



# NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES

Division of the National Health Laboratory Service



Private Consultations Surveillance Epidemic Threshold Report

14 June 2022

Week 24 of 2021 (ending 20 June 2021) to Week 23 of 2022 (ending 12 June 2022)

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

## Programme Description

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.

## Interpretation of data presented in this report

### Highlights

- **Total COVID-19 and respiratory admissions** increased since the start of the fourth COVID-19 wave from week 45 of 2021, peaking in week 49 of 2021 then decreasing and increasing again to a second smaller peak in week 11. Recently the numbers have been decreasing in most age groups and all provinces remaining below/low threshold. Admission for those aged 5-19 years increased slightly but also remain in low threshold. Admission numbers in those aged <5 years increased from weeks 3 to 13 of 2022 reaching very high threshold, likely related to high levels of circulation of respiratory syncytial virus (RSV).
- **Total COVID-19 and respiratory outpatient (general practitioner) consultations** peaked in week 49 of 2021 in the fourth COVID-19 wave then decreasing. Recently the number of consultations has been increasing in most provinces and age groups excluding those aged ≥50 years to a threshold ranging from moderate to very high. Notably in Gauteng and KwaZulu Natal provinces, the threshold is high while in Western Cape province it is very high. Consultations among those aged 0-49 years slightly increased in recent weeks to low/moderate threshold.
- **Total COVID-19 and respiratory emergency department consultations** peaked in week 49 of 2021 in the fourth COVID-19 wave decreasing thereafter and increasing again to second smaller peak in week 11 2022.

### 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.

## Acknowledgement

We would like to acknowledge the contribution of the following individuals:

Dr Anchen Laubscher, Group Medical Director Netcare

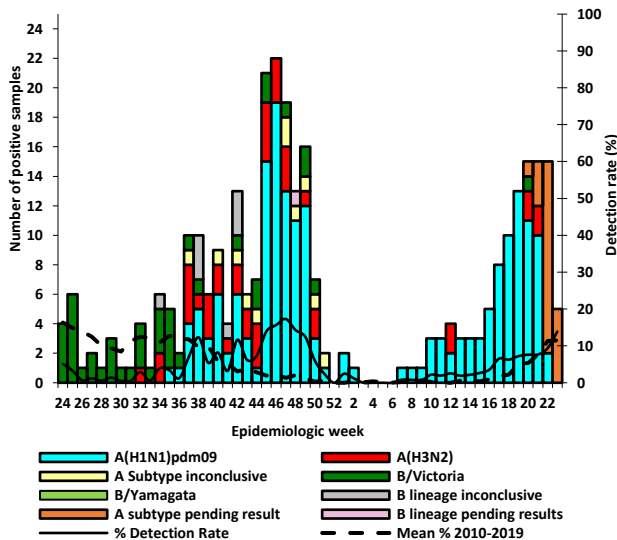
Dr Caroline Maslo, Head of Infection Control Netcare

Mande Toubkin, General Manager Emergency, Trauma, Transplant CSI and Disaster Management Netcare

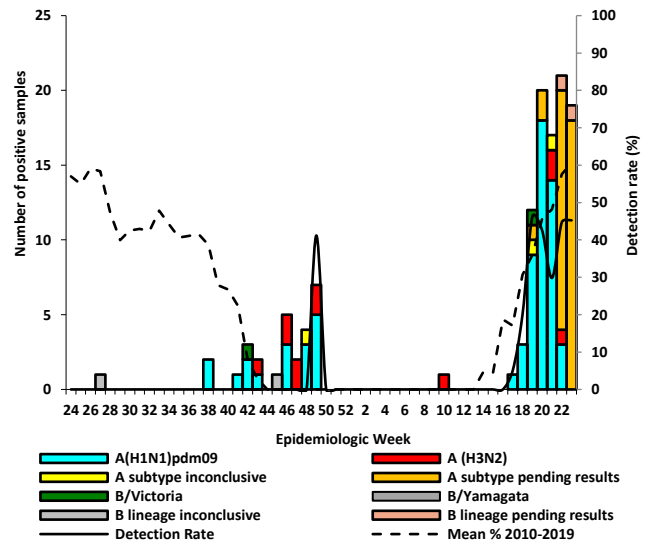
## Data from virologic surveillance programmes to aid in interpretation of consultation trends

