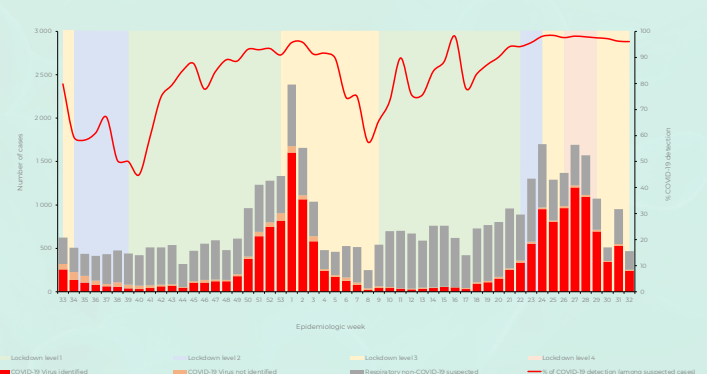
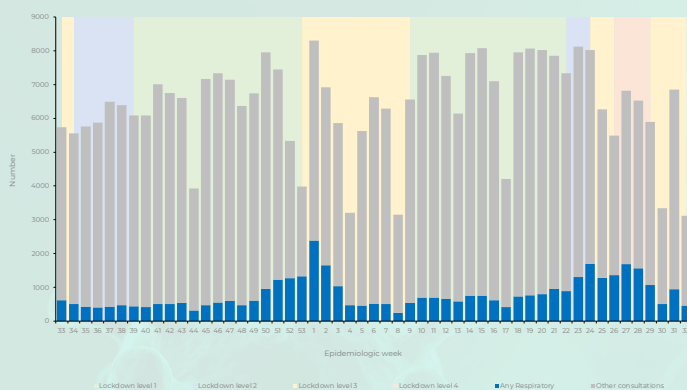
## Inpatients



