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INTRODUCTION

- The Early Infant Diagnosis (EID) of Human Immunodeficiency Virus (HIV) is part of national and global health priorities.
- The COVID-19 pandemic came with a threat of potentially compromising the responses against other pandemics such as HIV.
- The first case of COVID-19 in South Africa was reported in March 2020, followed by implementation of national lockdown restrictions in April 2020.

AIM

This study aims to assess the impact of COVID-19 on the EID of HIV performed at the Virology Laboratory, Tshwane Academic Division, National Health Laboratory Services.

MATERIALS AND METHODS

- HIV qualitative Polymerase Chain Reaction (PCR) test data collected monthly over a 3-year period from 2019-2021, was extracted from TrakCare-Lab 2016 (InterSystems, Massachusetts, United States of America).
- This was stored in a Microsoft Excel database
- The data was then retrospectively analysed, and cumulative averages of tests performed per month were calculated to assess trends in testing volumes.

RESULTS (refer to Fig.2)

➤ GENERAL TRENDS

There was an **increase** in total number of tests performed in **Jan-Dec** of **2020 vs 2019**:

2019: (n= 157, 599)
2020: (n= 191, 049)

In the first six months of the year (January – June) the total tests performed **increased** across the years:

2019 (n= 92, 210),
2020 (n= 98, 614),
2021 (n= 100, 233)

➤ SOME MORE TRENDS

APRIL:

A notable **decrease** is seen from **April 2019** (n= 15, 789) to **April 2020** (n= 12, 668). However, an **increase** is seen in **April 2021** (n= 18,133)

JUNE:

A **decrease** is seen from **June 2019** (n= 16, 931) to **June 2020** (n=16, 517), and again in **June 2021** (n=14, 763)

JANUARY:

There is an **increase** in the month of **January 2019** (n= 13 018) to **2020** (n= 17, 156). However, a **decrease** in number of HIV PCR requested is seen in **January 2021** (n= 14, 873)

CONCLUSION

- The impact of COVID-19 has manifested in changed health-seeking behavior in the periods of national lockdown and restrictions, whereby less patients present at healthcare facilities leading to a decrease in diagnostic testing volumes
- Further studies into the impact of COVID-19 on HIV testing services should be done
- Interventions need to be put in place to avoid/minimize interruptions to EID services during COVID-19 peak waves and lockdown restrictions

REFERENCES

(1.) Figure 1: Statista.com. Published by Saifuddin Galal, Jun 25, 2021 (2.)McIntosh A, Bachmann M, Siedner MJ, et al. Effect of COVID-19 lockdown on hospital admissions and mortality in rural KwaZulu-Natal, South Africa: interrupted time series analysis. *BMJ Open* 2021;11:e047961. doi: 10.1136/bmjopen-2020-047961

Number of new daily coronavirus (COVID-19) cases in South Africa as of June 24, 2021

