PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

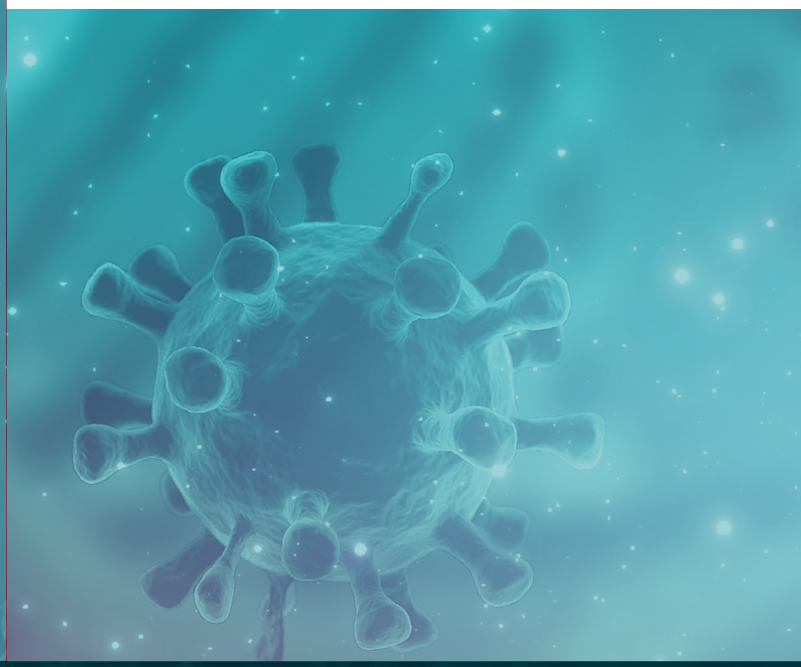
NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

SOUTH AFRICA | WEEK 49 2020

CONTENTS

HIGHLIGHTS: WEEK 49

- The Eastern Cape has shown a sharp increase in the proportion of inpatient and emergency department consultations for respiratory disease or suspected COVID-19 in the past six weeks.
- Inpatients consultations in the Western Cape have increased over the past three weeks reaching very high threshold.
- The proportion of emergency department consultations coded as confirmed COVID-19 (out of suspected) has increased from 40% to 85% in the past weeks, however overall numbers of respiratory consultations are substantially below the levels seen before the national lockdown.
- Differences by province and age group should be interpreted with caution due to low numbers in some groups.



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 the most recent weeks in 2020.

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INTERPRETATION OF DATA PRESENTED IN THIS REPORT

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

Total respiratory admissions reduced from week 13 when lockdown was implemented and increased exceeding pre-lockdown levels in week 26 and continued to increase up to week 29 reaching approximately double the level before the lockdown. From week 30, the numbers started to decrease. The proportion of admissions coded as confirmed COVID-19 (out of suspected) increased from week 15, exceeding 60% from week 26, peaked at ~ 79% in week 31 and has been coming down since then.

Total and respiratory outpatient (general practitioner) consultations reduced from week 13. Respiratory consultations recovered to levels slightly lower than those preceding the lockdown from week 26 and 28, with a gradual decrease since week 29. The proportion of general practitioner consultations coded as confirmed COVID-19 (out of suspected) increased from week 15, with a sharp increase from week 29 onwards, then reducing from week 34.

Total and respiratory emergency department consultations reduced from week 13. 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, after which it declined, but has been increasing since week 41, reaching 89% in week 48.

Proportion of admissions respiratory or suspected COVID-19 overall remained below threshold until week 21, following which it increased rapidly reaching the very high threshold in week 25 onwards decreasing from week 30, but showing a small increase this past week which may be due to a lag in reporting. By age group, percent admissions respiratory or suspected COVID for 0-4 years, remains below the seasonal threshold. Among individuals aged 5-19 years, increased since week 18, reaching low levels of activity in week 26, then reducing. Among individuals 20-49 years and ≥50 years, percent respiratory admissions has continuously increased since week 13, reaching very high level from week 21, dropping since week 29 but increasing to very high threshold in recent weeks.

Proportion of outpatient (general practitioner) consultations respiratory or suspected COVID-19 overall increased from week 11, peaking in week 13 then dropping well below the threshold, increased again crossing the seasonal threshold in week 25, peaked in week 28 and has remained below threshold since week 31, but showing a gradual increase since week 47. Among individuals aged 20-49 years and ≥50 years, percent outpatient visits (general practitioner) breached seasonal threshold in week 25, peaked in week 28 at moderate levels for individuals aged 20-49 years and at low levels for individuals aged ≥50 years, now below threshold.

Proportion of emergency department consultations respiratory or suspected COVID-19 overall dropped from week 13 during the lockdown but then increased from week 23 reaching very high levels in week 28, decreased to below threshold from week 34. 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, now in low threshold.

Trends in proportion of admissions and outpatient consultations respiratory or COVID varied by **province** with proportion inpatients respiratory reaching very high levels in all provinces evaluated. All four provinces evaluated experienced a downward trend, from week 28 in Eastern Cape and from week 30 in Gauteng, KwaZulu-Natal and Western Cape Provinces. However, the Eastern Cape has shown a sharp increase in the proportion of inpatients and emergency department consultations for respiratory disease or suspected COVID-19 in the past four to five weeks, reaching very

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high threshold. In addition, inpatients consultations in the KwaZulu-Natal and the Western Cape have increased over the past weeks reaching very high threshold.

Limitations

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

Assessment

Total numbers of respiratory hospitalisations have remained stable in the past few weeks, with a slight increase in week 49 which could be due to delays in reporting. The proportion of respiratory hospitalisations among 20-49 and ≥50 years has shown a stable trend the past weeks with a steep rise in week 49. The increase in week 49 could be due to delays in reporting. Changes in health-seeking behaviours and/or effects of lockdown-related reductions may also have contributed to the stable trend seen in previous weeks. A small increase in age 20-49 years this week should be monitored.

The percentage of emergency department visits and general practitioner visits coded as respiratory has decreased.