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

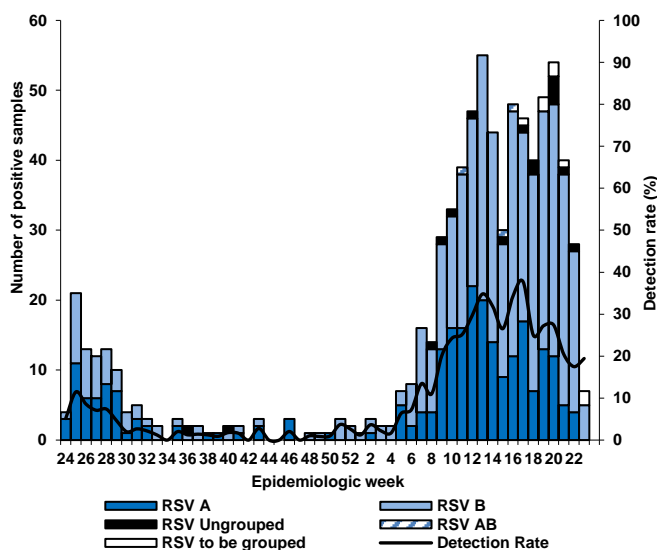
#### Inpatients



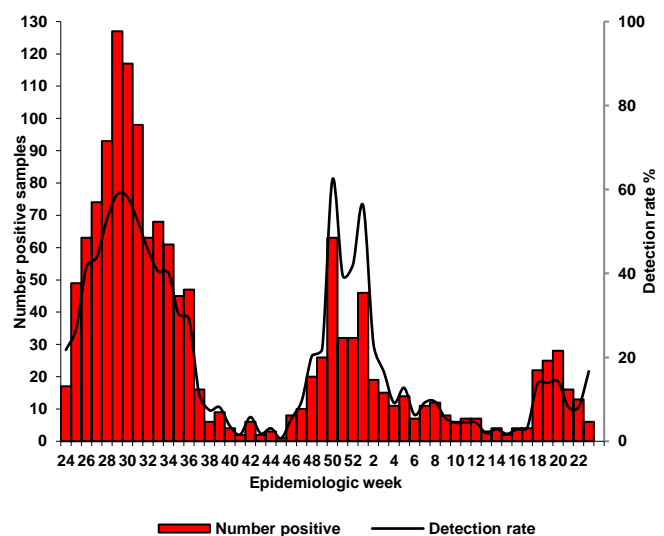
#### Outpatients



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



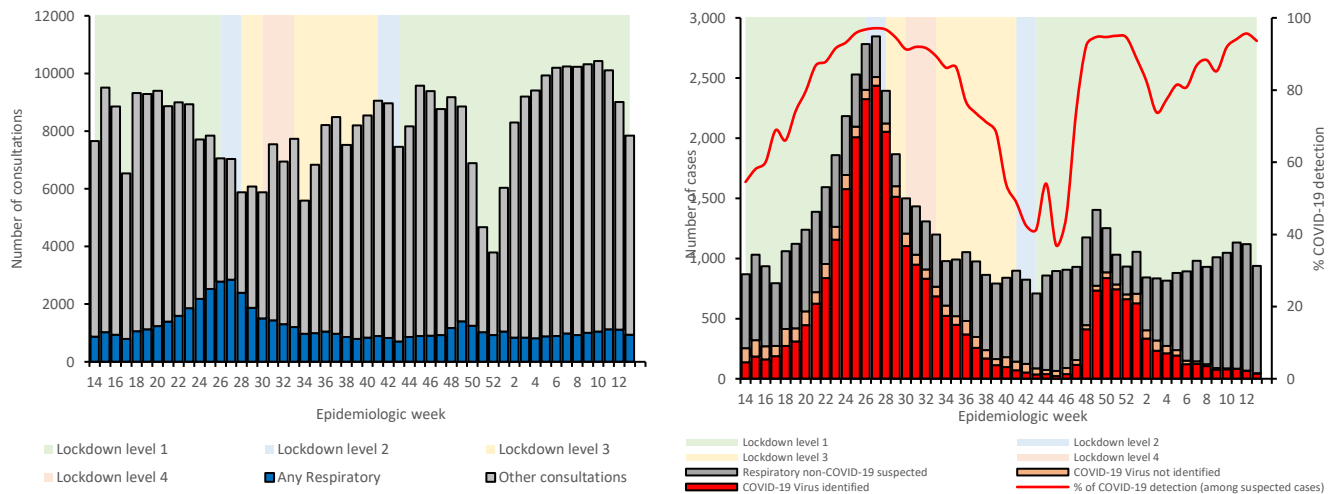
### Number of SARS-COV-2 positive and detection rate per week (inpatients)



# Private Consultations Surveillance

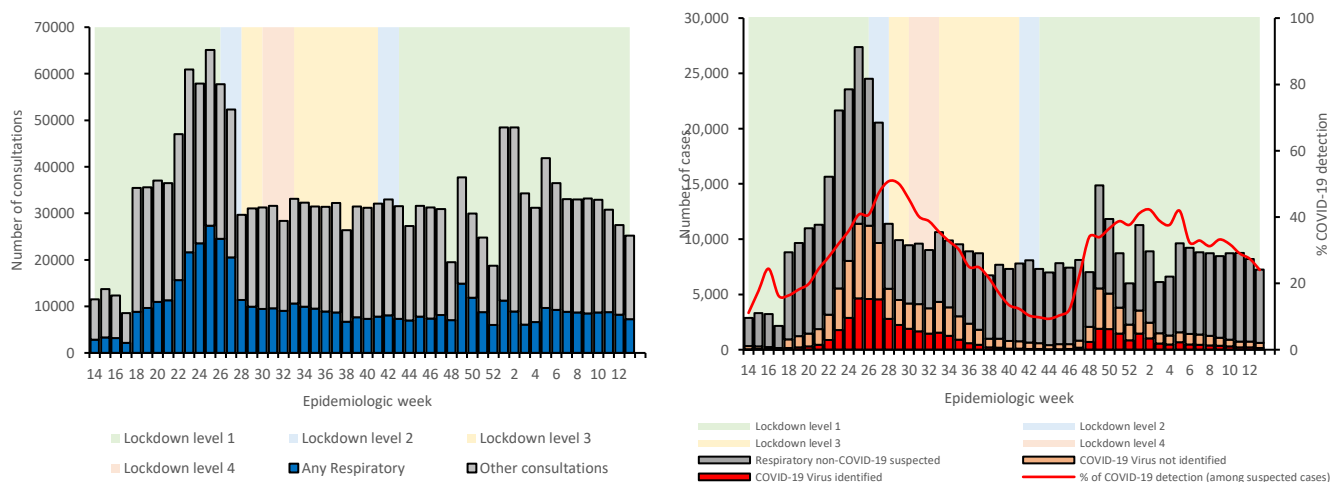
## Number of consultations - all respiratory including confirmed or suspected COVID-19 and other consultations by week

