UPDATE ON THE COVID-19 NATIONAL SURVEILLANCE PROGRAMME

- *WATER RESEARCH COMMISSION*
- *16 June 2022*

PROGRAMME ROADMAP

- **20 May 2020** - Launch of the national programme for monitoring COVID-19 spread in communities using a water and sanitation-based approach

- **28th August 2020** - WRC & NICD sign a 5-year MoU to establish a framework for a long-term strategic collaboration on water and environmental quality research and surveillance

- **October 2020** - WRC and NICD signed MoA to develop a network of laboratories to conduct surveillance for SARS-CoV-2 using wastewater-based epidemiology (WRC 2020/2021-00669)

    - South African Covid-19 Collaborative Environmental Surveillance System (SACCESS) network was created and commenced testing at 18 WWTPs

- **March 2021 -** MoA was amended with the expansion of sites and inclusion of additional deliverables

- **November 2021** - WRC included additional funding from the Deutsche Gesellschaft fűr Internationale Zusammenarbeit (GIZ)

PHASE ONE

PROOF OF CONCEPT

- Sample design, testing & fine-tuning sampling protocol, preliminary sampling and characterization based on current Water Lab approved proposal

- Established sampling program & protocol
- Preliminary sample analysis
- Established sewershed sampling profile

❖ **100 % WRC-Funded**

PHASE TWO

PILOT SCALE MONITORING

-partnership-wide monitoring of provincial hotspots (Gauteng, KZN & Western Cape) using established sampling protocols and design – Focus of EOI

- Established monitoring partnerships covering provincial hot spots
- Preliminary pilot surveillance monitoring data

❖ **WRC-Funded with partners leverage funding**

PHASE THREE

NATIONAL WASTEWATER SURVEILLANCE

-Full scale national sewershed surveillance, including data analysis, integration, communication & research

- Rolled out national surveillance
- National data analysis and integration
- GIS mapping – heat maps
- National communication

❖ **Funded by various Stakeholders & Partners**

3 months | **6 - 12 months** | **12 months +**

South African experiences with wastewater-based epidemiology for SARS-CoV-2

FUNDERS

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

WATER RESEARCH COMMISSION

BILL & MELINDA GATES foundation

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

PARTNERS

SACCESS

CSIR

WATERLAB

Lumegen LABORATORIES

GREENHILL LABORATORIES

praecautio
science based solutions

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH
Division of the National Health Laboratory Service

CORE TEAM

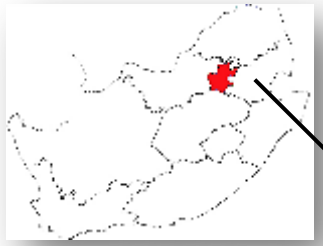
(NICD Centre for Vaccines and Immunology)

Mokgaetji Macheke, Setshaba Taukobong, Chinwe Iwu-Jaja, Nkosenhle Ndlovu, Said Raichida, Mukhlid Yousif, Kerrigan McCarthy

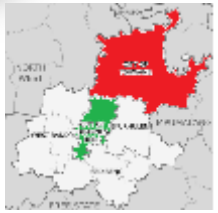
Example of quantitative and genomic testing