## Outpatients - General Practitioners



## Emergency department

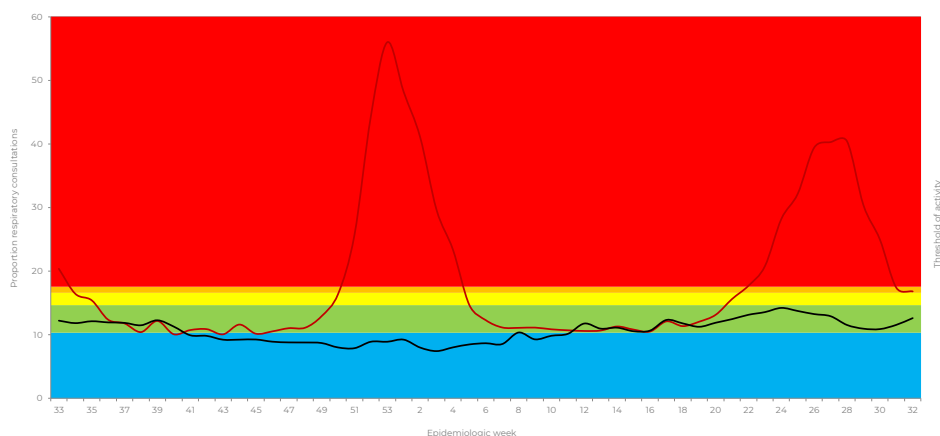


# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 32 2021

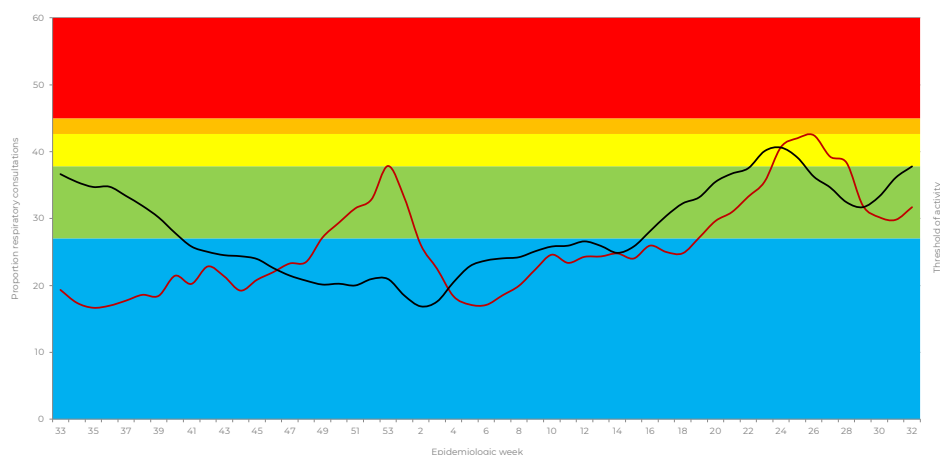
## ALL AGES

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

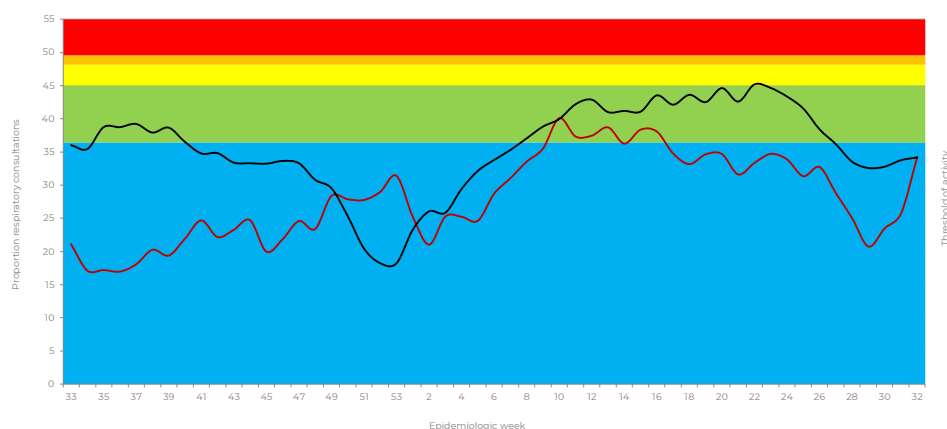
— % All Respiratory   
 — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 32 2021