### Inpatients

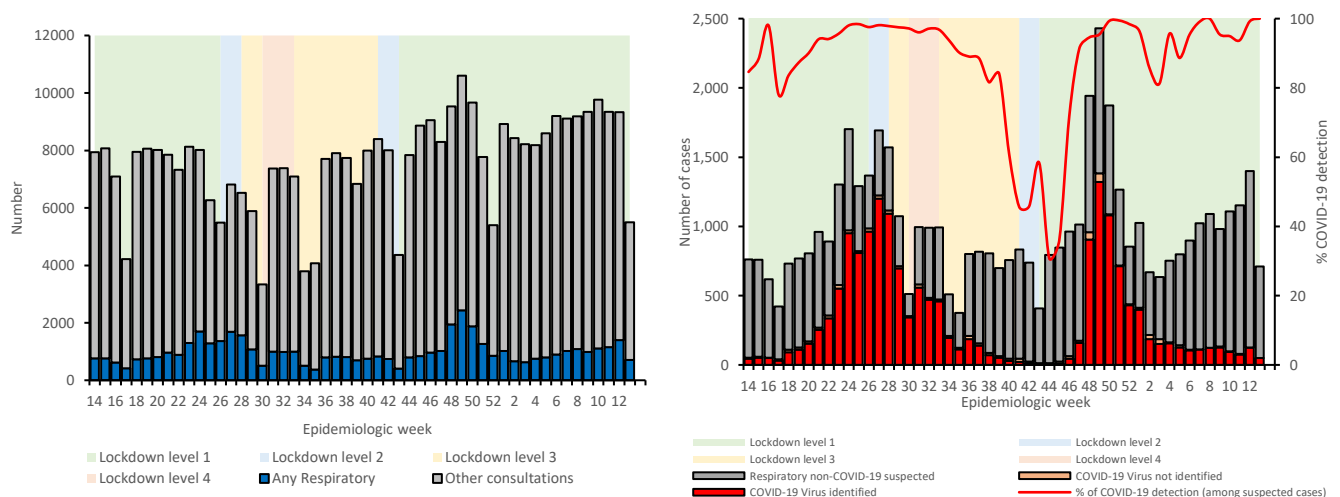


### Outpatients

#### A) General Practitioners



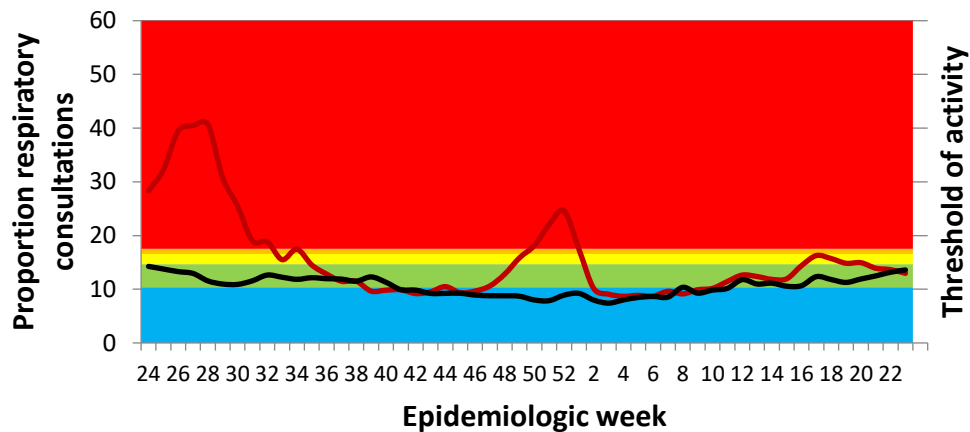
#### B) Emergency department



# Private Consultations Surveillance

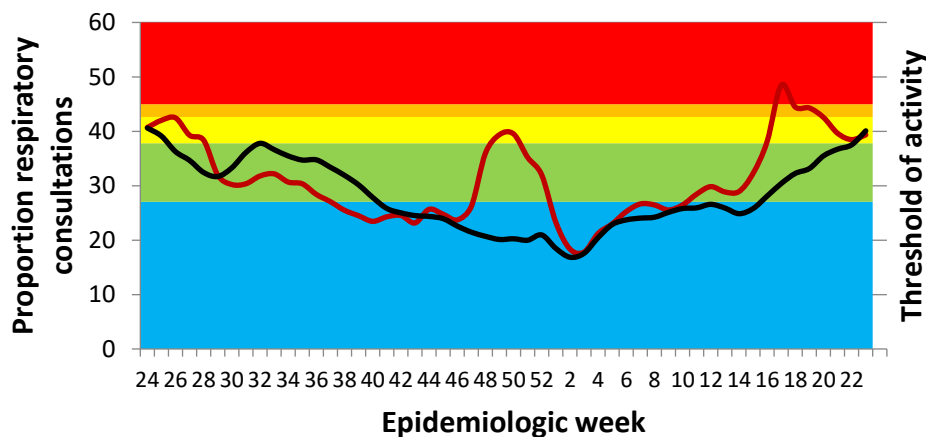
## All ages

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

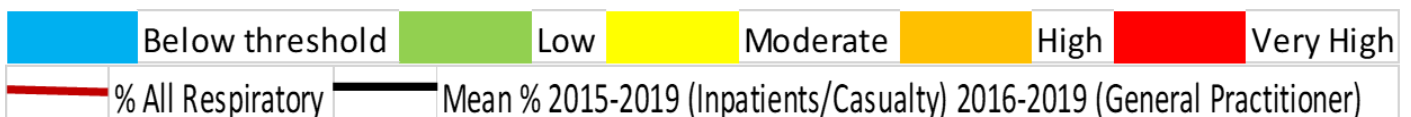
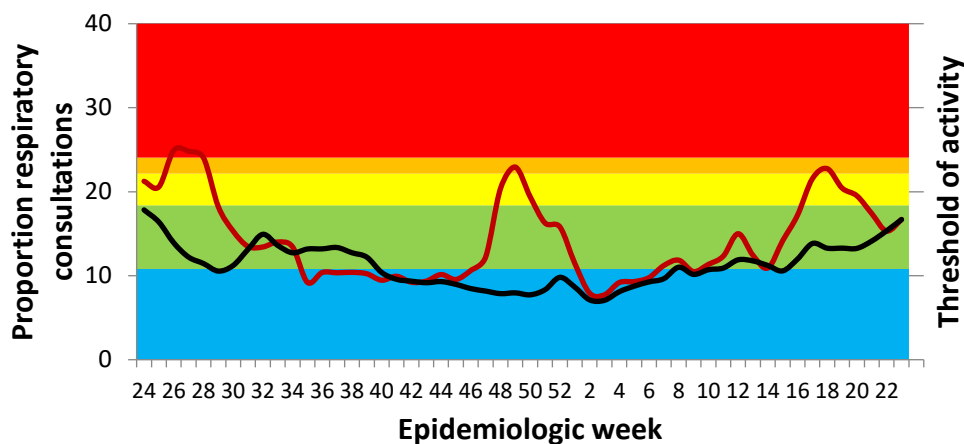


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### A) General Practitioners