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

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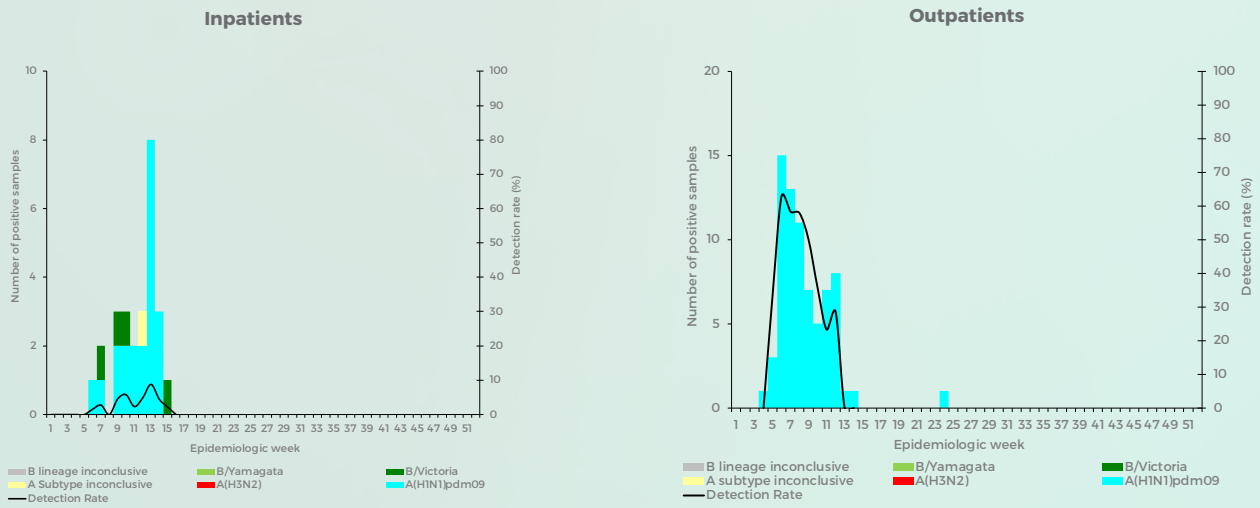
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

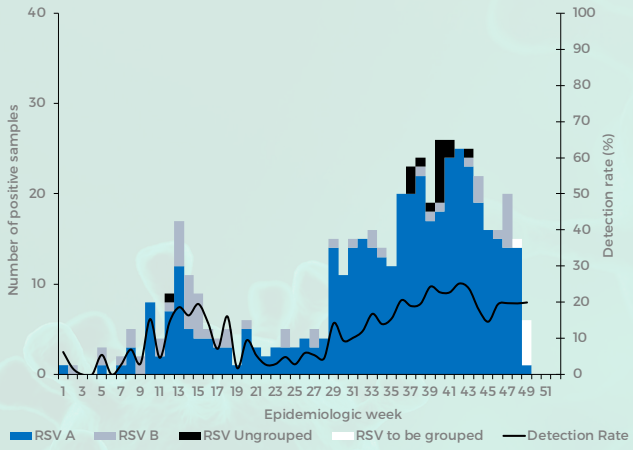
WEEK 49 2020

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

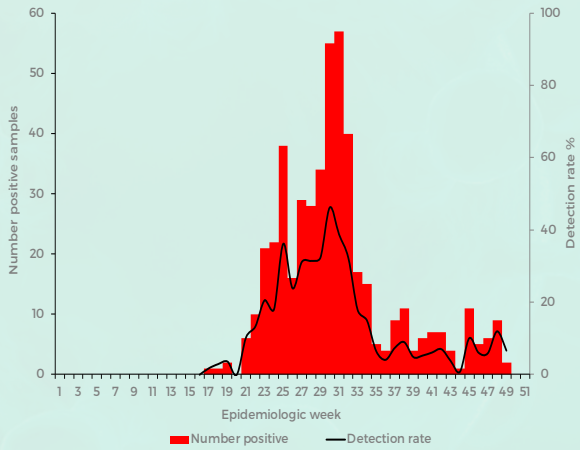
Number of influenza positive samples by subtype/lineage and detection rate by week



Number of respiratory syncytial virus positive by groups and subgroups per week (Inpatients)



Number of SARS-CoV-2 positive samples and detection rate by epidemiologic week



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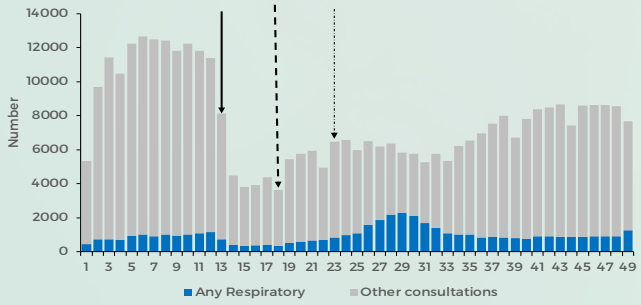
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

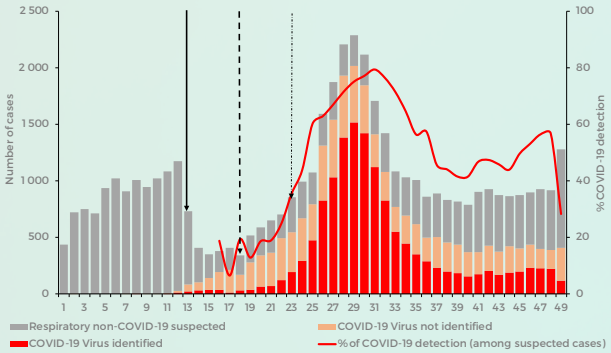
WEEK 49 2020

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

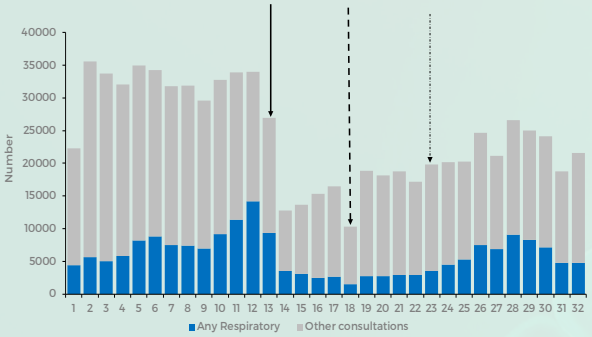
(SOLID ARROW INDICATES FIRST WEEK OF LOCKDOWN, DASHED ARROWS FIRST WEEK OF LEVELS 4 AND 3)