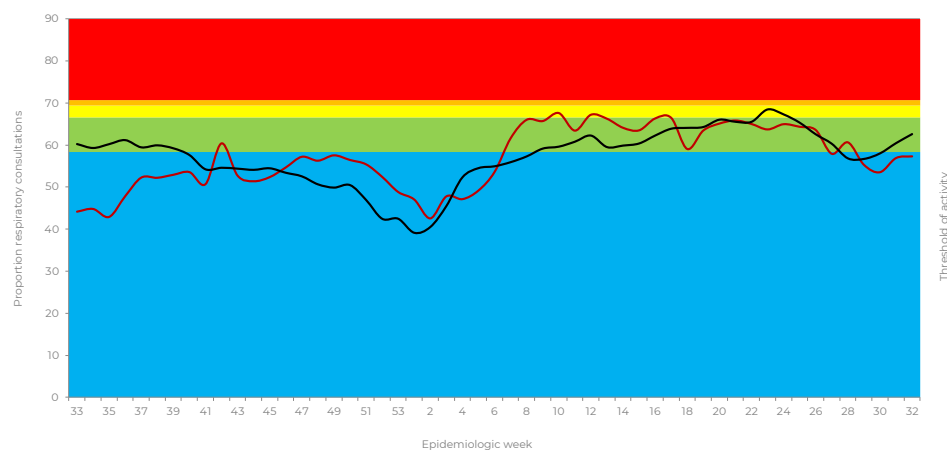
## 0-4 YEARS OF AGE

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

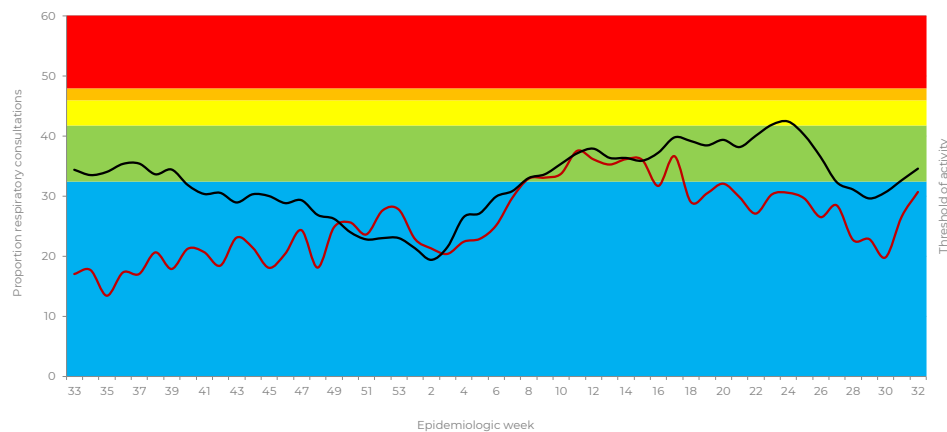


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



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

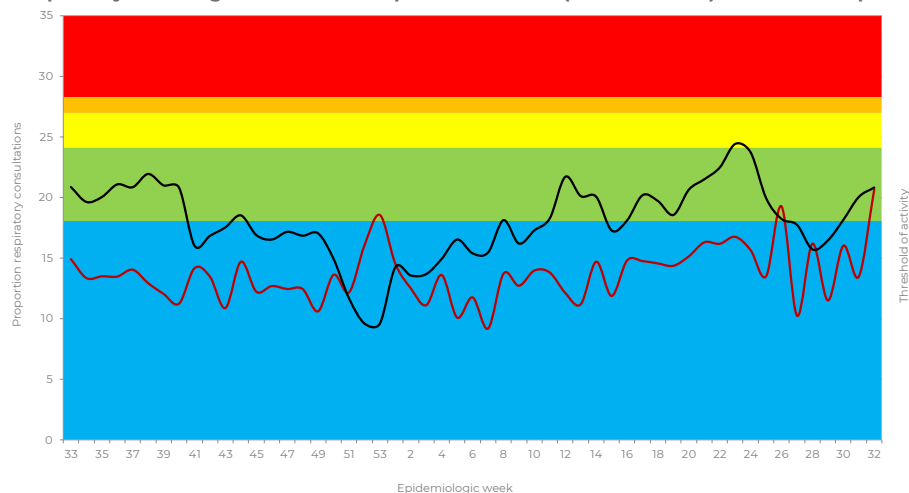


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WEEK 32 2021

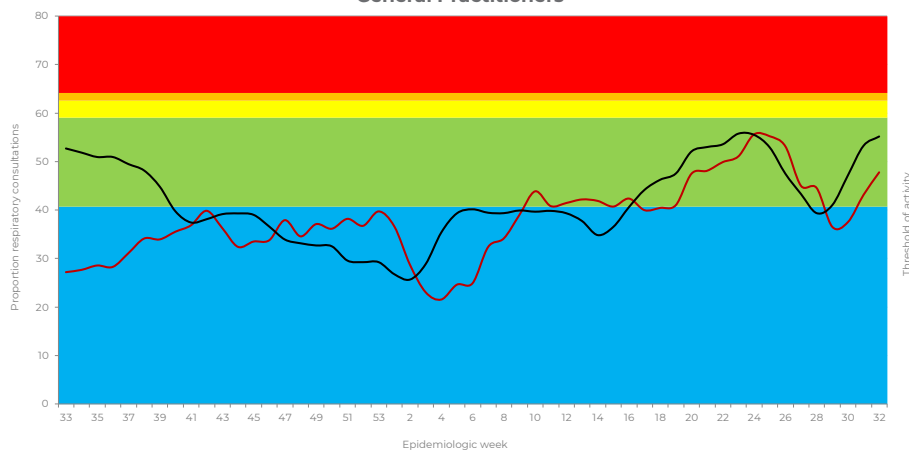
## 5-19 YEARS OF AGE

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

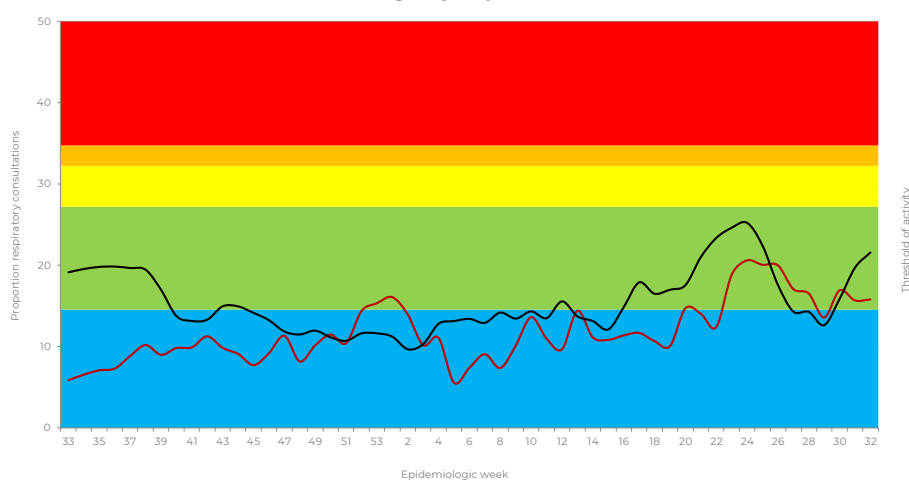


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### General Practitioners



### Emergency Department



Below threshold
  Low
  Moderate
  High
  Very High

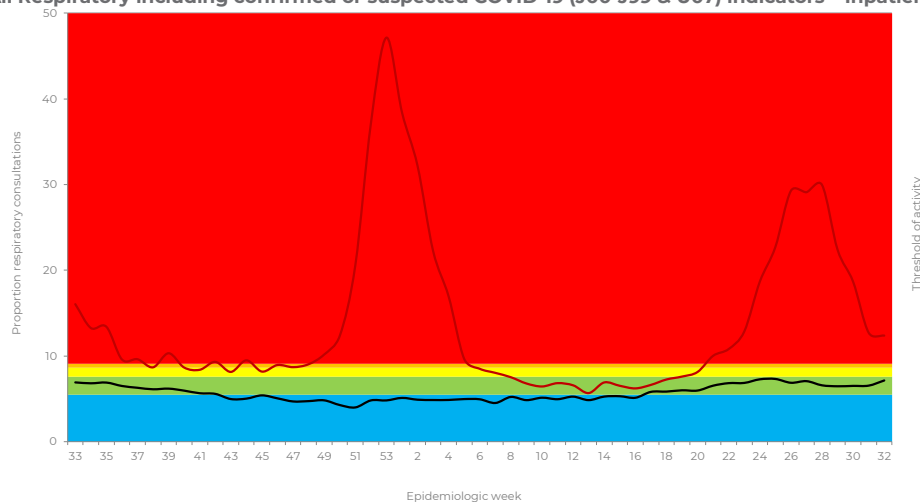
— % All Respiratory
 — Mean % 2015-2019 (Inpatients/Casualty)
 — 2016-2019 (General Practitioner)

