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

**The National Institute for Communicable Diseases**

**The Division of Public Health, Surveillance, and response**

# NOTIFIABLE MEDICAL CONDITIONS SURVEILLANCE SYSTEM

**April 2024 report**

## Table of Contents

## Introduction

Data used in this report was drawn from the NMC-SS on **09 July 2024**. The most recent report should always be viewed and can be found in NMCSS surveillance reports

The purpose of this report is to describe the number of notifications received by the Notifiable Medical Conditions Surveillance System (NMCSS). The report is publicly available and can be used by health professionals, researchers, the public, or any other stakeholder. The purpose of disseminating this information is to inform any public health action - NMCSS data has limitations (see NMCSS interpretation.), but serves as a public health signal that may warrant further investigation.

This report also monitors some surveillance system attributes. Including average notifications by facilities, data quality and timeliness of clinical diagnosis and notifications over time. (**see Appendix nos. 1 and 3**).

While this information is also publicly available, we aim this section of the report at those involved in notifying. These include Infection Prevention Control practitioners at facilities, Nurses, Doctors, pathologists and laboratory staff.

Category 4 NMCs, COVID-19, and multi-system inflammatory syndrome (MIS-C) have been excluded from this report. Where weeks are presented, the Epi-week according to the CDC Epi-weeks are used.

## Highlights

- A total of 10 656 cases were notified in April 2024 and most were category 2 conditions.
- Category 1 cases were reported in a median (IQR) of 0 (0, 2) days.
- There were 396 average active users of the NMC App in April 2024

## NMC Reporting application.

- NMC Reporting App. is available on both web and mobile platforms.
- Use recommended browsers in order to access the NMC reporting App for notifications, and searching of cases and reports.
- Register if you have no NMC account and you can reset the password if you have not used the application for over 12 months.

**NOTES:** For any additional information contact the NMC national technical team: NMCAppSupport@nicd.ac.za or NMC hotline 072 621 3805. Please refer to Appendices for NMC data flow, definitions and interpretation of epidemiology data in this report.

**DATA IS CONTINUOUSLY CLEANED, DE-DUPLICATED, AND UPDATED, HENCE IS SUBJECT TO CHANGE. ALL NUMBERS REPORTED ARE PRELIMINARY UNLESS OTHERWISE STATED. DATE OF DIAGNOSIS IS USED FOR REPORTING.**

## Current notification trends

Trends of notifications of selected conditions are presented below. Notifications that are confirmed are shown first. Confirmed notifications are verified and confirmed by the relevant centre at the NICD and can be considered confirmed cases. All notifications are shown after and include notifications that can be considered as suspected cases. These are presented to show the sensitivity of the surveillance system in recognising disease signals.

## Confirmed notifications.

### *Epi-table*

***Table 1**: Number of confirmed notifications on NMCSS per Epi-week in 2024. The average weekly notifications are calculated based on notifications received in 2022 and 2023 with a confidence interval.*

| | Average Notifications | | Epi-weeks | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Characteristic** | | **95% CI**[1] | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** |
| Acute flaccid paralysis | 0.0308 | 1.0, 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cholera | 0.97 | 1.5, 5.5 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| Congenital rubella syndrome | 0.0132 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Covid-19 | 418 | 27, 315 | 0 | 3 | 5 | 2 | 1 | 3 | 3 | 3 | 7 | 2 | 6 | 6 | 3 | 1 | 4 | 7 | 4 | 0 |
| Crimean-Congo viral haemorrhagic fever (human) | 0.0176 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diphtheria | 0.10 | 1.0, 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Enteric fever (typhoid or paratyphoid fever) | 1.25 | 1.5, 2.0 | 2 | 1 | 2 | 6 | 3 | 1 | 2 | 2 | 3 | 1 | 3 | 3 | 0 | 1 | 1 | 2 | 0 | 0 |
| Foodborne illness outbreak | 0.0837 | 1.0, 3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Listeriosis | 0.51 | 1.0, 1.5 | 0 | 1 | 1 | 3 | 2 | 1 | 1 | 2 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Malaria | 89 | 69, 88 | 35 | 120 | 217 | 187 | 109 | 116 | 61 | 48 | 61 | 48 | 60 | 52 | 34 | 40 | 42 | 55 | 53 | 14 |
| Measles | 1.42 | 2.0, 3.0 | 2 | 3 | 1 | 0 | 0 | 0 | 1 | 4 | 0 | 1 | 2 | 3 | 0 | 1 | 2 | 1 | 2 | 1 |
| Meningococcal disease | 0.82 | 1.5, 2.0 | 1 | 3 | 4 | 5 | 1 | 0 | 2 | 2 | 1 | 2 | 4 | 0 | 1 | 3 | 1 | 2 | 2 | 0 |
| Pertussis | 10 | 13, 19 | 6 | 24 | 21 | 6 | 15 | 7 | 3 | 6 | 5 | 18 | 10 | 10 | 11 | 6 | 5 | 12 | 7 | 2 |
| Rabies | 0.09 | NA, NA | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Respiratory disease caused by a novel respiratory pathogen | 0.0088 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rubella | 1.42 | 2.5, 7.0 | 1 | 4 | 3 | 3 | 4 | 5 | 0 | 3 | 3 | 0 | 4 | 4 | 25 | 0 | 10 | 2 | 4 | 1 |