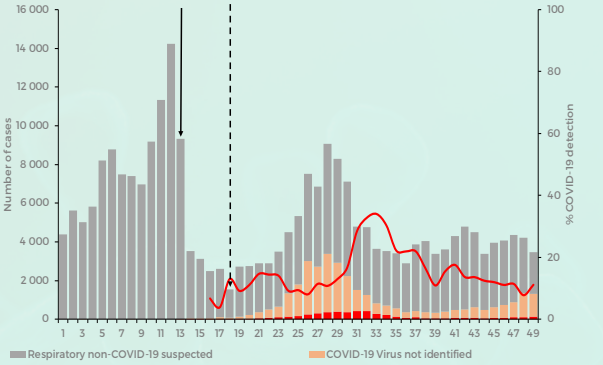
Inpatients



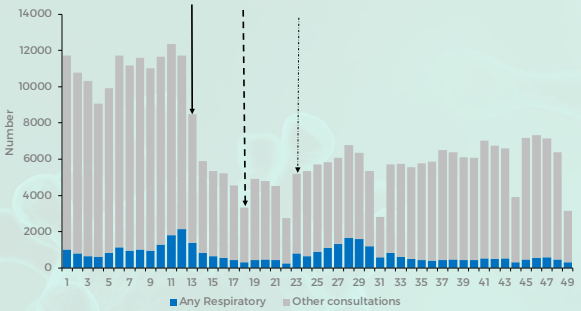


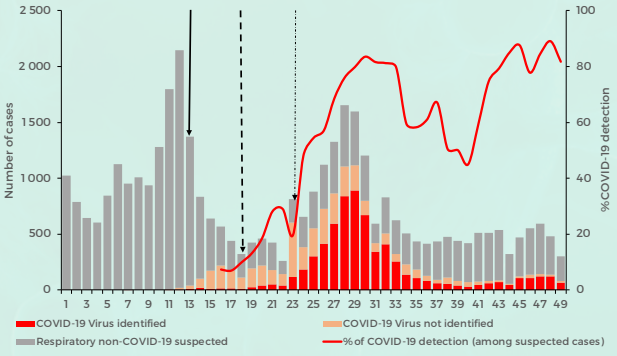
Outpatients - General Practitioners





Emergency department





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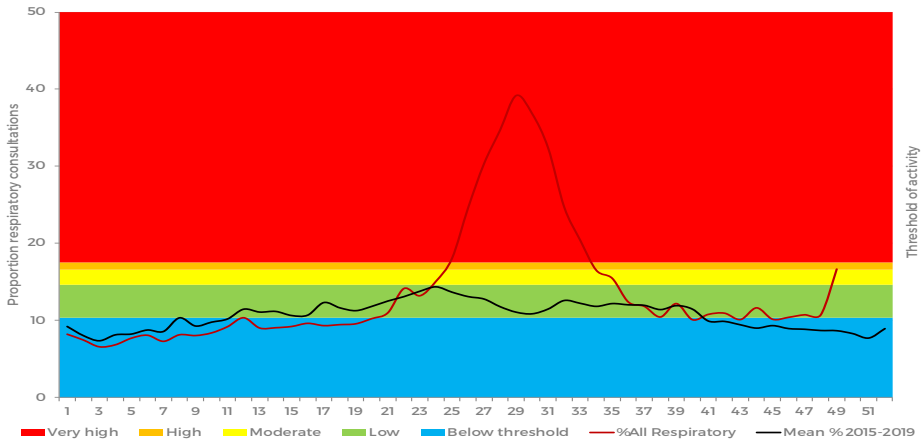
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

ALL AGES

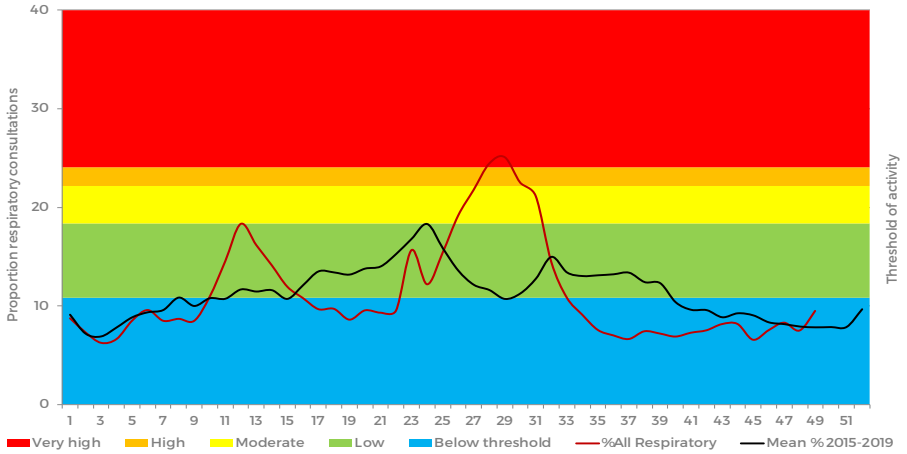
All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators - Inpatients



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

General Practitioners

Emergency Department



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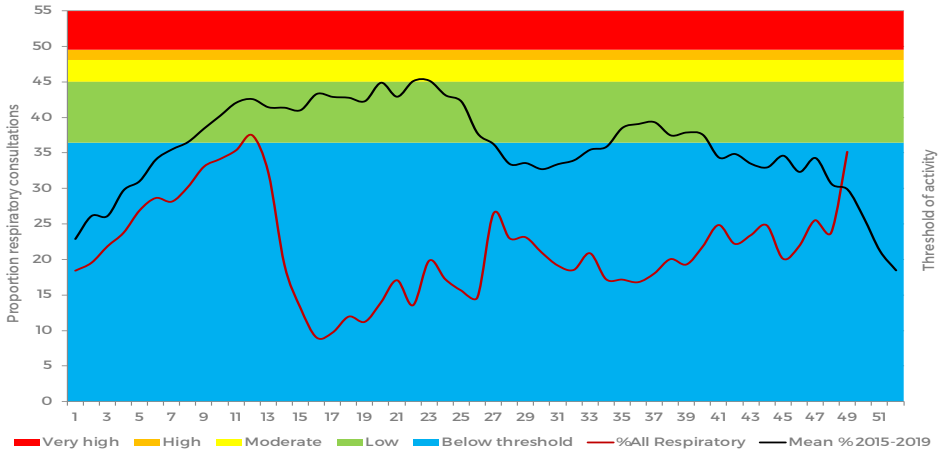
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