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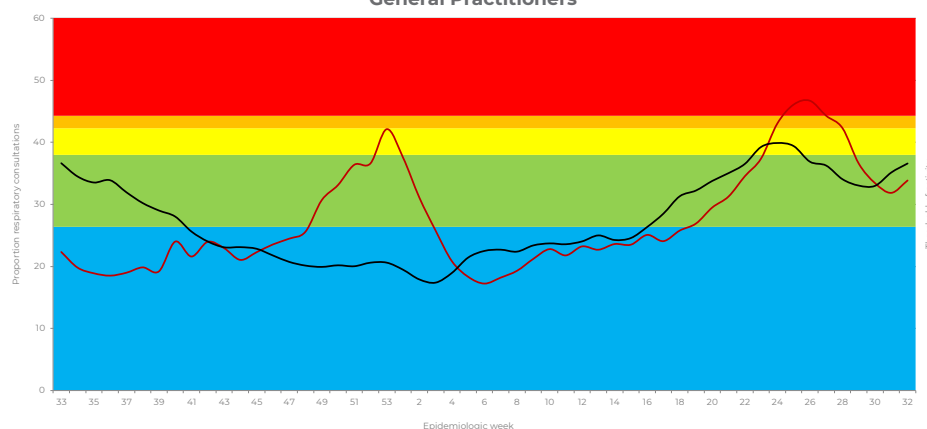
WEEK 32 2021

## 20-49 YEARS OF AGE

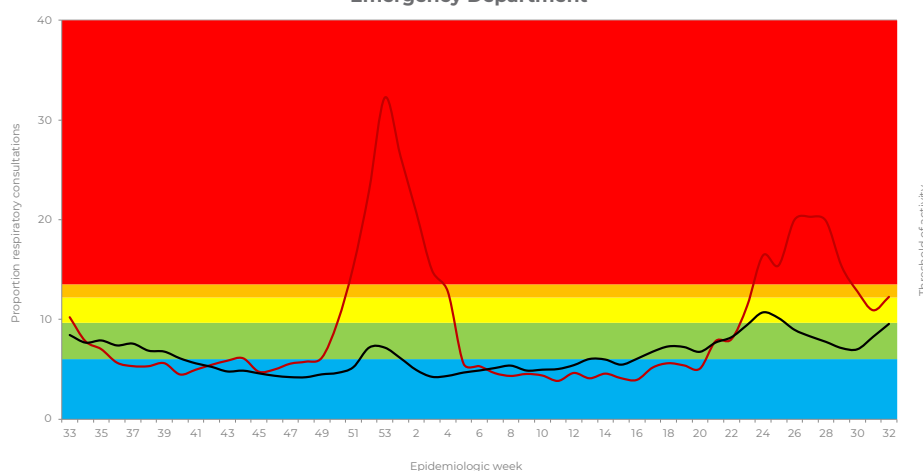
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



Emergency Department



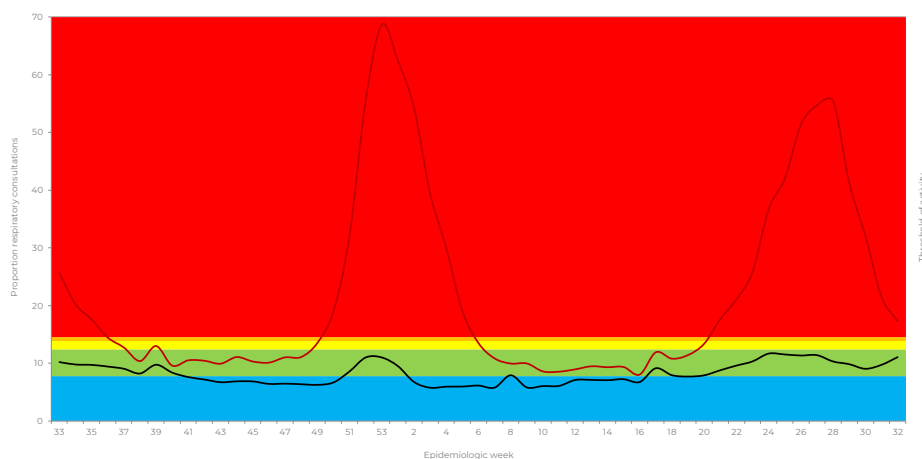
Below threshold Low Moderate High Very High  
% All Respiratory Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