[1]CI = Confidence Interval

***Trends Plot***

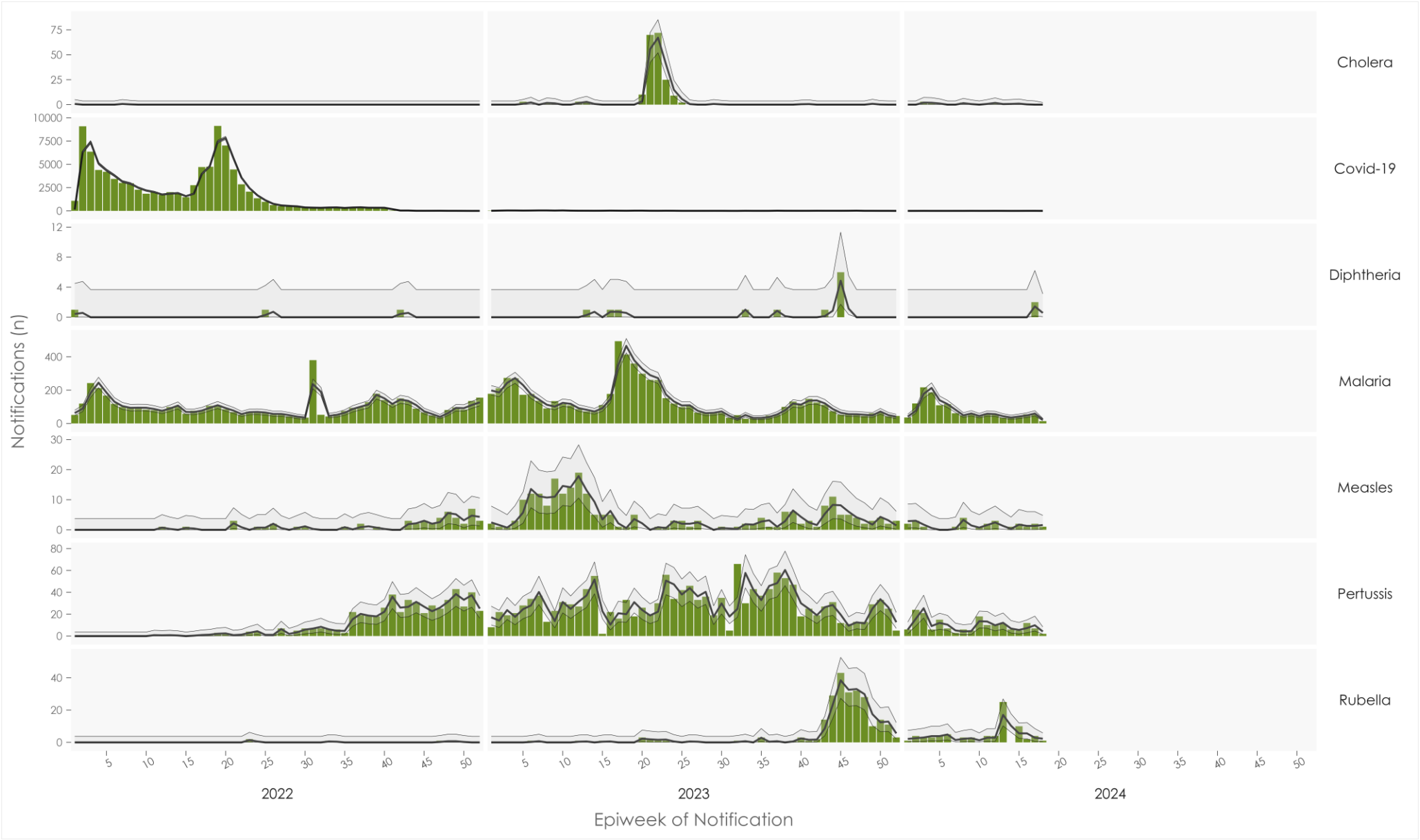



***Figure 1**: Trend of weekly number of confirmed notifications for selected category 1 conditions reported to the NMC, in South Africa; January 2022-April 2024*

## All Category 1 Conditions

***Table 2:*** *The number of notifications that are suspected and confirmed for category 1 conditions notified during April 2024*

| Condition | **Overall**, N = 664[1] | **Confirmed**, N = 249[1] | **Suspected**, N = 415[1] |
|---|---|---|---|
| Acute flaccid paralysis | 21 | 0 | **21** |
| Acute rheumatic fever | 0 | 0 | 0 |
| Anthrax | 0 | 0 | 0 |
| Botulism | 0 | 0 | 0 |
| Cholera | 7 | 2 | **5** |
| Congenital rubella syndrome | 7 | 0 | **7** |
| Crimean-Congo viral haemorrhagic fever (human) | 1 | 0 | **1** |
| Diphtheria | 0 | 0 | 0 |
| Ebola virus (VHF) | 0 | 0 | 0 |
| Enteric fever (typhoid or paratyphoid fever) | 15 | 4 | **11** |
| Foodborne illness outbreak | 40 | 0 | **40** |
| Haemolytic uraemic syndrome (HUS) | 1 | 0 | **1** |
| Listeriosis | 1 | 0 | **1** |
| Malaria | 190 | 190 | 0 |
| Marburg virus (VHF) | 0 | 0 | 0 |
| Measles | 241 | 6 | **235** |
| Meningococcal disease | 13 | 8 | **5** |
| Mpox | 0 | 0 | 0 |
| Pertussis | 58 | 23 | **35** |
| Plague | 0 | 0 | 0 |
| Poliomyelitis | 0 | 0 | 0 |
| Rabies | 2 | 0 | **2** |
| Respiratory disease caused by a novel respiratory pathogen | 0 | 0 | 0 |
| Rift Valley fever (human) | 0 | 0 | 0 |
| Rubella | 67 | 16 | **51** |
| Smallpox | 0 | 0 | 0 |
| Yellow fever | 0 | 0 | 0 |

[1]Suspected and confirmed cases are independent and are not totalled - suspected and confirmed cases are distinct.

## NMC data summary, April 2024

A total of 10 656 current and delayed cases were notified to the NMCSS during April 2024 **(See table 9 for further breakdowns and Appendix no.3 for definitions)**. There were 10 594 current notifications; the majority (9 782, 92%) were category 2 conditions. The provinces with the highest number of notifications were GP (2 709, 26%), KZN (2 608, 25%), and WC (1 799, 17%). The provinces with the least number of notifications were NW (351, 3.3%), and NC (384, 3.6%). There were 62 back captured clinical notifications diagnosed between January 2024 and April, 2024 and only notified during April, 2024. The majority (19, 31%) of those notifications were Measles. (**See Appendix no.1**).

Most of the notified cases were males (6 171, 58%). Individuals in the 30–34-year age group represented the majority (1 105, 12%) of notified cases. At the time of notification, 2 131 (20%) of the notified cases were hospitalised, while 55 (0.5%) were transferred to another healthcare facility. There were 91 deaths notified during the reporting period.

## Category 1 notifications

**Measles** was the most common (241, 36%) category 1 notification **(suspected and confirmed)**. The province with the highest number of notifications for Measles was WC (114,47.3%). **Malaria** was the most common (190, 76%) category 1 notification **confirmed**. The province with the highest number of confirmed notifications for Malaria was GP (70,36.8%).

***Table 3**: The number of notifications by province and number of notifications that are suspected and confirmed by vital status, April 2024*

| | Provinces | | | | | | | | | Case | | Deaths | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Condition | EC[1] | FS[1] | GP[1] | KZN[1] | LP[1] | MP[1] | NC[1] | NW[1] | WC[1] | Confirmed[1] | Suspected[1] | Confirmed[1] | Suspected[1] |
| Acute flaccid paralysis | 2 | 3 | 7 | 5 | 0 | 2 | 0 | 0 | 2 | 0 | 21 | 0 | 1 |
| Acute rheumatic fever | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anthrax | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Botulism | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cholera § | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 |
| Congenital rubella syndrome | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 7 | 0 | 0 |
| Diphtheria * | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Enteric fever (typhoid or paratyphoid fever) | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 1 | 6 | 4 | 11 | 0 | 1 |
| Foodborne illness outbreak | 4 | 3 | 16 | 12 | 2 | 0 | 0 | 3 | 0 | 0 | 40 | 0 | 0 |
| Haemolytic uraemic syndrome (HUS) | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Listeriosis | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Malaria | 5 | 8 | 70 | 29 | 30 | 21 | 7 | 4 | 16 | 190 | 0 | 0 | 0 |
| Ebola virus (VHF) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Marburg virus (VHF) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Measles | 47 | 0 | 63 | 8 | 0 | 1 | 7 | 1 | 114 | 6 | 235 | 0 | 0 |
| Meningococcal disease | 1 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 8 | 5 | 1 | 0 |
| Mpox | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pertussis | 1 | 3 | 24 | 4 | 2 | 2 | 0 | 0 | 22 | 23 | 35 | 0 | 0 |
| Plague | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Poliomyelitis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rabies | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Respiratory disease caused by a novel respiratory pathogen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rift Valley fever (human) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rubella | 1 | 2 | 6 | 5 | 1 | 0 | 2 | 2 | 48 | 16 | 51 | 0 | 0 |
| Smallpox | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Crimean-Congo viral haemorrhagic fever (human) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| Yellow fever | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | 62 | 22 | 198 | 68 | 42 | 26 | 18 | 11 | 217 | 249 | 415 | 1 | 3 |