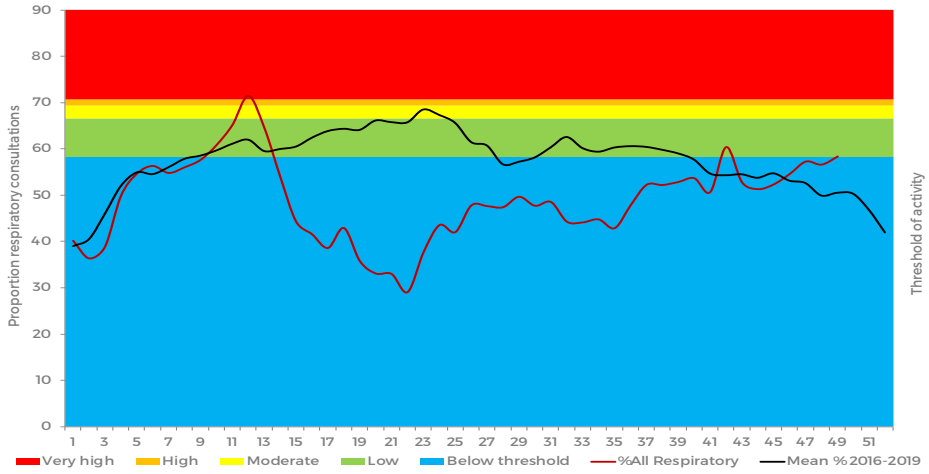
0-4 YEARS OF AGE

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

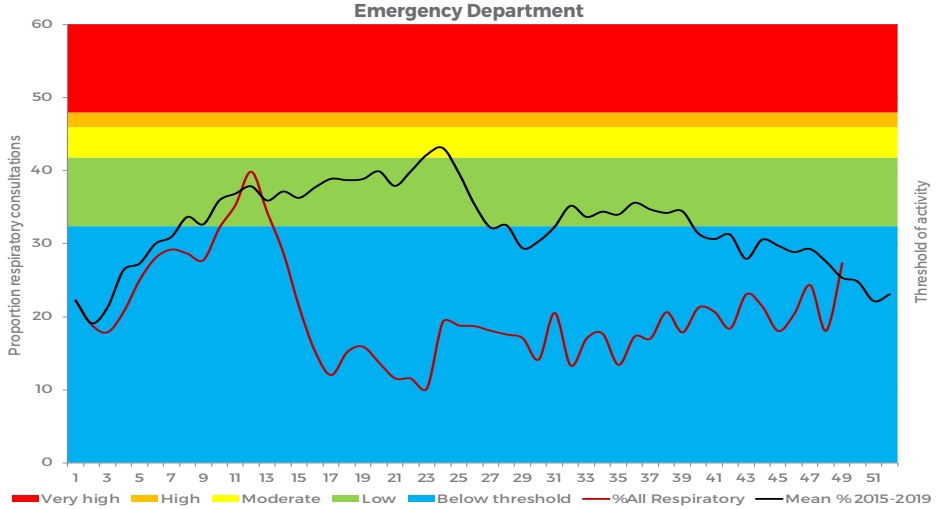


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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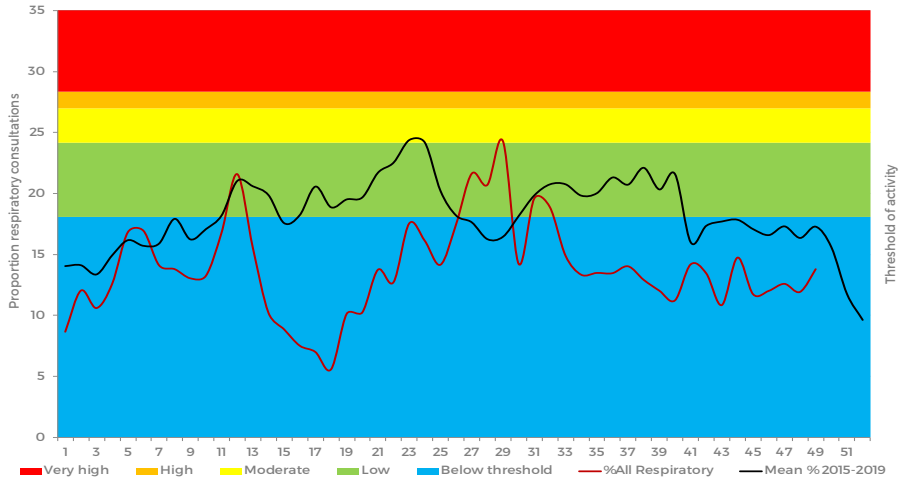
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