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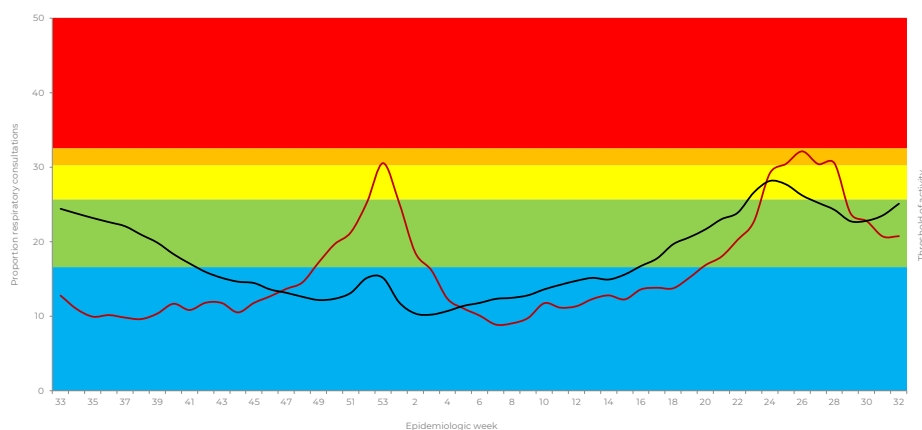
WEEK 32 2021

## ≥50 YEARS OF AGE

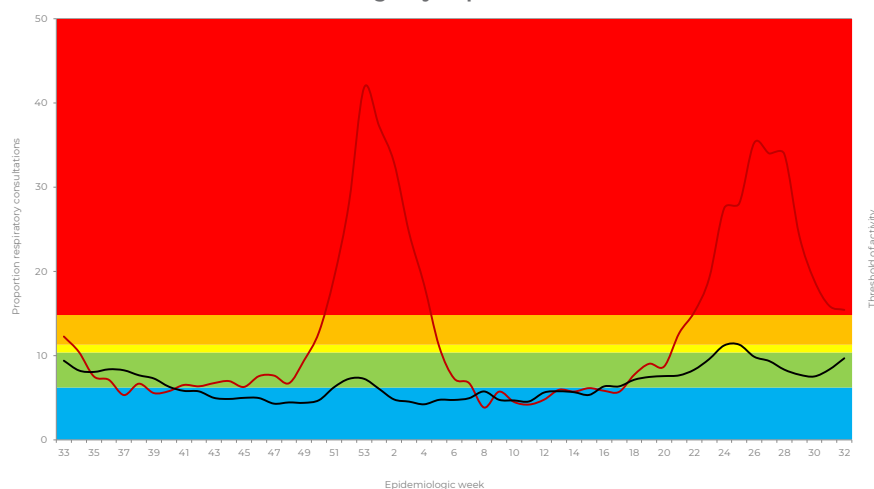
### All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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



### Emergency Department



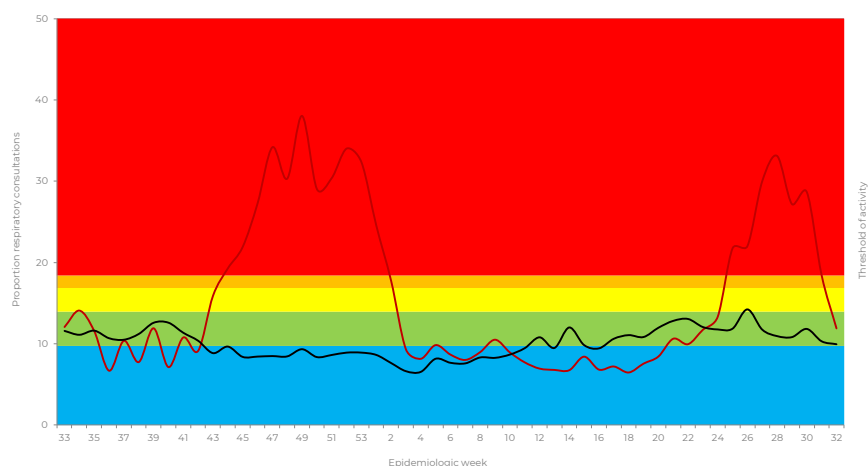
■ Below threshold   
 ■ Low   
 ■ Moderate   
 ■ High   
 ■ Very High  
— % All Respiratory   
— Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