[1]n (%);

* Toxin-producing results not available on NMC;

§ Serotype information not available on NMC;

** Merged case represents a clinical and laboratory notification of the same person and was successfully linked and made into a single notification

**Plot**

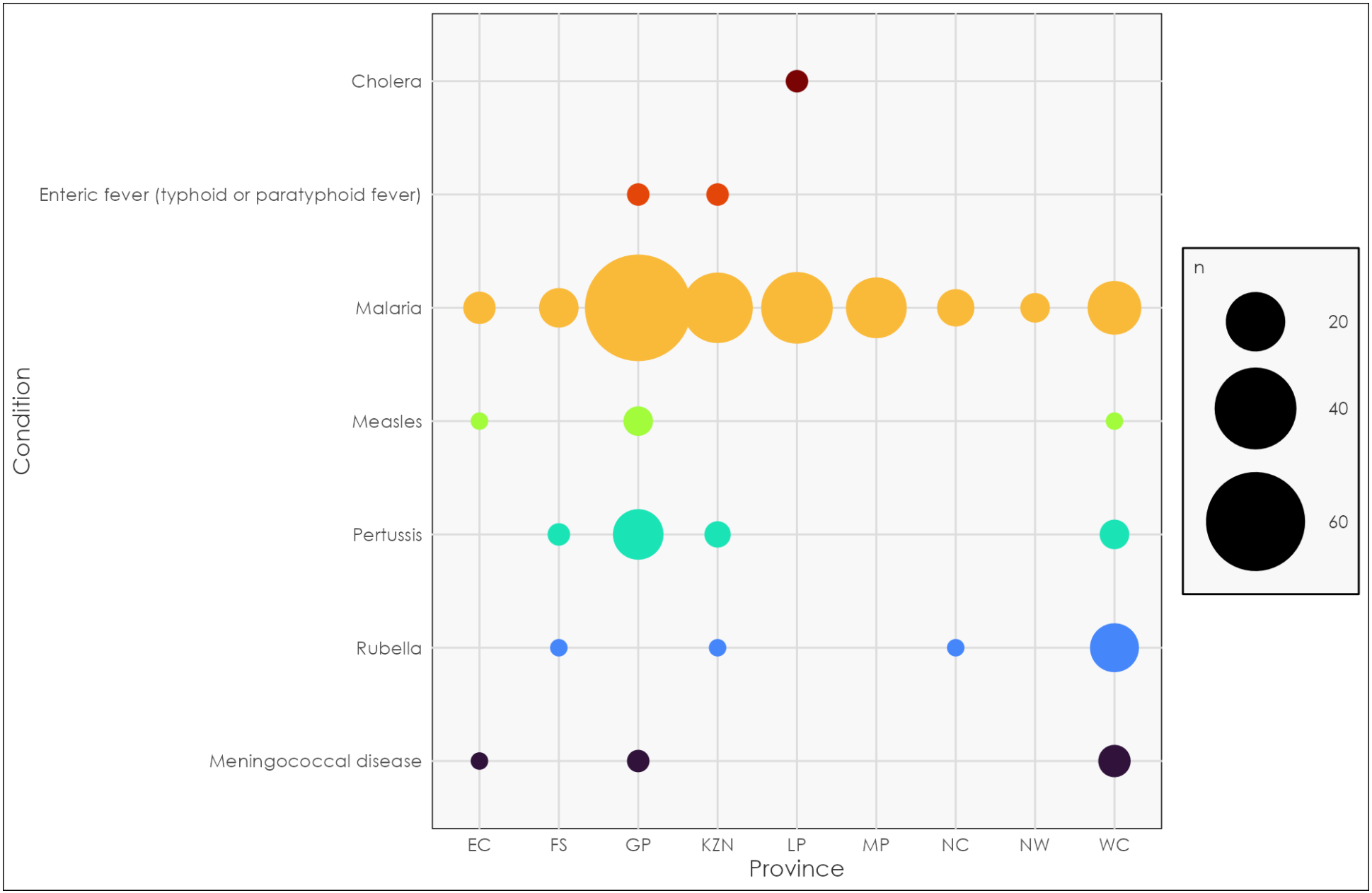



***Figure 2:*** *Distribution of selected confirmed category 1 NMCs notifications by province notified during April 2024.*

## Category 2 notifications

Category 2 conditions must be notified within 7 days of diagnosis. They are important to monitor disease burden trends.

**Pulmonary tuberculosis** was the most common (5 050, 52%) category 2 notification. The province with the highest number of notifications for **pulmonary tuberculosis** was GP (1 470, 29.1%).

***Table 4:*** *The number of notifications by province and number of notifications that are suspected and confirmed by vital status.*

| | Provinces | | | | | | | | | Case | | Deaths | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Condition | **EC**[1] | **FS**[1] | **GP**[1] | **KZN**[1] | **LP**[1] | **MP**[1] | **NC**[1] | **NW**[1] | **WC**[1] | **Confirmed**[1] | **Suspected**[1] | **Confirmed**[1] | **Suspected**[1] |
| Agricultural or stock remedy poisoning | 3 | 5 | 34 | 4 | 5 | 5 | 0 | 0 | 7 | 0 | 63 | 0 | 1 |
| Bilharzia (schistosomiasis) | 50 | 1 | 44 | 296 | 339 | 156 | 0 | 3 | 17 | 60 | 846 | 0 | 0 |
| Brucellosis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Congenital syphilis | 75 | 30 | 74 | 275 | 4 | 32 | 9 | 11 | 83 | 87 | 506 | 2 | 1 |
| Haemophilus influenzae type B | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Hepatitis A | 54 | 35 | 203 | 171 | 44 | 46 | 7 | 39 | 147 | 128 | 618 | 1 | 0 |
| Hepatitis B | 111 | 49 | 64 | 645 | 8 | 23 | 13 | 67 | 21 | 14 | 987 | 0 | 0 |
| Hepatitis C | 0 | 1 | 19 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 23 | 0 | 0 |
| Hepatitis E | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Lead poisoning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Legionellosis | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Leprosy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maternal death (pregnancy, childbirth and puerperium) | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| Mercury poisoning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Soil-transmitted helminths | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tetanus | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 |
| Tuberculosis: extensively drug-resistant (XDR -TB) * | 1 | 0 | 3 | 4 | 2 | 0 | 0 | 0 | 1 | | 0 | | 0 |
| Tuberculosis: multidrug- resistant (MDR - TB) * | 24 | 6 | 54 | 37 | 4 | 3 | 3 | 5 | 39 | | 0 | | 0 |
| Tuberculosis: extra-pulmonary* | 107 | 66 | 514 | 188 | 25 | 14 | 42 | 46 | 196 | | 0 | | 0 |
| Tuberculosis: pulmonary* | 651 | 221 | 1 470 | 901 | 221 | 132 | 289 | 168 | 997 | | 0 | | 0 |
| **Total** | 1 077 | 415 | 2 488 | 2 524 | 652 | 415 | 363 | 339 | 1 509 | 294 | 9 488 | 3 | 84 |

[1]n;

* TB module is under development to align with laboratory-confirmed TB cases. Only TB cases that are manually notified (no laboratory surveillance) are reported.