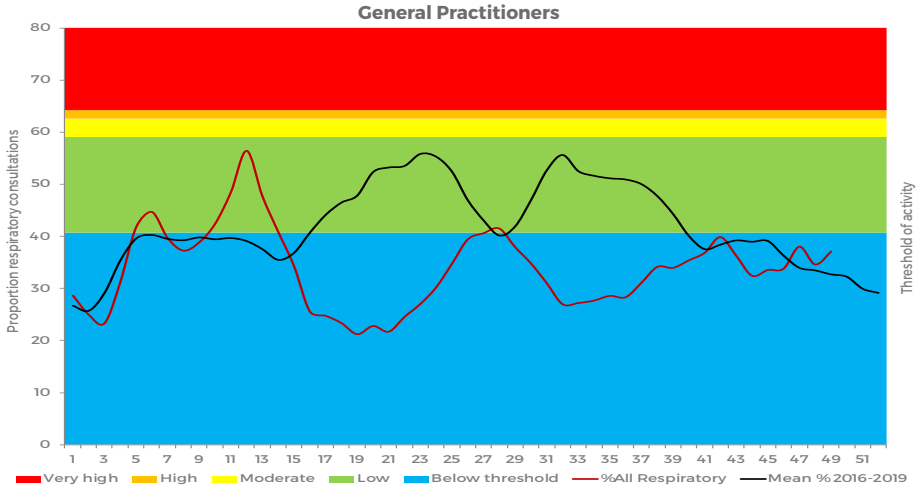
5-19 YEARS OF AGE

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

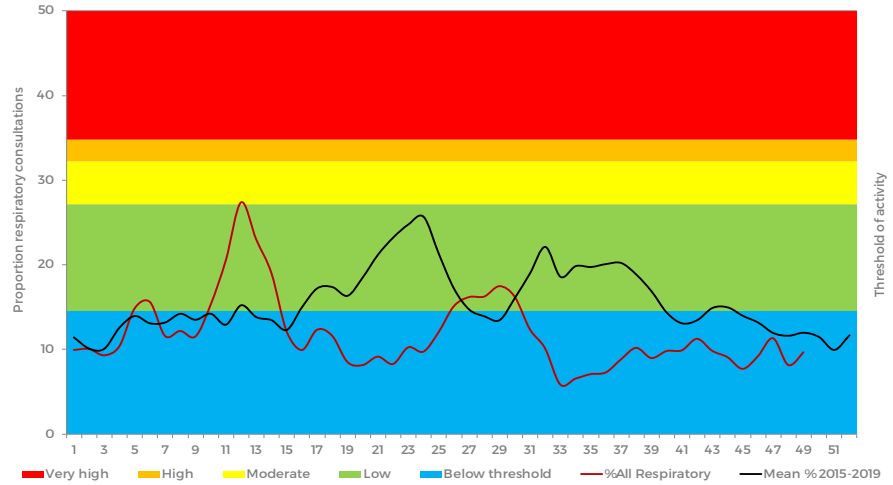


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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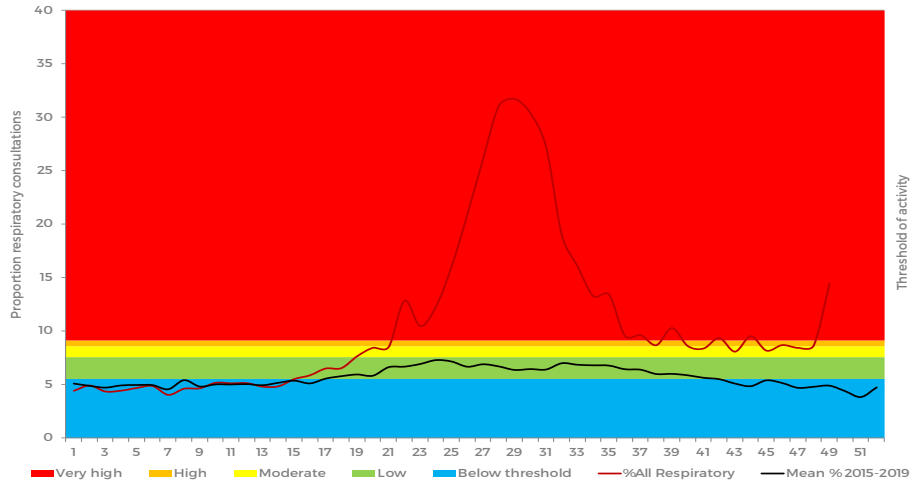
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

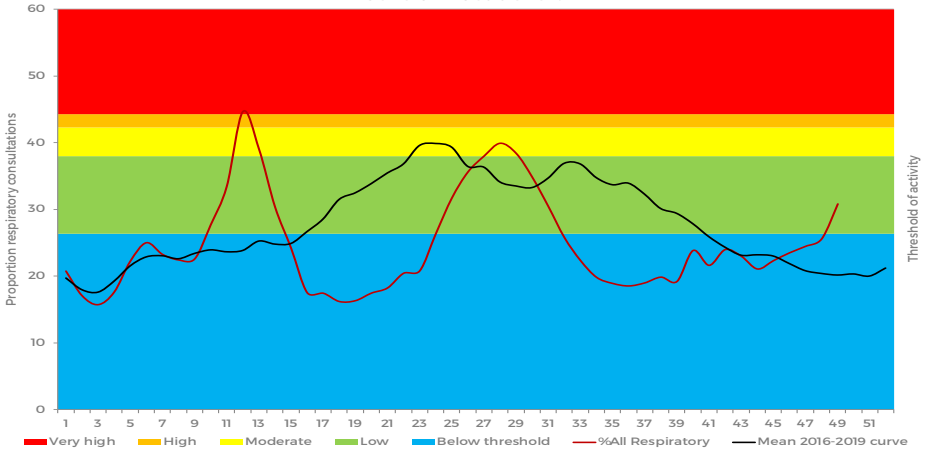
20-49 YEARS OF AGE

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

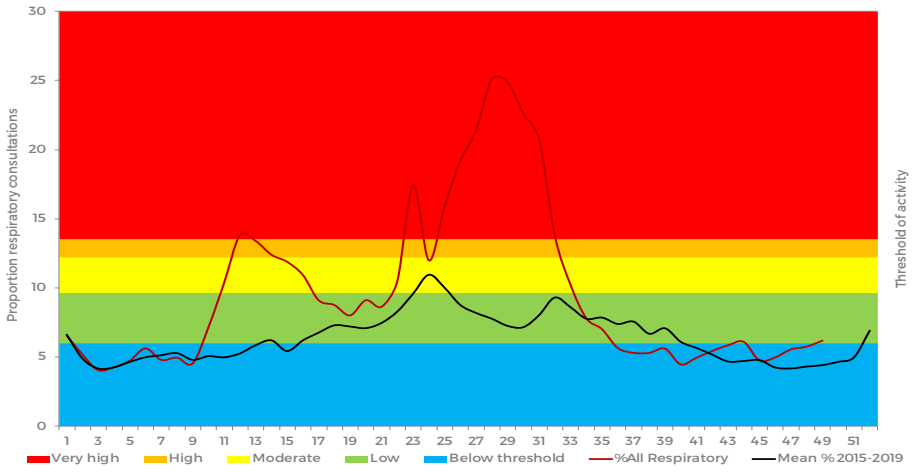


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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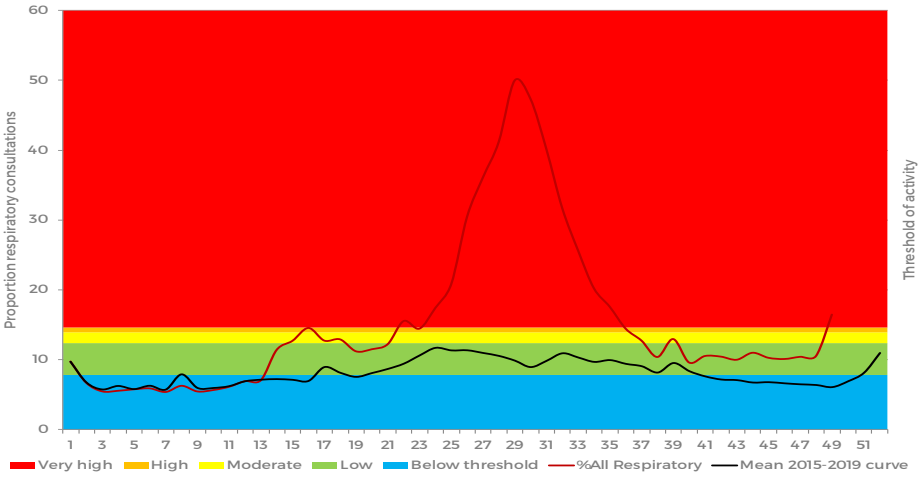
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