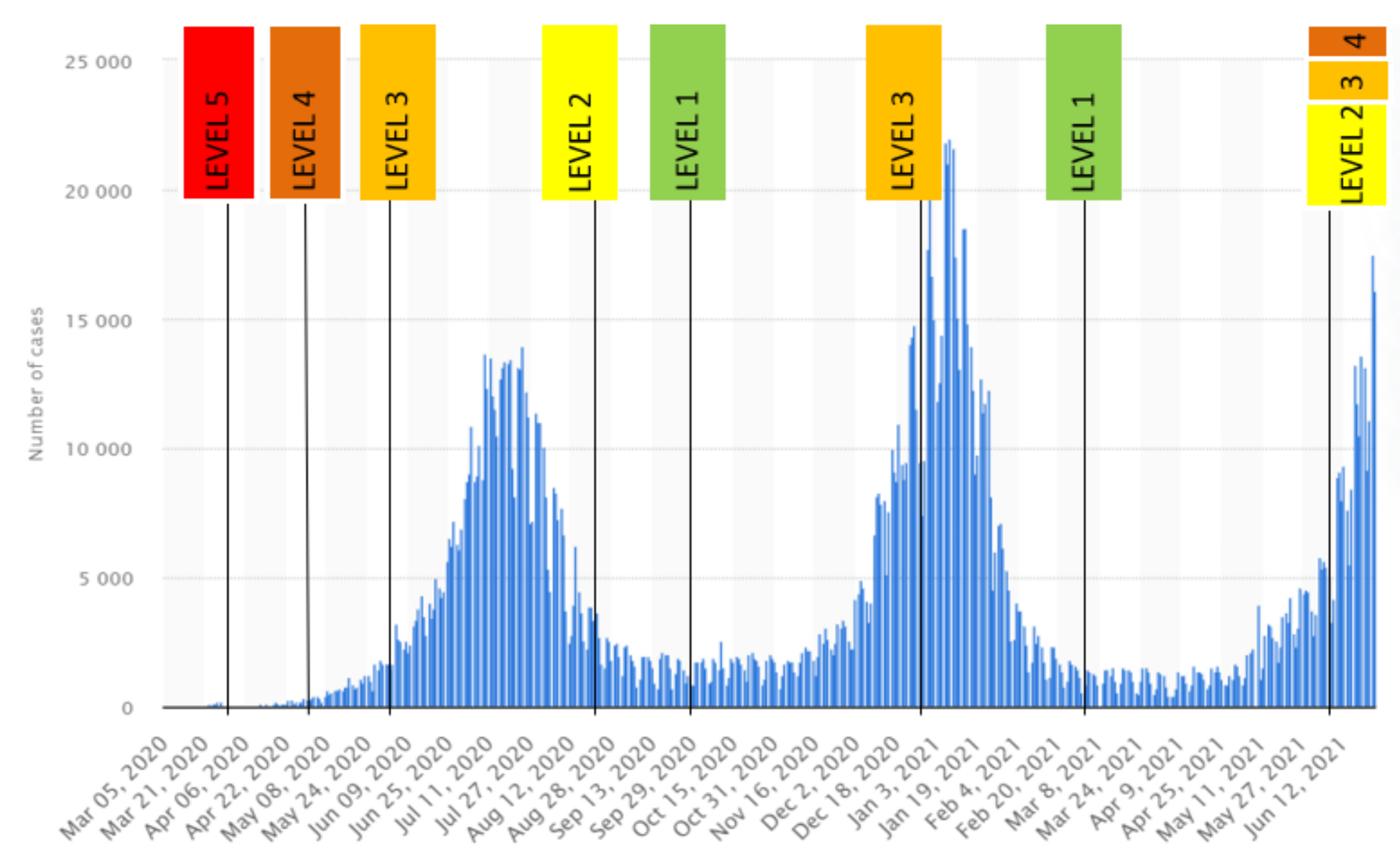


FIGURE 1:

Comparison of HIV PCR tests conducted in 2019, 2020 and 2021

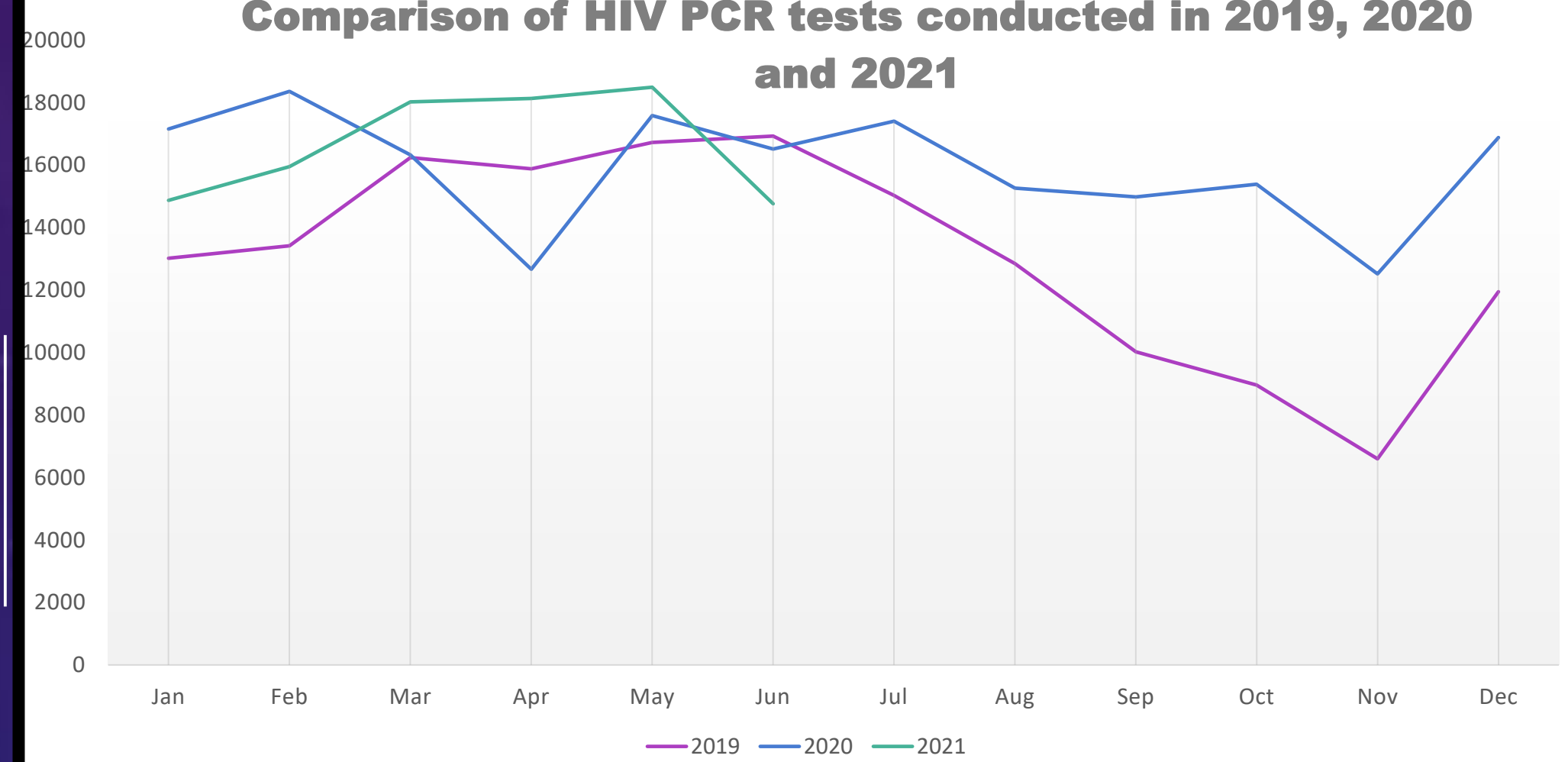


FIGURE 2:

DISCUSSION

- The decline observed in April 2020, where 20% less HIV PCR tests were performed than in April 2019, coincides with the COVID-19 national level 5 lockdown in 2020. Possible reasons that could account for the decline during lockdown include;
 - ❖ Strict restriction on movement
 - ❖ Decreased availability of transport (public transport is the main mode of transportation in South Africa's resource limited setting)²
 - ❖ Financial constraints due to possible loss of employment– unable to afford transport/ public transport fare ²
 - ❖ Concern amongst mothers of exposing themselves and their children to COVID infection
- Periods of COVID-19 peaks (together with lower lockdown restrictions) were also associated with decline in HIV tests, likely due to:
 - ❖ increased concern of exposure to infection by mothers due to the statistics of rising COVID-19 cases shared by government with the public
 - ❖ Loss of employment – unable to afford transport/ public transport fare