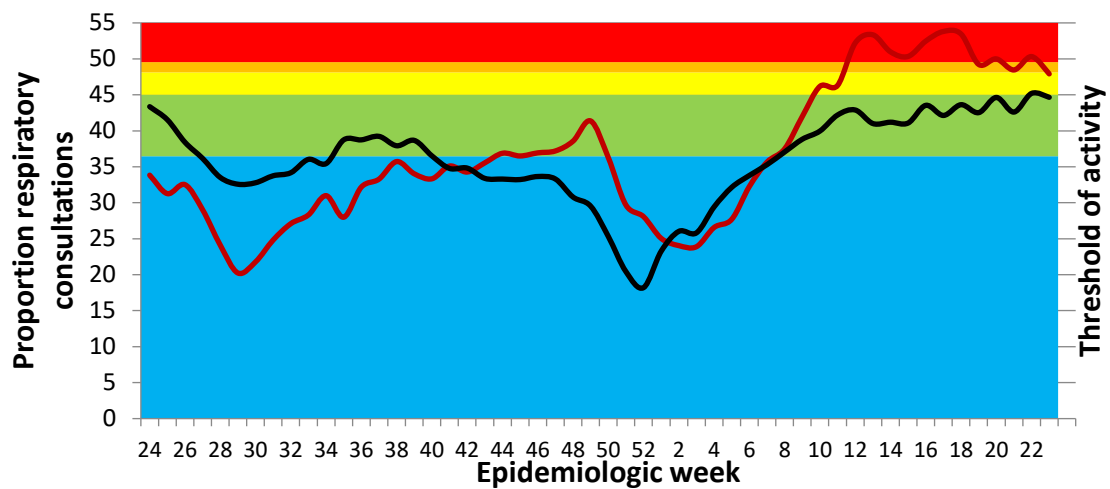
### B) Emergency Department



# Private Consultations Surveillance

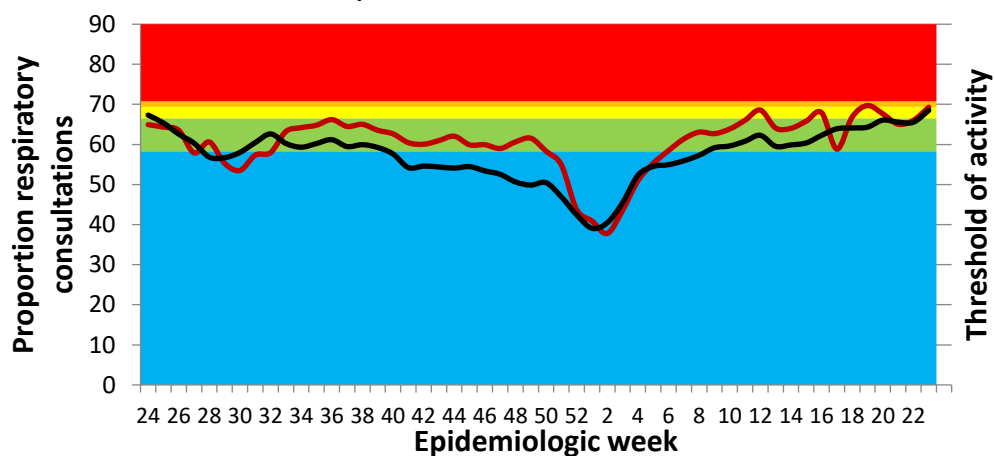
0-4 years of age

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

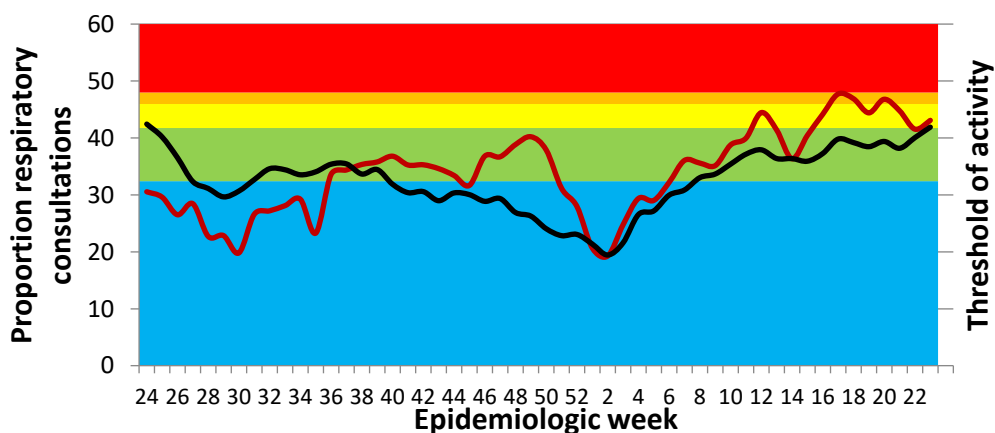


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

A) General Practitioners



C) Emergency Department

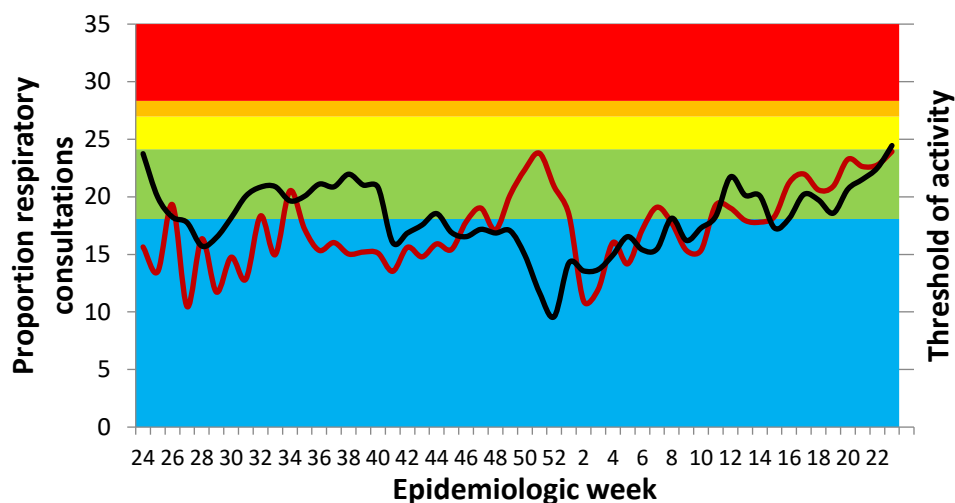


	Below threshold	Low	Moderate	High	Very High
—	% All Respiratory	—	Mean % 2015-2019 (Inpatients/Casualty)	2016-2019 (General Practitioner)	