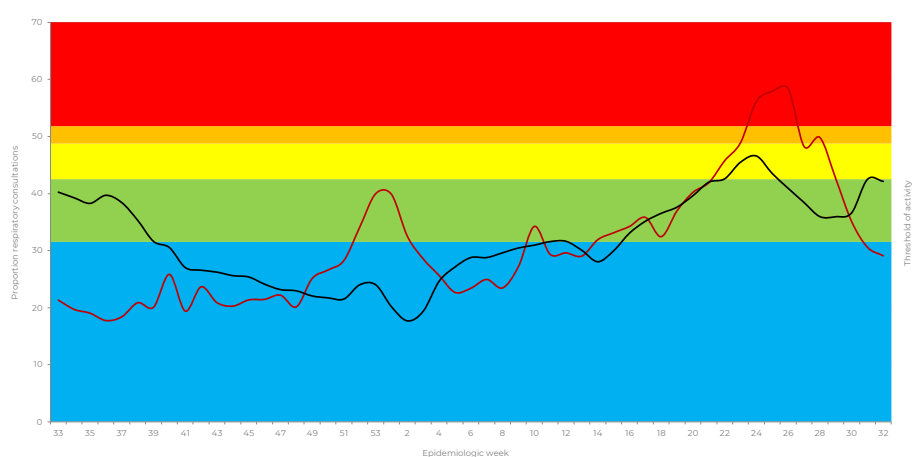
WEEK 32 2021

## 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



Below threshold
Low
Moderate
High
Very High

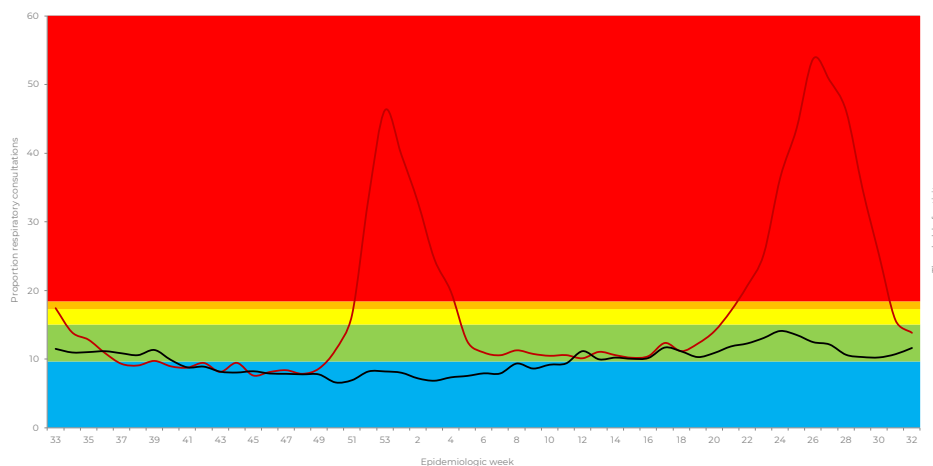
— % All Respiratory   
 — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

# PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

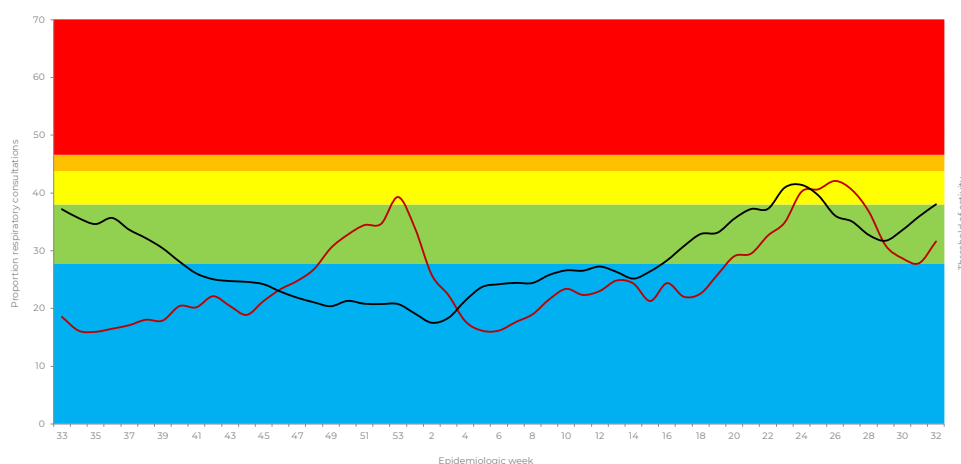
WEEK 32 2021

## GAUTENG

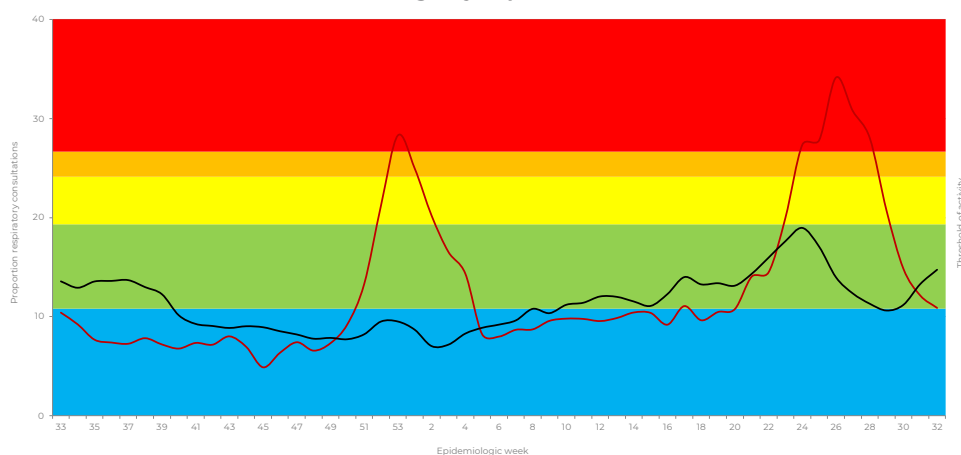
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Inpatients



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)