**Plot**

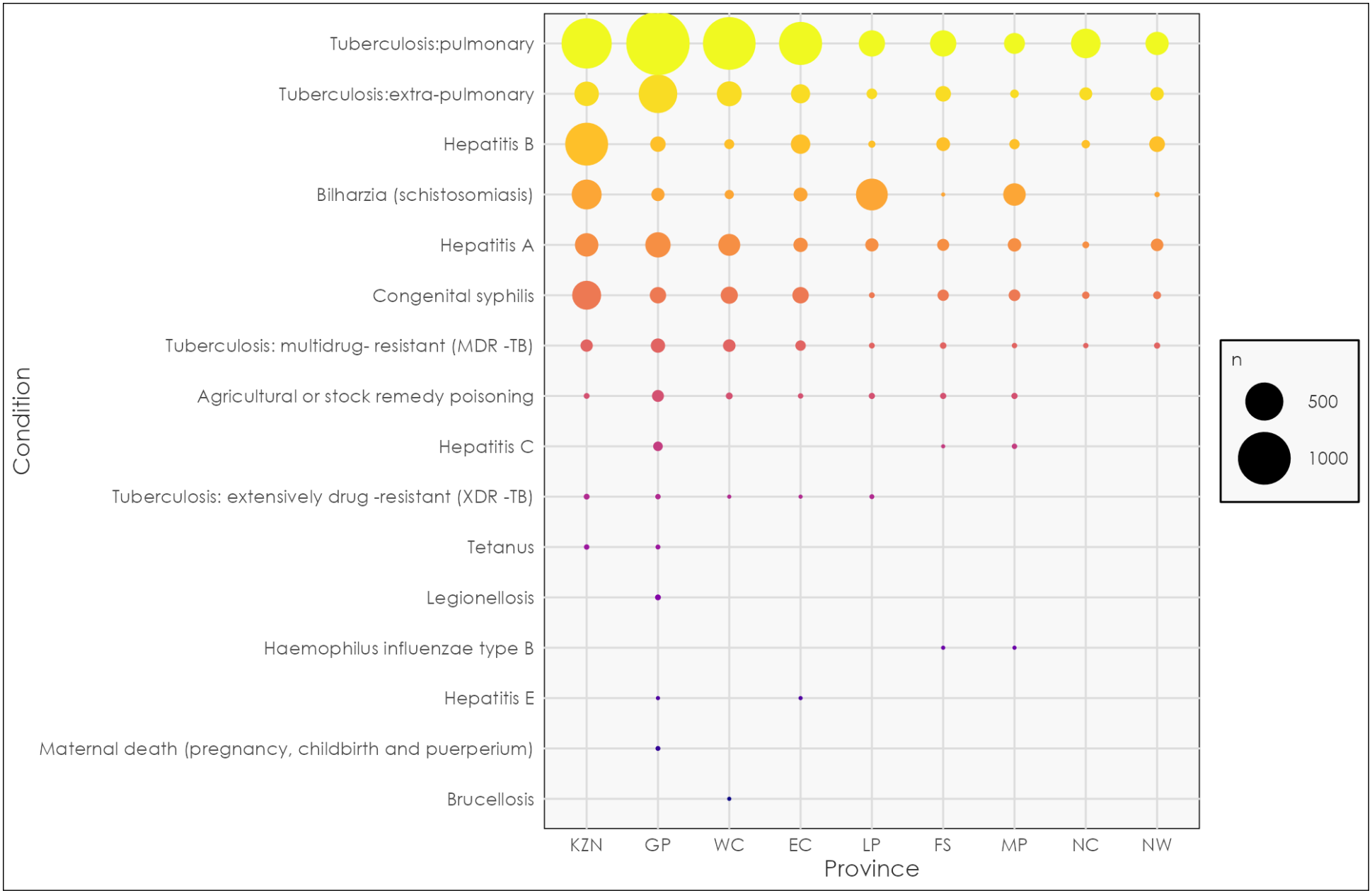



***Figure 3**: Distribution of all Category 2 NMCs notifications by province notified during April 2024. *All notifications include both suspected and confirmed cases*

## NMC App Usage Statistics

*Table 5: Description of NMC notifications by case source*

| **NMC Category** | **Overall**, N = 10 594 | **Clinical notifications**, n = 7 358 | **Laboratory notifications**, n = 2 856 | **Merged Cases**, n = 380 |
|---|---|---|---|---|
| Category 1 | 664 (6.3%) | 431 (5.9%) | 157 (5.5%) | 76 (20%) |
| Category 2 | 9 782 (92%) | 6 927 (94%) | 2 566 (90%) | 289 (76%) |
| Category 3 | 148 (1.4%) | 0 (0%) | 133 (4.7%) | 15 (3.9%) |