# Private Consultations Surveillance

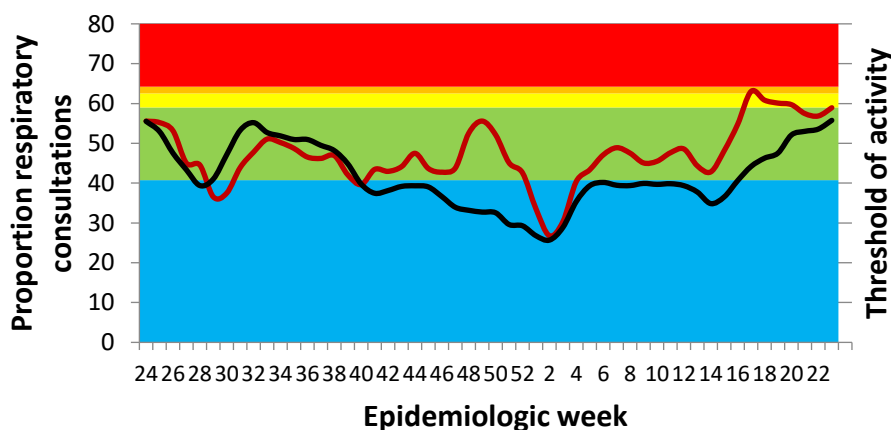
5-19 years of age

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

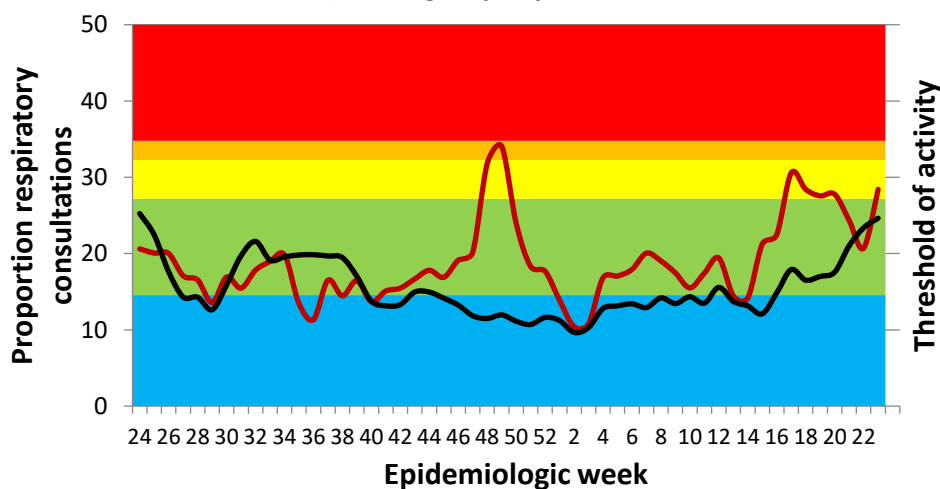


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

A) General Practitioners



B) Emergency Department

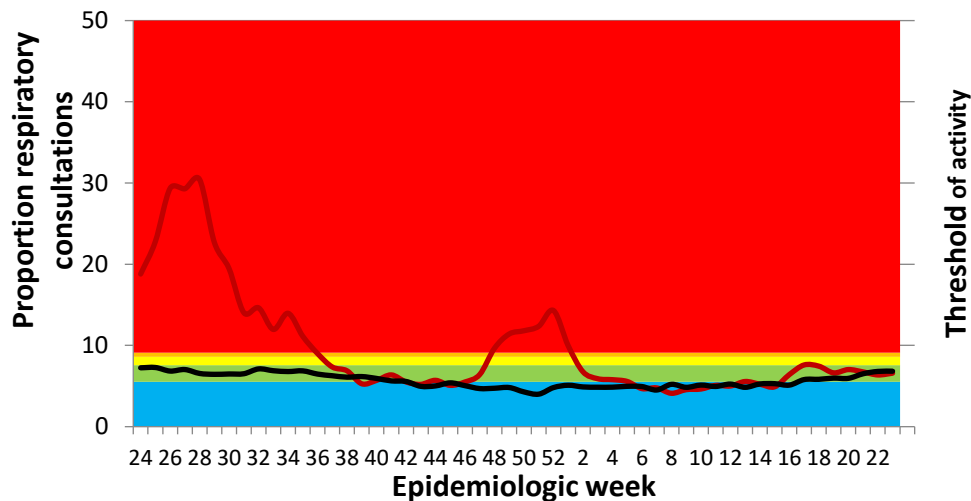


	Below threshold	Low	Moderate	High	Very High
—	% All Respiratory				
—	Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)				

# Private Consultations Surveillance

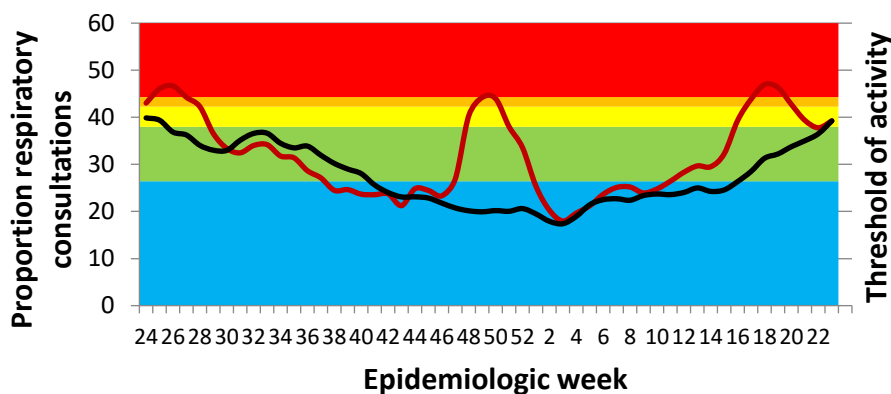
20-49 years of age

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

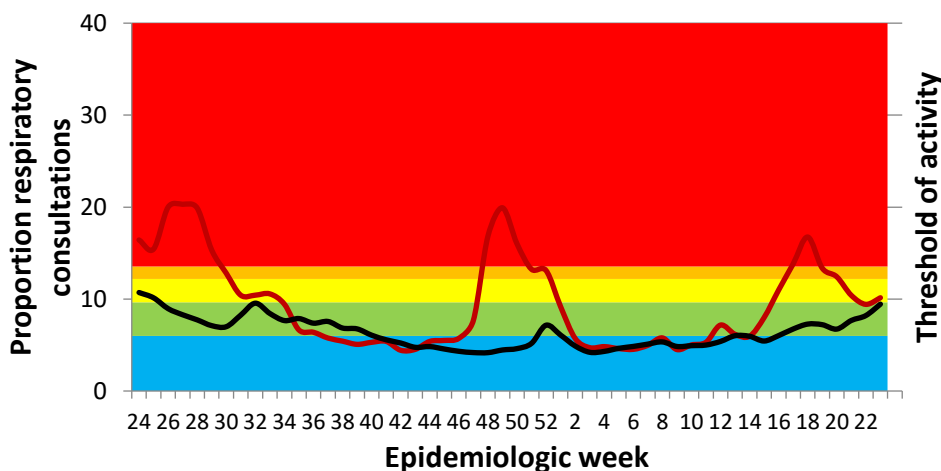


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

A) General Practitioners



B) Emergency Department



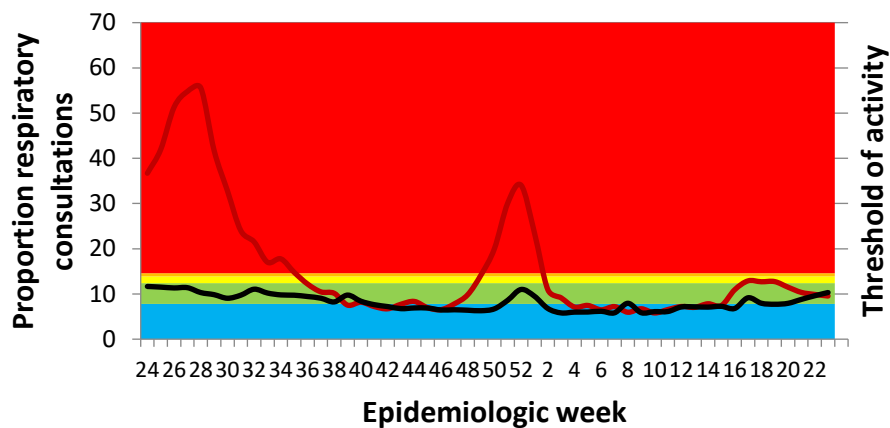
	Below threshold	Low	Moderate	High	Very High
—	% All Respiratory				
—	Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)				