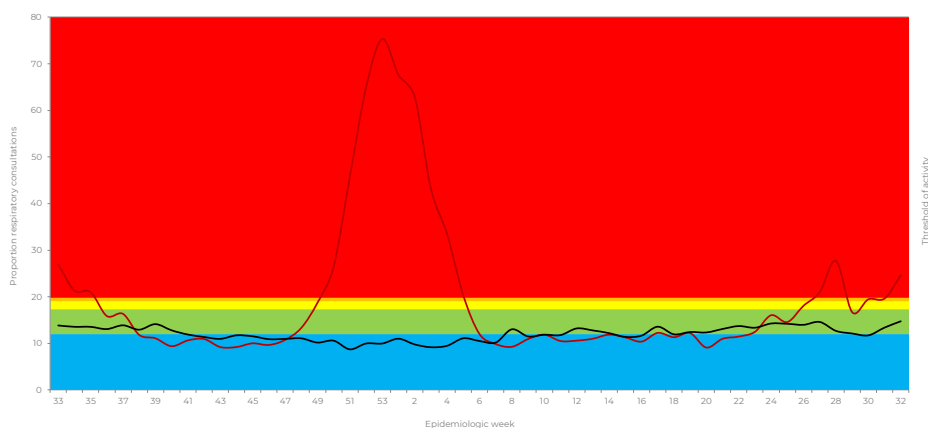


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WEEK 32 2021

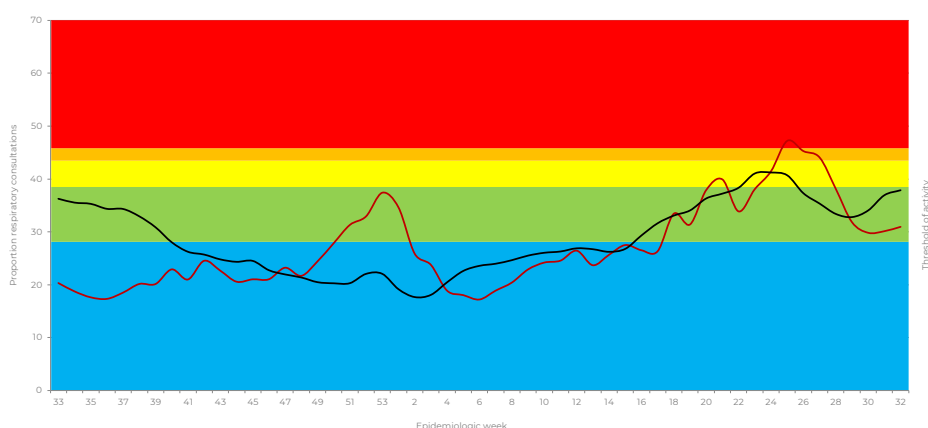
## KWAZULU-NATAL

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

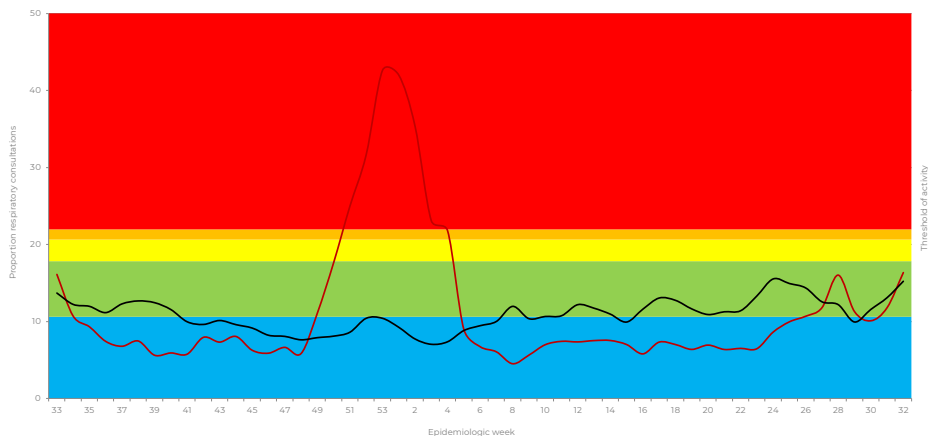


### All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

#### General Practitioners



#### Emergency Department



■ Below threshold
 ■ Low
 ■ Moderate
 ■ High
 ■ Very High

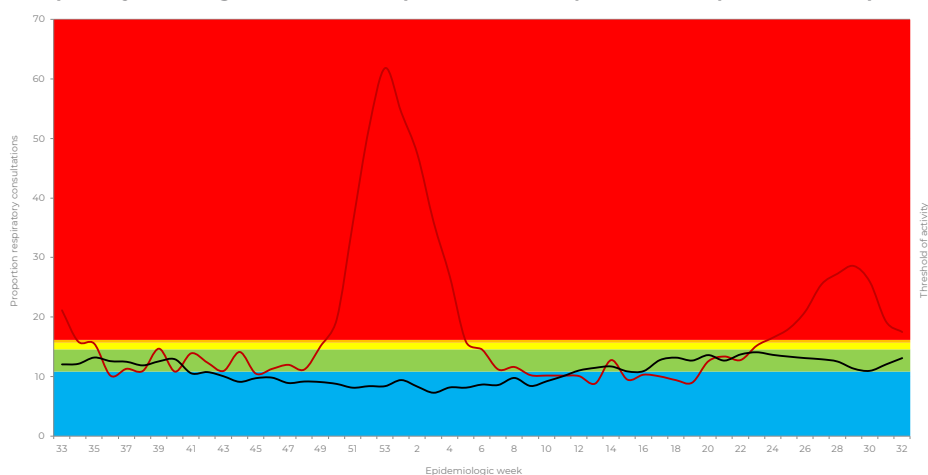
— % All Respiratory
 — Mean % 2015- 2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)

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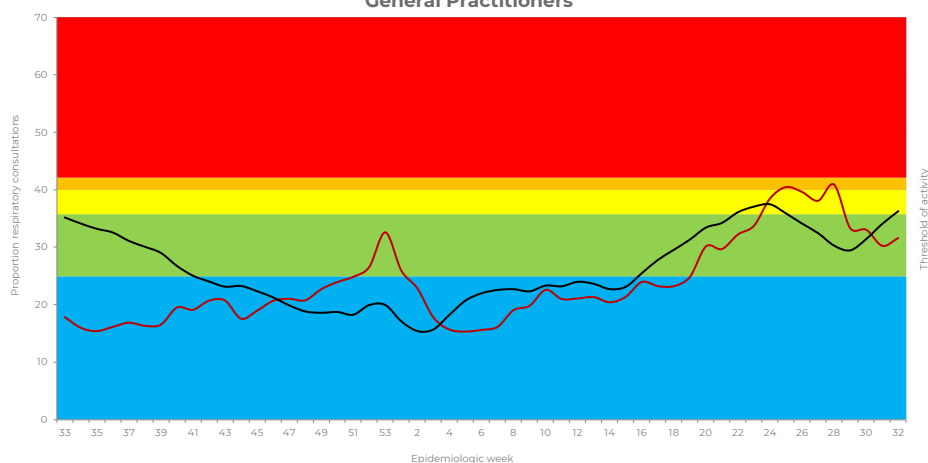
## WESTERN CAPE PROVINCE

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

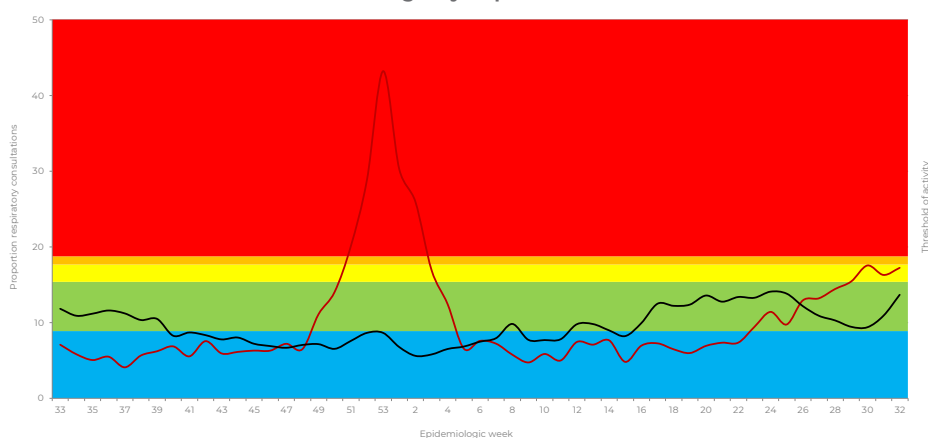


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### 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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WEEK 32 2021

## ACKNOWLEDGEMENT

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