## Notification types and merging

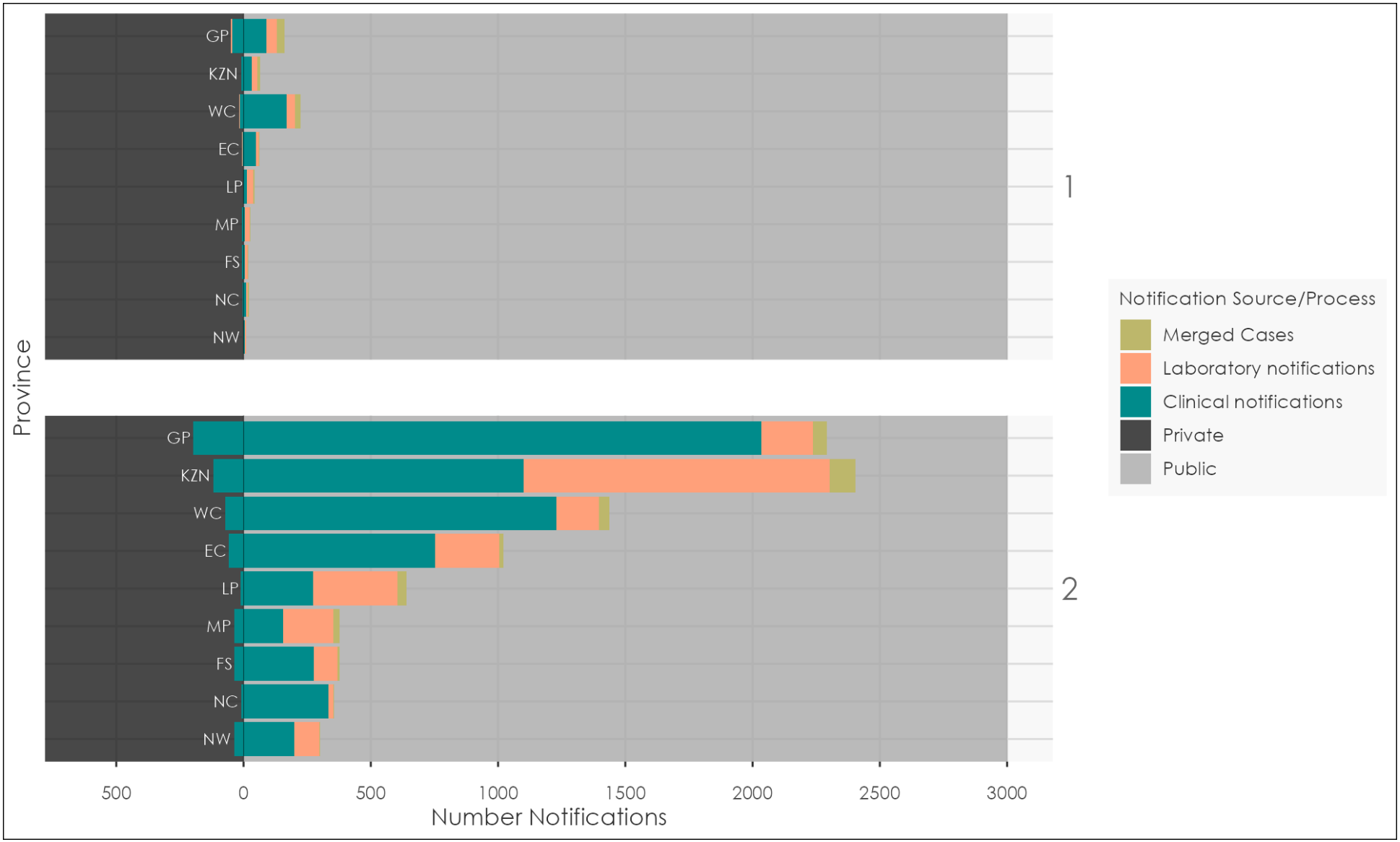



***Figure 4:*** *Distribution of Category 1 notification type by province during April 2024*

There were 648 (8.4%) clinical notifications from the private sector (i.e., private hospitals, private practice, and mining industry) compared to 7,080 (91%) in the public sector. Clinical notifications using the NMC Reporting Application made up 7578 (72%) (more details in Table 6).

***Table 6:*** *Clinical notifications notified by provinces, reporting platform, and sector.*

| **Province** | **Overall**, N = 7 728 | **App - Private**, n = 639 | **App - Public**, n = 6 939 | **Paper-based - Private**, n = 9 | **Paper-based - Public**, n = 141 |
|---|---|---|---|---|---|
| GP | 2 438 | 236 (9.7%) | 2 195 (90%) | 1 (<0.1%) | 6 (0.2%) |
| WC | 1 537 | 79 (5.1%) | 1 400 (91%) | 4 (0.3%) | 54 (3.5%) |
| KZN | 1 370 | 125 (9.1%) | 1 233 (90%) | 0 (0%) | 12 (0.9%) |
| EC | 881 | 57 (6.5%) | 780 (89%) | 4 (0.5%) | 40 (4.5%) |
| NC | 355 | 10 (2.8%) | 340 (96%) | 0 (0%) | 5 (1.4%) |
| LP | 339 | 11 (3.2%) | 325 (96%) | 0 (0%) | 3 (0.9%) |
| FS | 336 | 42 (13%) | 291 (87%) | 0 (0%) | 3 (0.9%) |
| NW | 245 | 38 (16%) | 197 (80%) | 0 (0%) | 10 (4.1%) |
| MP | 227 | 41 (18%) | 178 (78%) | 0 (0%) | 8 (3.5%) |

## The average active users on the NMC App

There were 396 average active users of the NMC App in April 2024

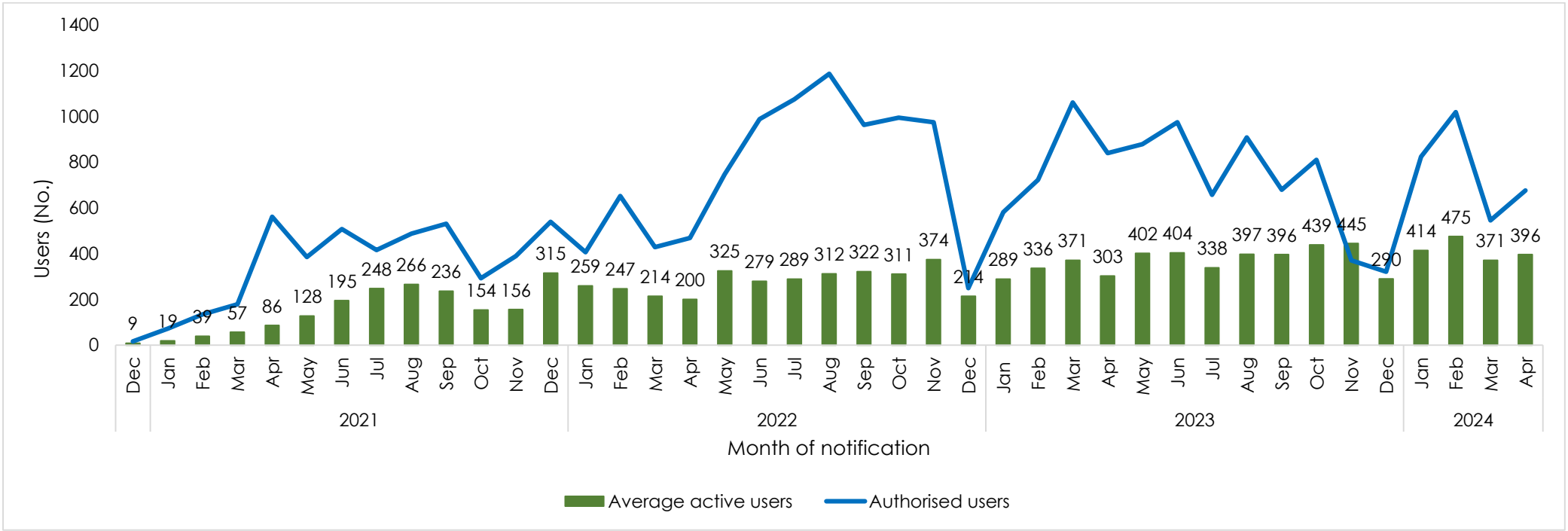



**Figure 5:** Authorised users and average active users of the NMC Reporting App by month of notification, December 2020-April 2024