# Private Consultations Surveillance

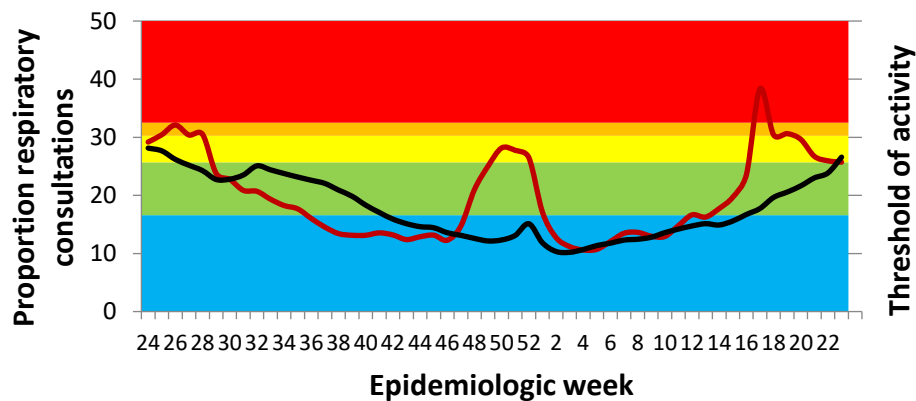
≥50 years of age

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

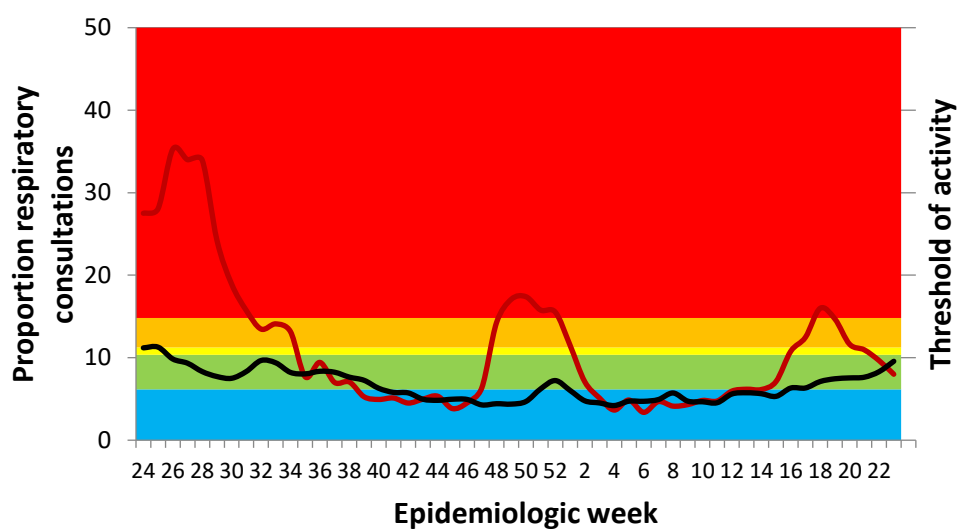


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

A) General Practitioners



C) Emergency Department

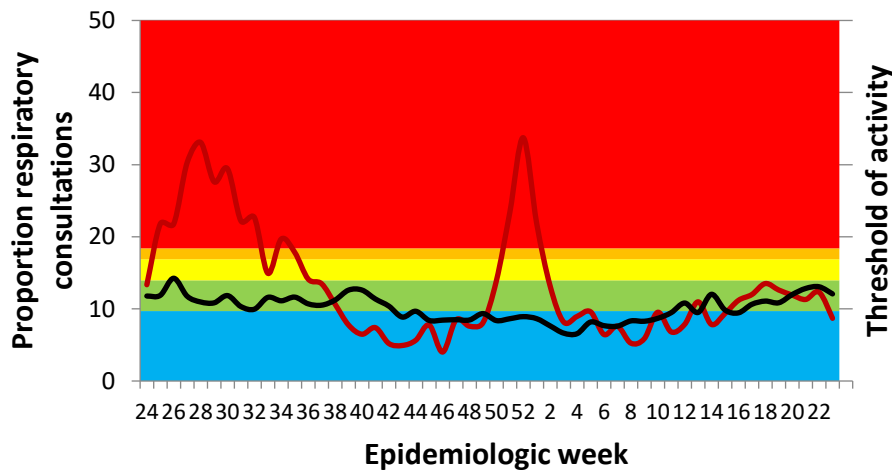


<span style="background-color: #00a0e3; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Below threshold	<span style="background-color: #70ad47; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Low	<span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Moderate	<span style="background-color: #ff9900; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> High	<span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Very High
<span style="color: red;">—</span> % All Respiratory	<span style="color: black;">—</span> Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)			