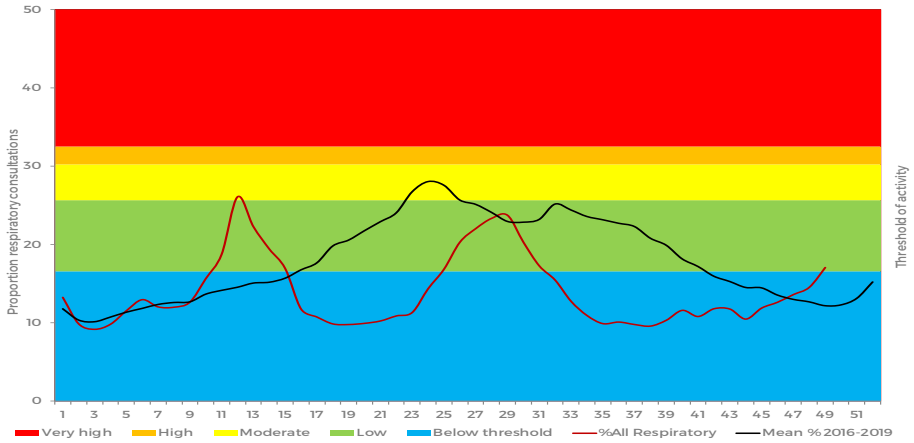
≥50 YEARS OF AGE

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

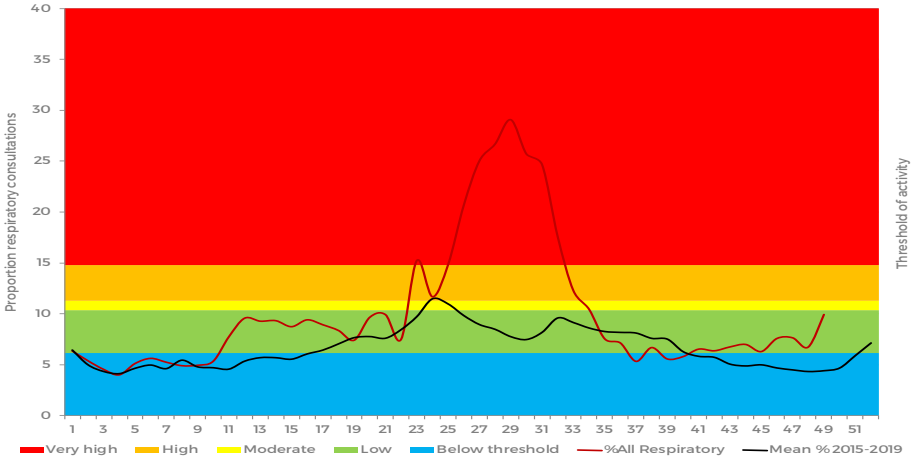


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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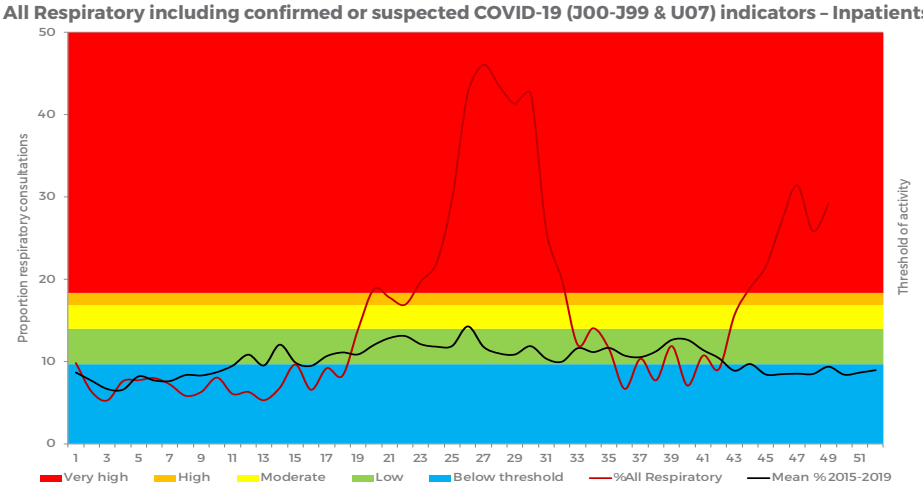
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

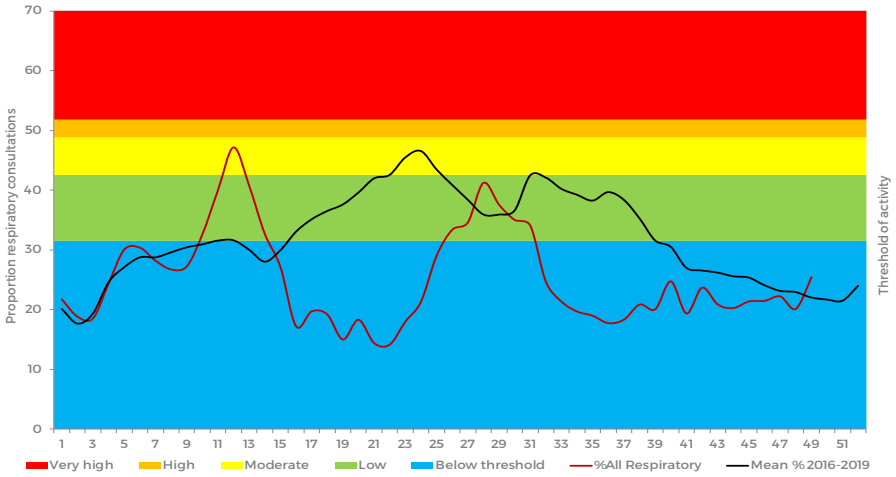
EASTERN CAPE PROVINCE

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

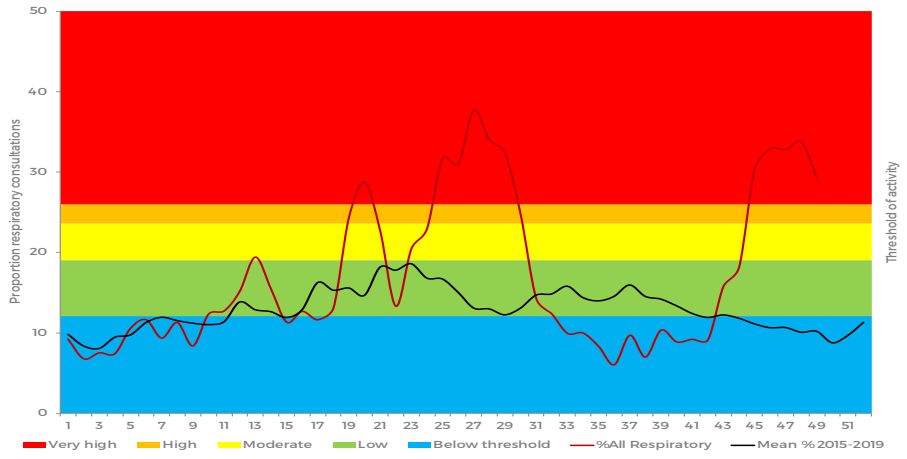


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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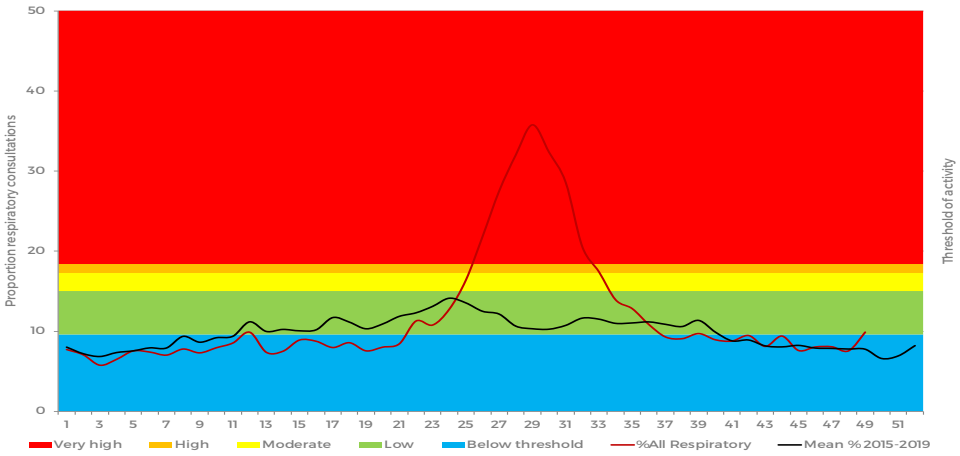
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