## Newly registered users

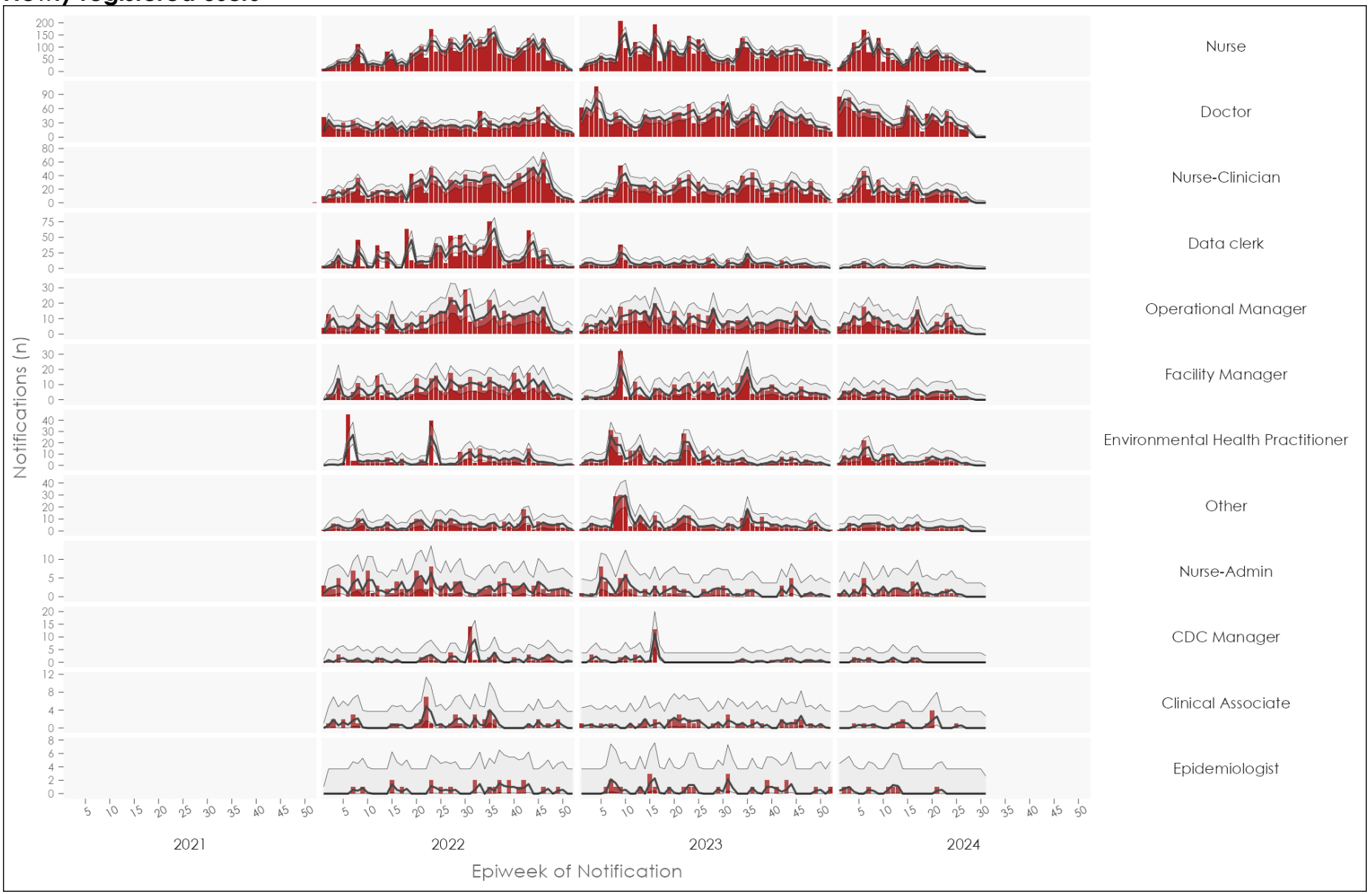



***Figure 6:*** *Trends of new users registered by occupation in South Africa, Jan 2022- May 2024*

## Data quality

## Completeness
## ID number completeness

***Table 7:*** *Length of ID numbers inputted on the NMC system during April 2024.*

| **Length of ID number** | **Android**, N = 2 353[1] | **MicroStrategy/SDW**, N = 3 209[1] | **Paper-based**, N = 152[1] | **Web**, N = 4 337[1] | **iOS**, N = 543[1] |
|---|---|---|---|---|---|
| Not complete | 988 (42%) | 3 134 (98%) | 92 (61%) | 1 255 (29%) | 210 (39%) |
| 4 | 0 (0%) | 0 (0%) | 0 (0%) | 1 (<0.1%) | 0 (0%) |
| 5 | 0 (0%) | 0 (0%) | 0 (0%) | 4 (<0.1%) | 0 (0%) |
| 6 | 2 (<0.1%) | 11 (0.3%) | 0 (0%) | 438 (10%) | 45 (8.3%) |
| 7 | 0 (0%) | 0 (0%) | 0 (0%) | 14 (0.3%) | 0 (0%) |
| 8 | 0 (0%) | 1 (<0.1%) | 0 (0%) | 70 (1.6%) | 1 (0.2%) |
| 9 | 0 (0%) | 0 (0%) | 0 (0%) | 11 (0.3%) | 1 (0.2%) |
| 10 | 0 (0%) | 4 (0.1%) | 0 (0%) | 89 (2.1%) | 11 (2.0%) |
| 11 | 0 (0%) | 0 (0%) | 0 (0%) | 3 (<0.1%) | 0 (0%) |
| 12 | 0 (0%) | 0 (0%) | 0 (0%) | 30 (0.7%) | 1 (0.2%) |
| 13 | 1 363 (58%) | 59 (1.8%) | 60 (39%) | 2 422 (56%) | 274 (50%) |

[1]n (%)

## Hospital Form Completeness

***Table 8:*** *Completion of hospitalisation form for notifications reported as inpatients with category 1 conditions. April 2024 \ Complete refers to >80% of variables completed.*

| **Hospital Form Completed** | **Complete**, n = 12 (6.7%) | **Incomplete**, n = 38 (21%) | **Not Attempted**, n = 30 (17%) | **Only Symptoms completed**, n = 99 (55%) |
|---|---|---|---|---|
| Acute flaccid paralysis | 3 (25%) | 1 (2.6%) | 2 (6.9%) | 14 (15%) |
| Acute rheumatic fever | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Anthrax | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Botulism | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Cholera § | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Congenital rubella syndrome | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Diphtheria * | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Enteric fever (typhoid or paratyphoid fever) | 0 (0%) | 1 (2.6%) | 2 (6.9%) | 2 (2.1%) |
| Foodborne illness outbreak | 3 (25%) | 10 (26%) | 1 (3.4%) | 11 (12%) |
| Haemolytic uraemic syndrome (HUS) | 0 (0%) | 0 (0%) | 0 (0%) | 1 (1.1%) |
| Listeriosis | 0 (0%) | 0 (0%) | 0 (0%) | 1 (1.1%) |
| Malaria | 1 (8.3%) | 12 (32%) | 19 (66%) | 27 (29%) |
| Ebola virus (VHF) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Marburg virus (VHF) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Measles | 0 (0%) | 1 (2.6%) | 2 (6.9%) | 4 (4.3%) |
| Meningococcal disease | 1 (8.3%) | 2 (5.3%) | 3 (10%) | 4 (4.3%) |
| Mpox | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Pertussis | 2 (17%) | 10 (26%) | 0 (0%) | 29 (31%) |
| Plague | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Poliomyelitis | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Rabies | 0 (0%) | 0 (0%) | 0 (0%) | 1 (1.1%) |
| Respiratory disease caused by a novel respiratory pathogen | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Rift Valley fever (human) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Rubella | 1 (8.3%) | 1 (2.6%) | 0 (0%) | 0 (0%) |
| Smallpox | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Crimean-Congo viral haemorrhagic fever (human) | 1 (8.3%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Yellow fever | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| Unknown | 0 | 0 | 1 | 5 |

## Timeliness

**Time to notification** is measured by the number of days from the time of diagnosis of the NMC to the time of notification. Overall, it took a median (IQR) of 0 (0, 3) days to report category 1 NMCs.

***Table 9:*** *Symptoms of patients clinically notified and merged with lab notifications to the NMC, notified during April 2024*

| **Characteristic** | **Category 1**, n = 726 | **Category 2**, n = 9 782 | **Category 3**, n = 148 |
|---|---|---|---|
| Time to Notification | 0 (0, 3) | 2 (0, 10) | 4 (3, 7) |
| Unknown | 105 | 1 193 | 0 |
| Back Capture Classification | | | |
| Back capture | 62 (9%) | 0 (0%) | 0 (0%) |
| Current | 555 (76%) | 7 334 (75%) | 112 (76%) |
| Delayed | 109 (15%) | 2 448 (25%) | 36 (24%) |

## Conclusion

The majority of notifications were clinical notifications. Patients who are hospitalised with a category 1 condition and notified still have poor completeness of the hospital form with most notifications only having symptoms completed. ID numbers are poorly completed in notifications from SDW.