- Current trends in SARS-CoV-2 levels and variants present across Gauteng

South Africa
Gauteng Province

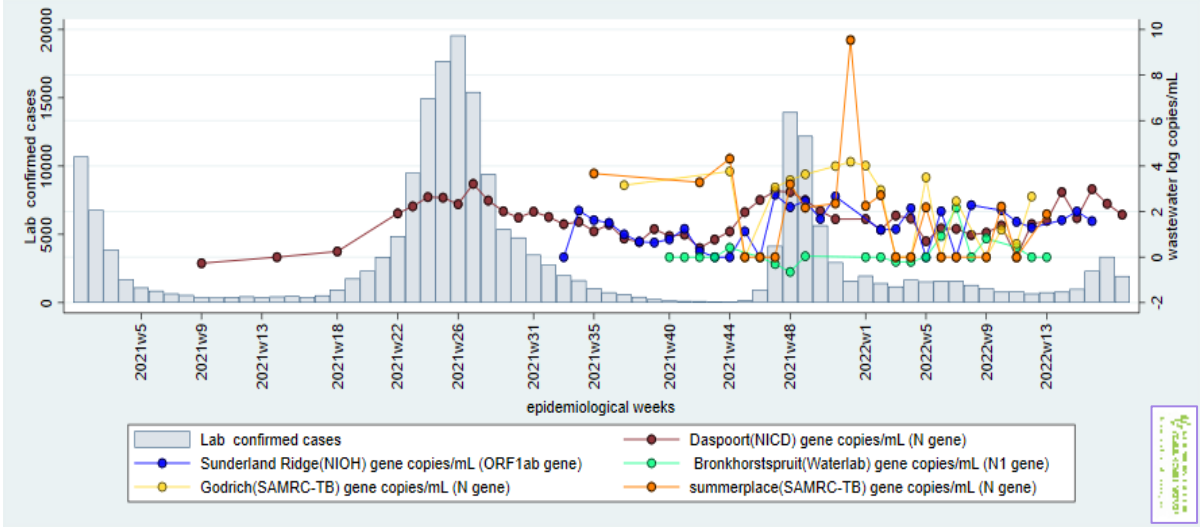


City of Tshwane

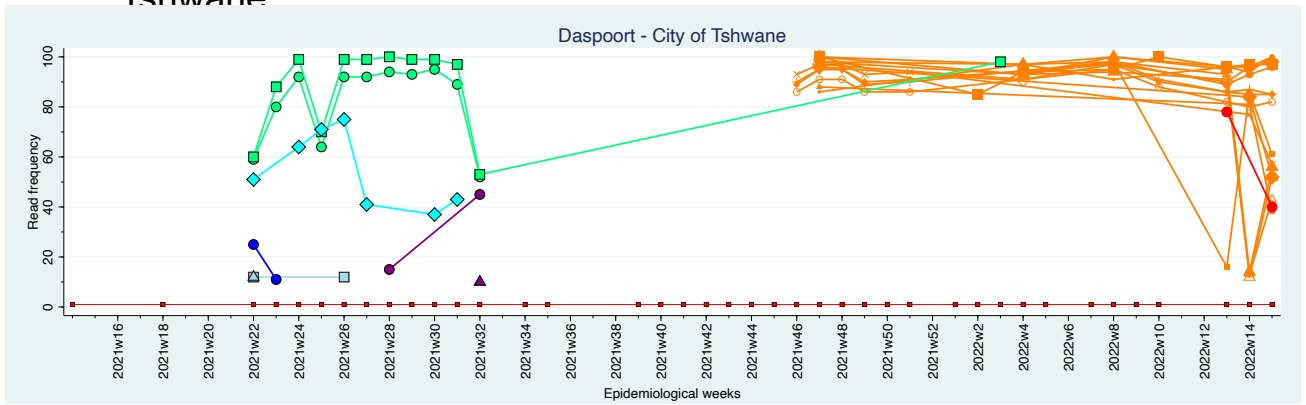


City of Tshwane, Gauteng Province

Levels of SARS-CoV-2 present in wastewater from wastewater plants, City of Tshwane, sub-district 3,4,6&7