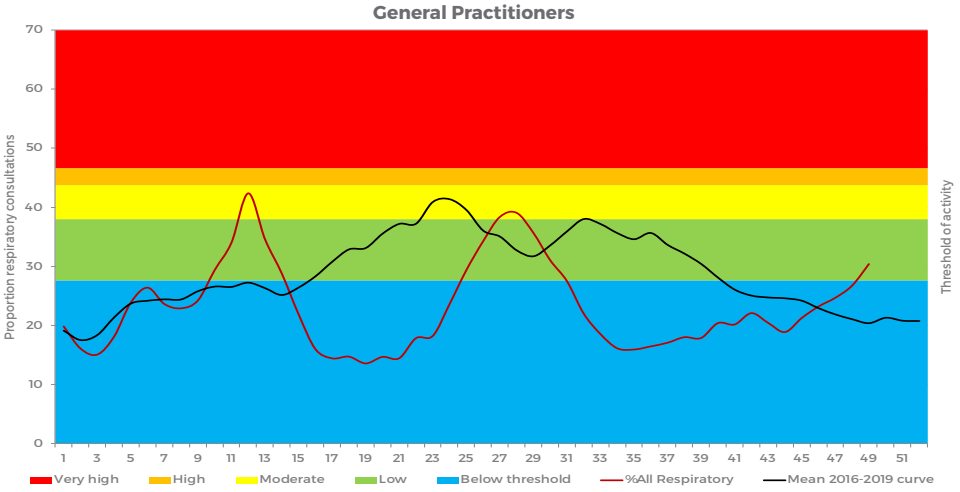
GAUTENG

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

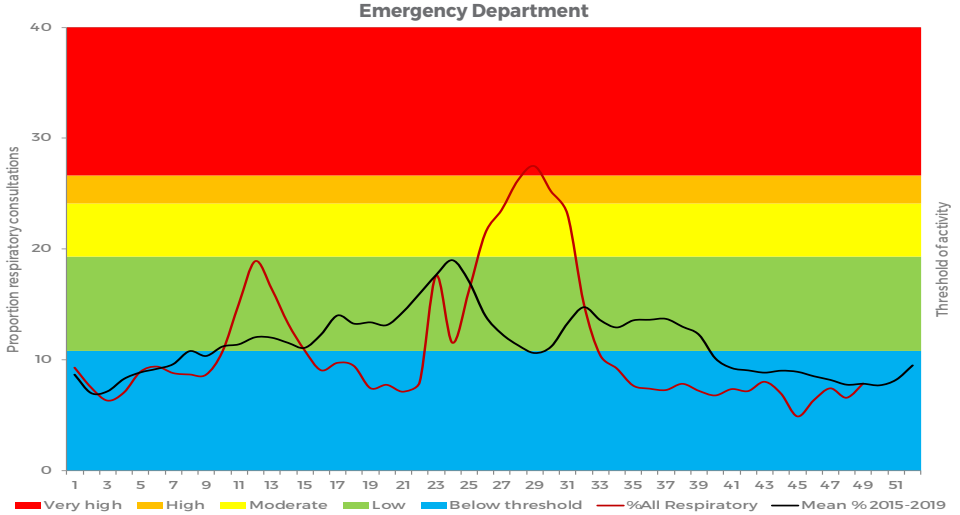


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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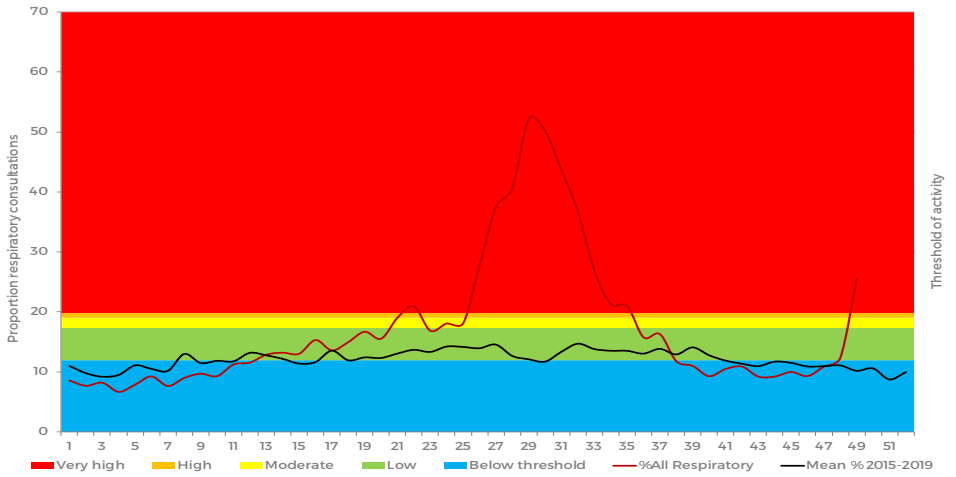
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