## Recommendations

- We recommend that clinicians should complete all patient clinical and demographic details to improve hospital form completeness.
- We strongly recommend complete ID number capture in the SDW system to improve data quality and the ability for the NMCSS to merge clinical and laboratory notifications.
- We welcome stakeholders to send feedback and suggestions for the report. We also encourage reaching out for ingestion of data from data from data sources that existed before the launch of the NMCSS. Feel free to reach out to **brianb@nicd.ac.za** or **matimbam@nicd.ac.za**

# Appendices

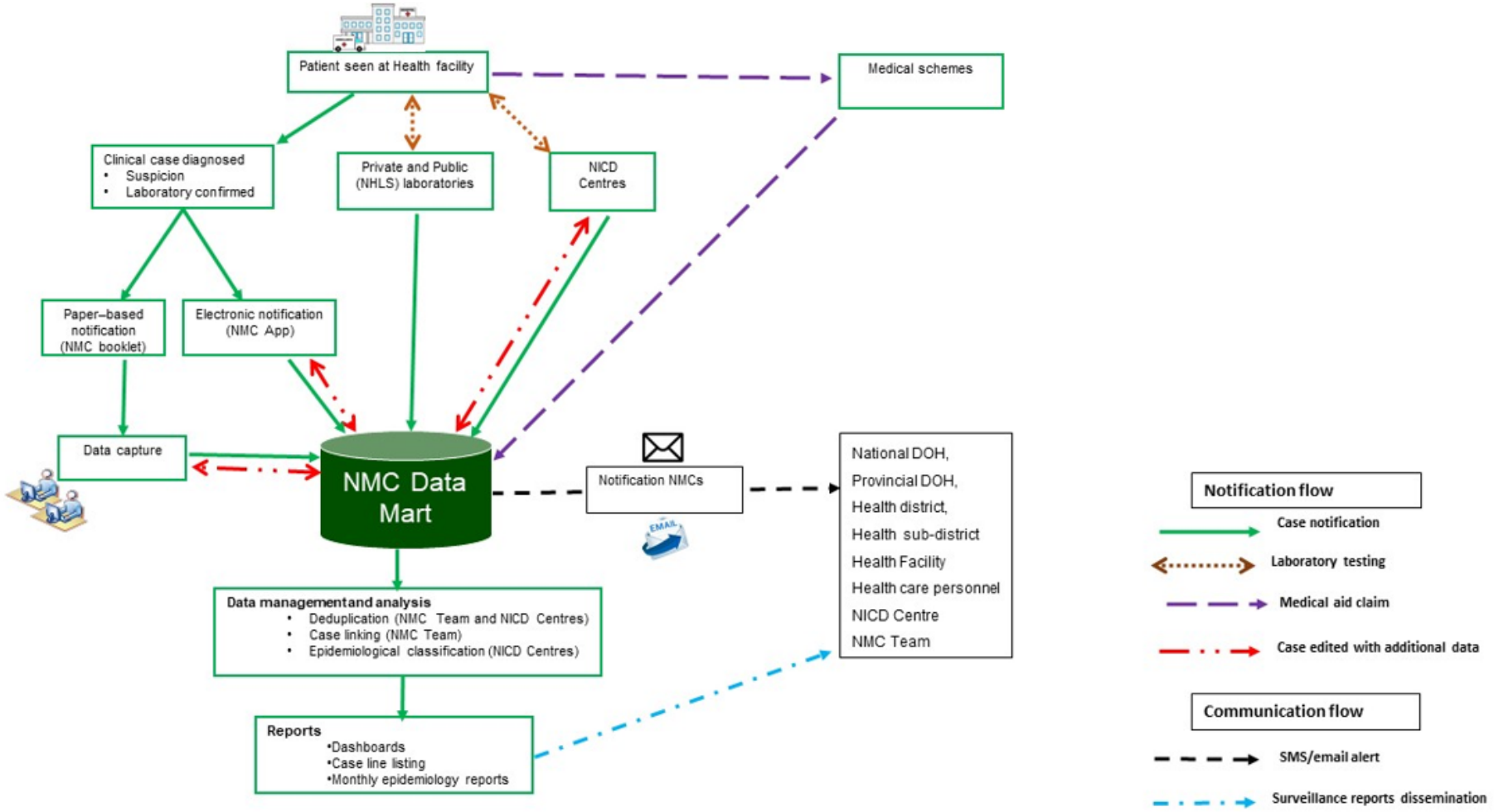
## Appendix No.1: Back captured clinical notifications.

*Table 10: Back captured notifications by reporting province notified during April \ *Back captured notifications use the diagnosis date, and the recommended time to notification depending on the NMC category. See Appendix No.3 for details.*

| | Overall | Province | | | | | | | | | Case Source | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Condition** | **Overall**, (62) | **EC**, (6) | **FS**, (1) | **GP**, (11) | **KZN**, (6) | **LP**, (1) | **MP**, (6) | **NC**, (5) | **NW**, (1) | **WC**, (25) | **Android**, (4)[1] | **SDW**, (29)[1] | **Web**, (27)[1] | **iOS**, (2)[1] |
| Measles | 19 (31%) | 4 | 0 | 1 | 1 | 0 | 0 | 4 | 0 | 9 | 2 | 8 | 9 | 0 |
| Rubella | 12 (19%) | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 2 | 8 | 2 |
| Enteric fever (typhoid or paratyphoid fever) | 11 (18%) | 0 | 0 | 3 | 2 | 1 | 1 | 0 | 1 | 3 | 0 | 11 | 0 | 0 |
| Pertussis | 9 (15%) | 0 | 1 | 2 | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 4 | 5 | 0 |
| Malaria | 8 (13%) | 0 | 0 | 4 | 1 | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 5 | 0 |
| Diphtheria | 2 (3.2%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| Congenital rubella syndrome | 1 (1.6%) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |

[1]SDW – Surveillance data warehouse/ MicroStrategy

## Appendix no.2: Summary of NMCSS Data Flow



## Appendix No.3: NMC Categories, and Case Classification Definitions

### NMC categories

**Category 1**: NMCs are notified by the most rapid means available upon diagnosis, followed by a written or electronic notification to the Department of Health within 24 hours of diagnosis by healthcare providers, private health laboratories or public health laboratories. These conditions must be notified based on clinical suspicion irrespective of laboratory confirmation.

**Category 2**: NMCs notified through a written or electronic notification to the Department of Health of clinical or laboratory diagnosis within 7 days by healthcare providers, private health laboratories or public health laboratories.

**Category 3**: NMCs are notified through a written or electronic notification to the Department of Health within 7 days of diagnosis by public and private health laboratories.

**Category 4**: NMCs are notified through a written or electronic notification to the Department of Health within 1 month of diagnosis by public and private health laboratories.

### Case Classification definitions

**Clinical cases**: are cases reported to the NMC by health care providers at facilities, either through the completion of a paper form that is faxed, emailed to the National Institute of Communicable Diseases (NICD), or by direct data entry into the NMC application on a PC, laptop or mobile device. The diagnosis is made by the clinician on the basis of case definitions published on the NICD website.

**Laboratory cases**: are cases that are downloaded into the NMC database directly from the National Health Laboratory Services (NHLS) laboratory information system. The NMC application applies the case definitions that are published on the NICD website. Private sector data is being sourced.