# Private Consultations Surveillance

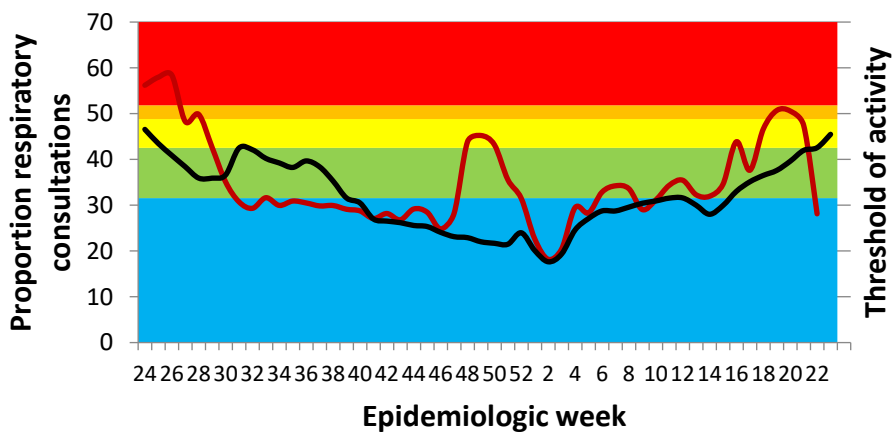
## Eastern Cape Province

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

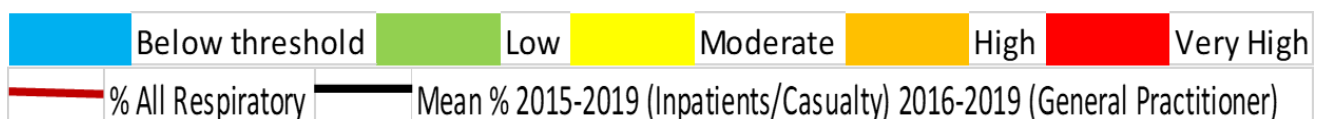
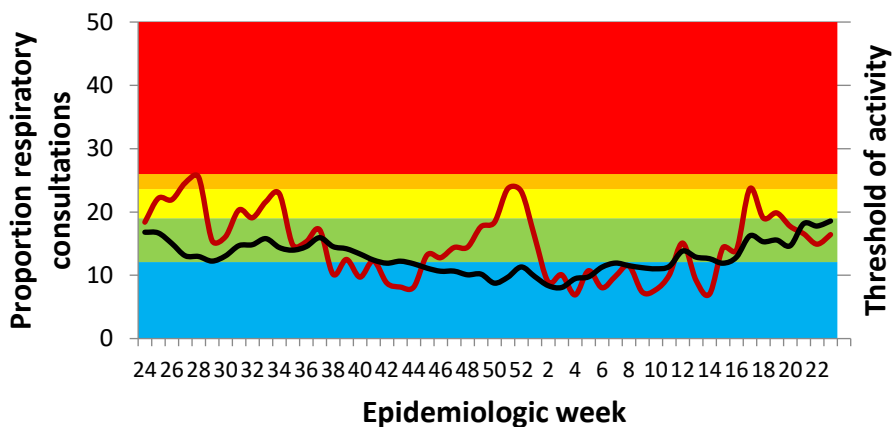


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### A) General Practitioners



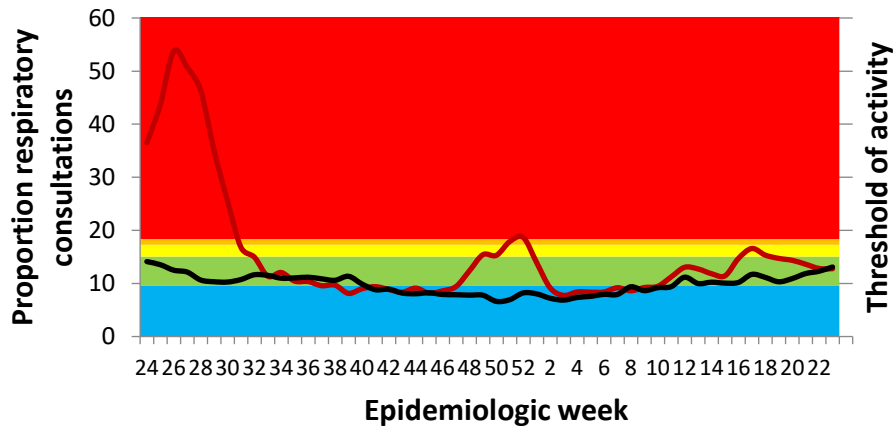
### B) Emergency Department



# Private Consultations Surveillance

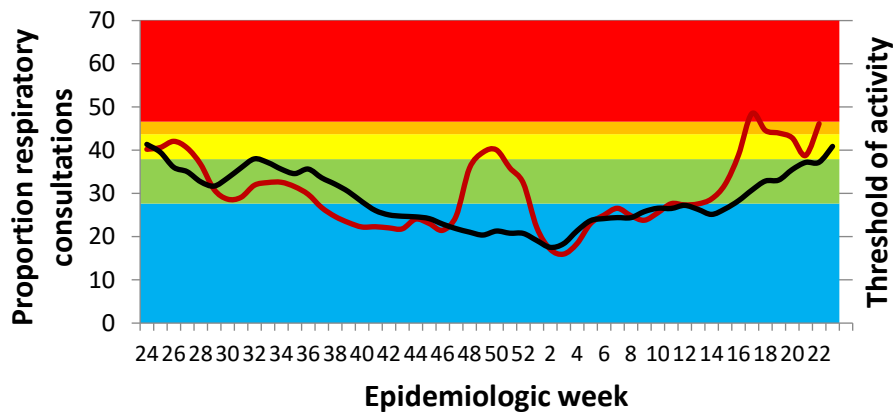
## Gauteng

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

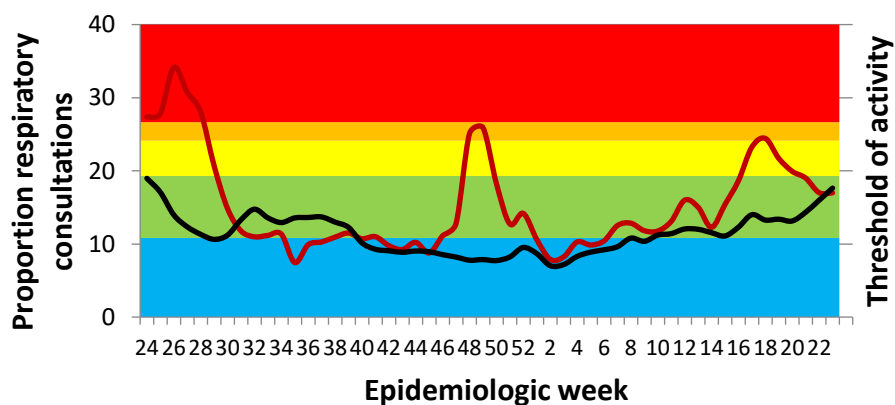


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### A) General Practitioners



### B) Emergency Department

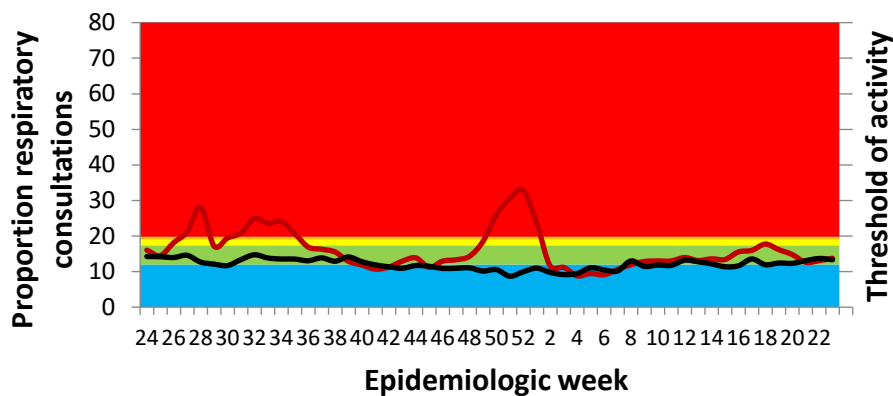


	Below threshold	Low	Moderate	High	Very High
—	% All Respiratory				
—	Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)				