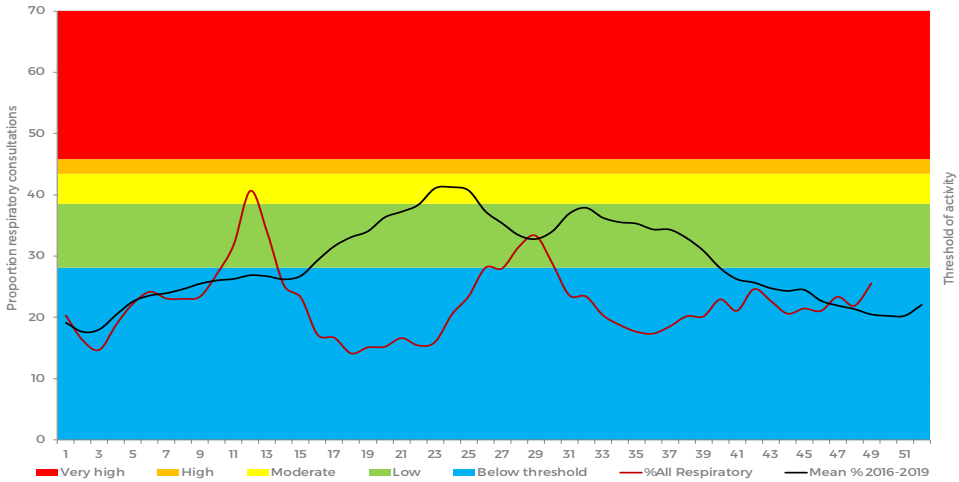
KWAZULU-NATAL

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

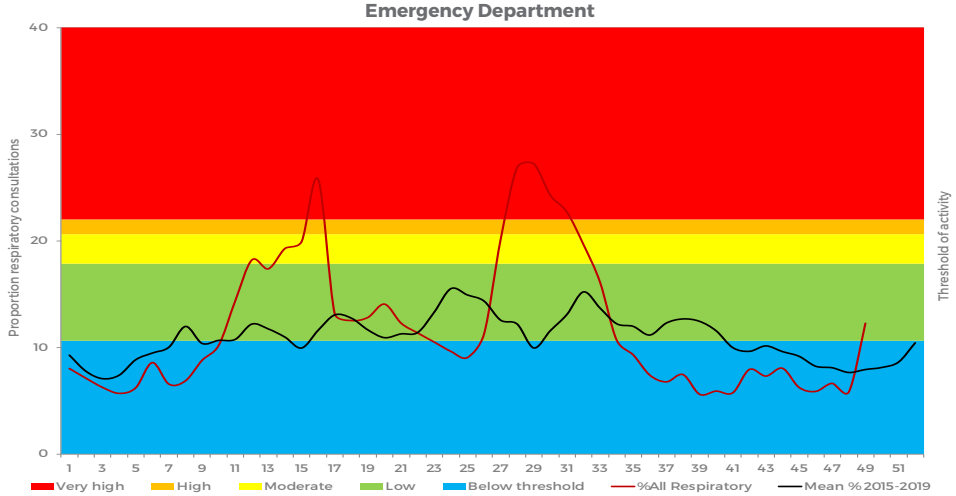


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

General Practitioners



Emergency Department



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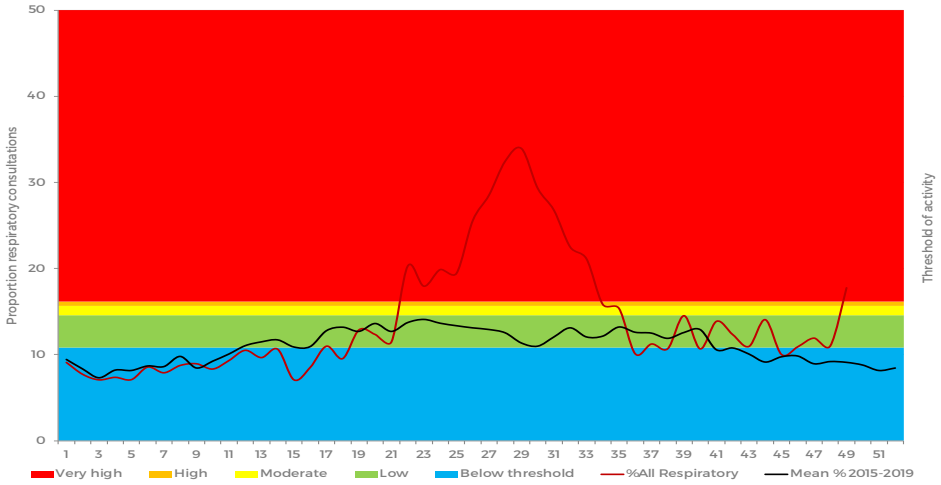
PRIVATE CONSULTATIONS SURVEILLANCE EPIDEMIC THRESHOLD REPORT

WEEK 49 2020

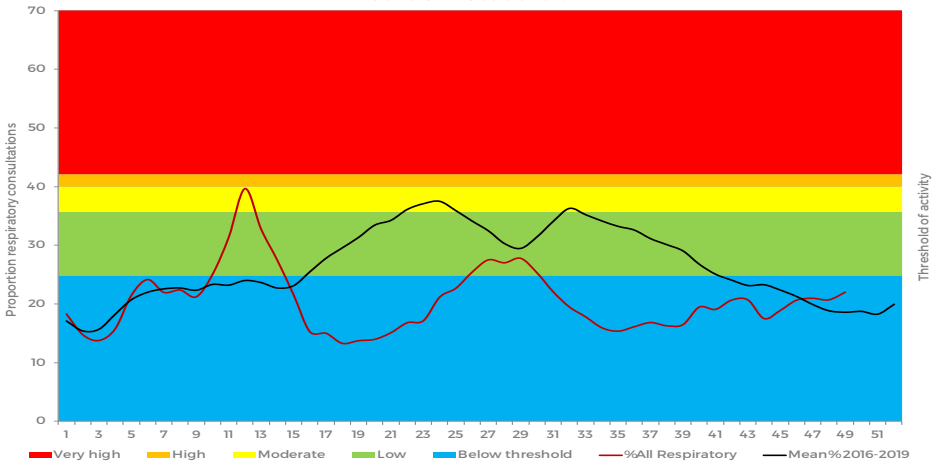
WESTERN CAPE PROVINCE

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

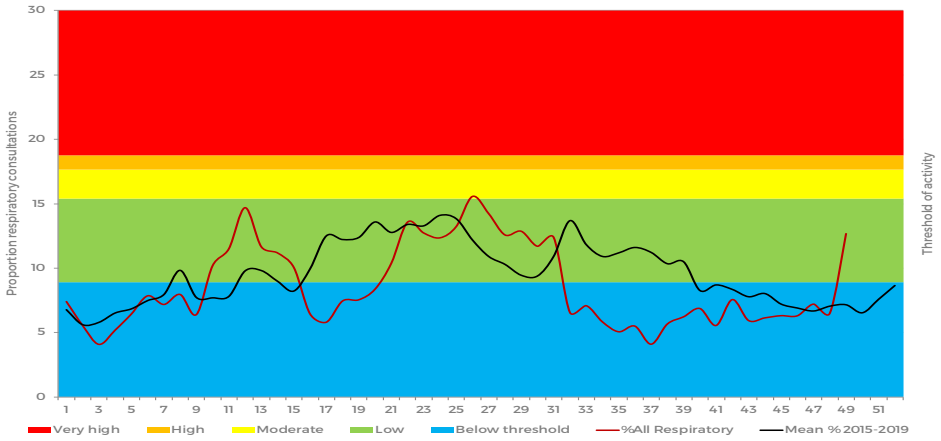


All Respiratory including confirmed or suspected COVID-19 (J00-J99 & U07) indicators – Outpatients

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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