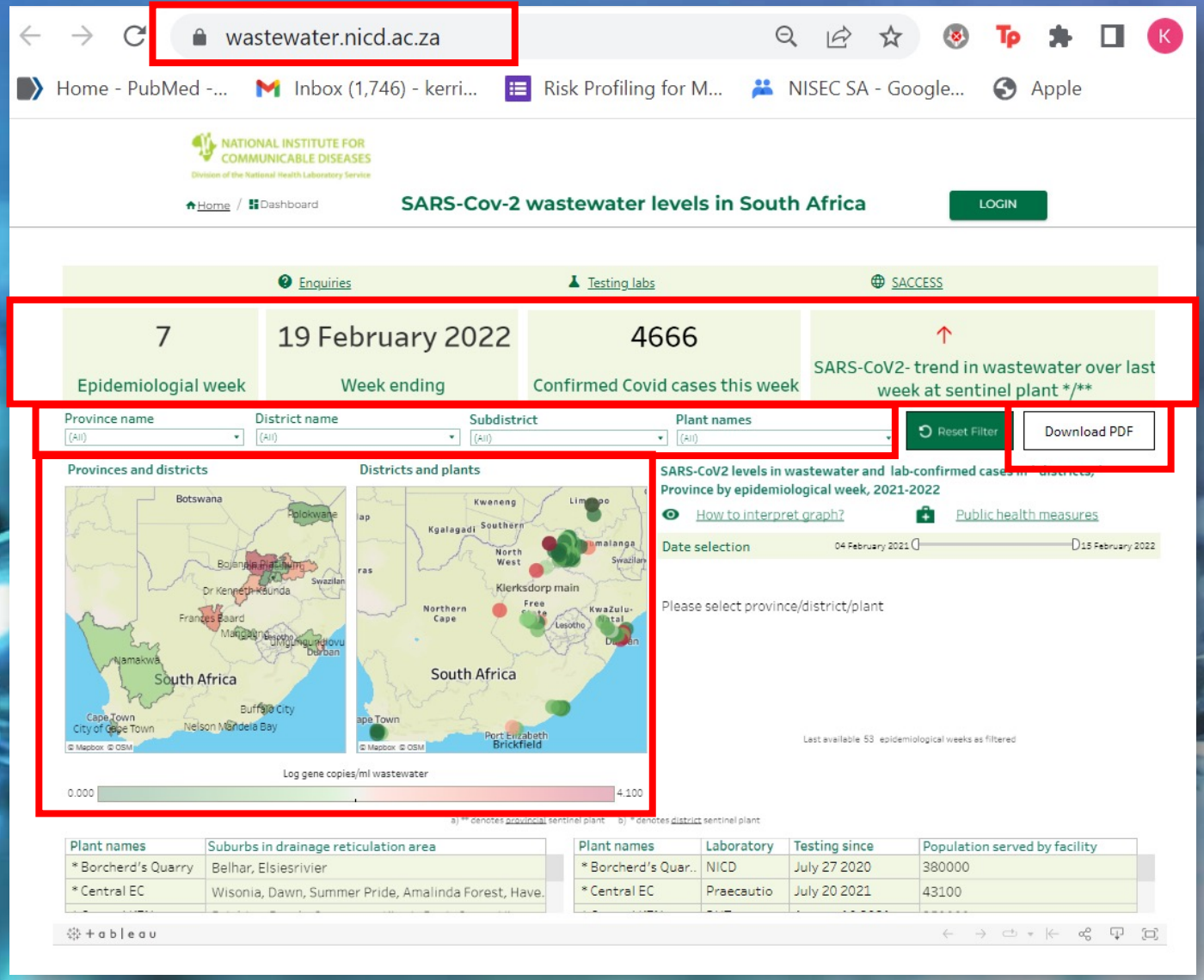


SARS-CoV-2 variants present in wastewater from Daspoort, City of Tshwane



WASTEWATER DASHBOARD OVERVIEW

- Public health communications and NICD wastewater dashboard
- Public facing site link: www.wastewater.nicd.ac.za,
- Functionality
  - ‘Key indicators’
  - Maps to indicate location of plants and levels (by sentinel site for each province/district
  - Dropdowns to select plants across metro
  - Downloadable PDF report



WATER RESEARCH COMMISSION

Non-sewered environmental surveillance