# Private Consultations Surveillance

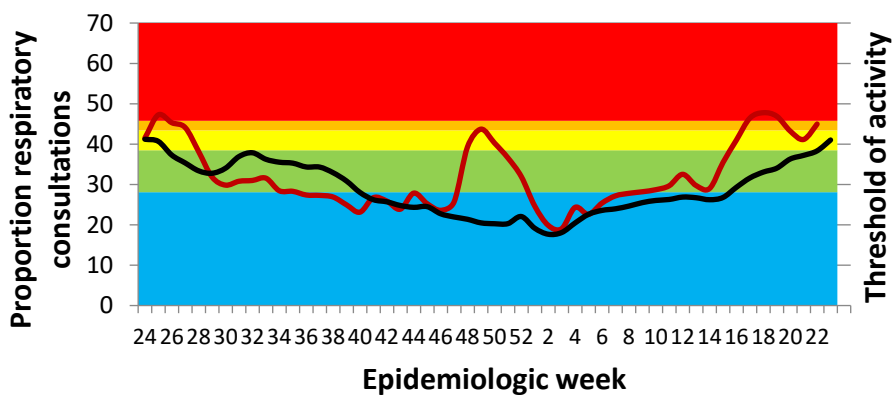
## KwaZulu-Natal

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

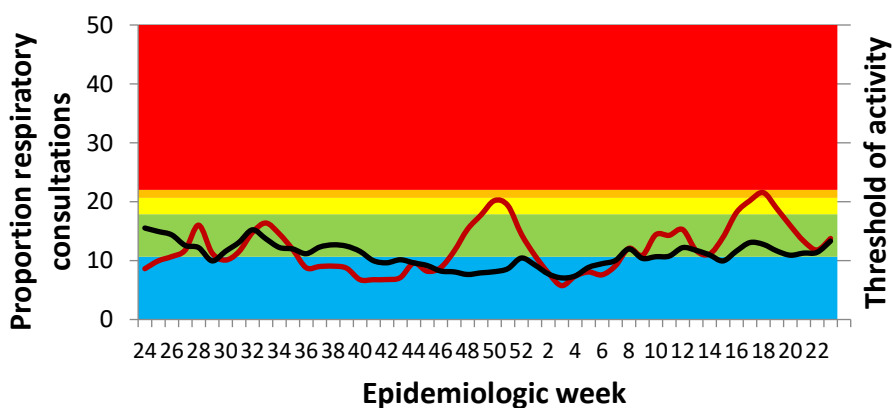


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### A) General Practitioners



### B) Emergency Department

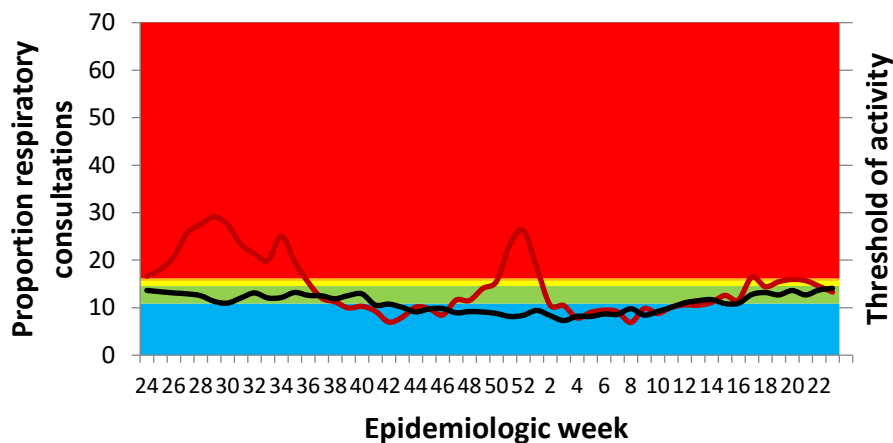


<span style="background-color: blue; color: white; padding: 2px;">Below threshold</span>	<span style="background-color: green; color: white; padding: 2px;">Low</span>	<span style="background-color: yellow; color: black; padding: 2px;">Moderate</span>	<span style="background-color: orange; color: black; padding: 2px;">High</span>	<span style="background-color: red; color: white; padding: 2px;">Very High</span>
<span style="color: red;">—</span> % All Respiratory	<span style="color: black;">—</span> Mean % 2015-2019 (Inpatients/Casualty) 2016-2019 (General Practitioner)			

# Private Consultations Surveillance

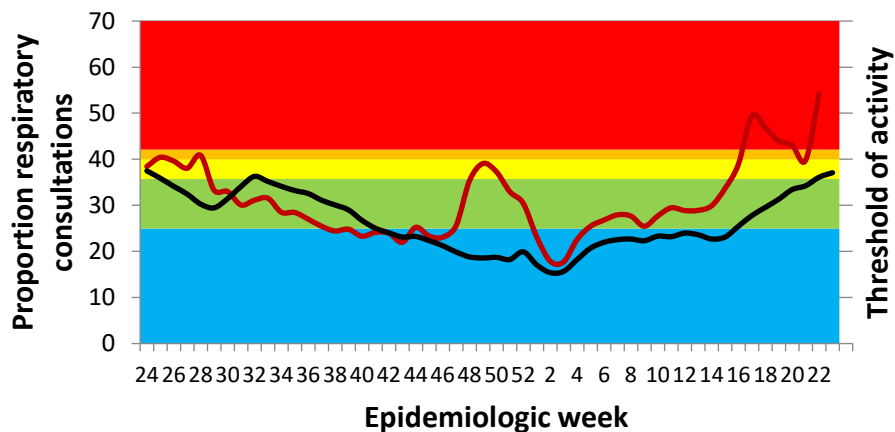
## Western Cape Province

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

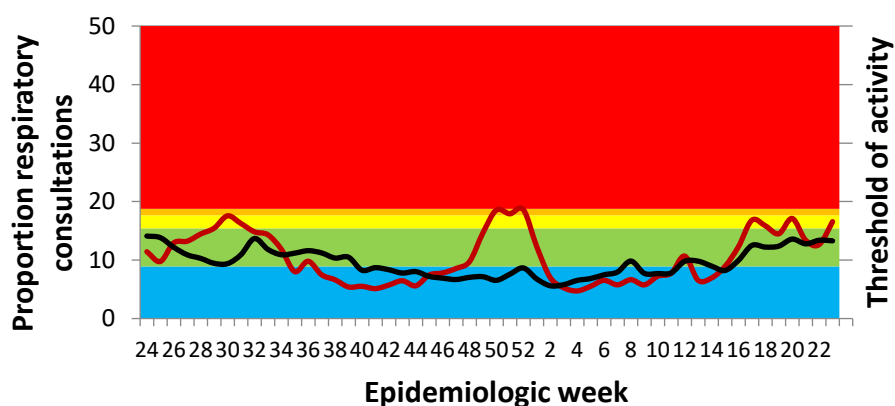


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

### A) General Practitioners



### B) Emergency Department



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