**Merged cases**: are cases where a case was notified by a health care provider at the facility (a 'clinical case') AND the laboratory issued a report with a positive result for the same case (a 'laboratory case). The NMC App is set up to automatically detect and link clinical and laboratory case notifications. The NICD specialist Centres and NMC data team review all cases and manually link any remaining clinical and laboratory cases

### Notification capture times definitions

**Current notification**: Category 1 conditions notified within 2 days of diagnosis date. Category 2 and 3 conditions are notified within 7 days of diagnosis. All lab notifications without diagnosis date are classified as current.

**Delayed notification**: Category 1 conditions are notified within between 3 and 7 days of diagnosis date. Category 2 and 3 conditions are notified between 8 and 30 days of diagnosis.

**Back capture notification**: Category 1 conditions are notified more than 7 days after the diagnosis date. Category 2 and 3 conditions were notified more than 30 days after the diagnosis date.

**Epi-weeks**: Epi-weeks used the CDC definition of a week starting on a Sunday and ending on a Saturday. The first Epi-week of the year is the week that contains the first Saturday of January. Epi-week 1 of 2024 started on 31 December 2023 and ended on 6 January 2024.

## Appendix No.4: IDSR reporting template for IDSR conditions existing on NMC by under-5 and 5-and-over years and vital status.

*Table 11: The number of IDSR conditions the laboratory notified to the NMC using the IDSR reporting template of under and 5-and-above years by vital status.*

| Condition | Notified/Suspected | | | | Confirmed |
|---|---|---|---|---|---|
| | **Under 5 A**, N = 241[1] | **5 & over A**, N = 162[1] | **5 & over D**, N = 2[1] | **Under 5 D**, N = 1[1] | **N = 249**[1] |
| Acute flaccid paralysis | 14 | 6 | 0 | 1 | 0 |
| Acute rheumatic fever | 0 | 0 | 0 | 0 | 0 |
| Anthrax | 0 | 0 | 0 | 0 | 0 |
| Botulism | 0 | 0 | 0 | 0 | 0 |
| Cholera | 4 | 1 | 0 | 0 | 2 |
| Congenital rubella syndrome | 6 | 0 | 0 | 0 | 0 |
| Diphtheria | 0 | 0 | 0 | 0 | 0 |
| Enteric fever (typhoid or paratyphoid fever) | 5 | 5 | 1 | 0 | 4 |
| Foodborne illness outbreak | 29 | 11 | 0 | 0 | 0 |
| Haemolytic uraemic syndrome (HUS) | 0 | 1 | 0 | 0 | 0 |
| Listeriosis | 0 | 0 | 1 | 0 | 0 |
| Malaria | 0 | 0 | 0 | 0 | 190 |
| Ebola virus (VHF) | 0 | 0 | 0 | 0 | 0 |
| Marburg virus (VHF) | 0 | 0 | 0 | 0 | 0 |
| Measles | 117 | 114 | 0 | 0 | 6 |
| Meningococcal disease | 4 | 1 | 0 | 0 | 8 |
| Mpox | 0 | 0 | 0 | 0 | 0 |
| Pertussis | 32 | 0 | 0 | 0 | 23 |
| Plague | 0 | 0 | 0 | 0 | 0 |
| Poliomyelitis | 0 | 0 | 0 | 0 | 0 |
| Rabies | 0 | 2 | 0 | 0 | 0 |
| Respiratory disease caused by a novel respiratory pathogen | 0 | 0 | 0 | 0 | 0 |
| Rift Valley fever (human) | 0 | 0 | 0 | 0 | 0 |
| Rubella | 30 | 20 | 0 | 0 | 16 |
| Smallpox | 0 | 0 | 0 | 0 | 0 |
| Crimean-Congo viral haemorrhagic fever (human) | 0 | 1 | 0 | 0 | 0 |
| Yellow fever | 0 | 0 | 0 | 0 | 0 |

[1]A = Cases who are alive.
D = Cases who are deceased.

## Appendix no.5: Trends and epi-table of all Category 1 notifications from 2022 to April 2024.

## All Notifications

### *Epi-table*

*Table 12: Number of notifications on NMCSS per Epi-week in 2024. The Average notifications are calculated based on notifications received in 2022 and 2023 with a confidence interval.*

| | Average Notifications | | Epi-weeks | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Characteristic** | | **95% CI**[1] | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** |
| Acute flaccid paralysis | 3.54 | 3.5, 4.5 | 2 | 9 | 6 | 6 | 7 | 1 | 8 | 4 | 6 | 10 | 7 | 5 | 1 | 6 | 4 | 8 | 3 | 1 |
| Acute rheumatic fever | 0.26 | 1.0, 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Anthrax | 0.0088 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Botulism | 0.0485 | 1.0, 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cholera | 6.6 | 3.0, 7.5 | 0 | 2 | 12 | 8 | 48 | 12 | 12 | 11 | 14 | 5 | 8 | 6 | 3 | 2 | 2 | 2 | 0 | 1 |
| Congenital rubella syndrome | 1.91 | 2.0, 2.5 | 0 | 3 | 2 | 2 | 5 | 3 | 2 | 6 | 2 | 4 | 6 | 2 | 4 | 1 | 2 | 2 | 2 | 1 |
| Covid-19 | 1 212 | 568, 971 | 129 | 118 | 130 | 126 | 107 | 130 | 112 | 143 | 133 | 110 | 123 | 101 | 99 | 102 | 148 | 218 | 251 | 62 |
| Crimean-Congo viral haemorrhagic fever (human) | 0.12 | 1.0, 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Diphtheria | 0.55 | 1.0, 1.5 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ebola virus (VHF) | 0.0044 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Enteric fever (typhoid or paratyphoid fever) | 3.46 | 3.5, 4.5 | 3 | 2 | 2 | 8 | 4 | 3 | 2 | 4 | 3 | 1 | 5 | 6 | 1 | 8 | 4 | 11 | 2 | 2 |
| Foodborne illness outbreak | 9 | 6.0, 9.0 | 30 | 10 | 18 | 11 | 24 | 27 | 36 | 48 | 11 | 19 | 4 | 31 | 4 | 15 | 9 | 13 | 3 | 0 |
| Haemolytic uraemic syndrome (HUS) | 0.0441 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Listeriosis | 1.63 | 2.0, 2.5 | 0 | 1 | 1 | 5 | 2 | 1 | 1 | 6 | 4 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| Malaria | 89 | 69, 88 | 35 | 120 | 217 | 187 | 109 | 116 | 61 | 48 | 61 | 48 | 60 | 52 | 34 | 40 | 42 | 55 | 53 | 14 |
| Marburg virus (VHF) | 0.0044 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Measles | 25 | 19, 29 | 40 | 49 | 44 | 35 | 35 | 42 | 45 | 61 | 48 | 72 | 71 | 52 | 46 | 44 | 41 | 64 | 91 | 20 |
| Meningococcal disease | 2.01 | 2.5, 3.0 | 3 | 3 | 4 | 5 | 4 | 0 | 3 | 2 | 3 | 2 | 6 | 3 | 3 | 5 | 3 | 2 | 3 | 0 |
| Pertussis | 19 | 19, 27 | 21 | 50 | 47 | 27 | 30 | 29 | 18 | 18 | 19 | 21 | 15 | 16 | 13 | 14 | 17 | 17 | 16 | 3 |
| Plague | 0.0044 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Poliomyelitis | 0.0088 | NA, NA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rabies | 0.62 | 1.5, 2.0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Respiratory disease caused by a novel respiratory pathogen | 9 | 3.0, 9.0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rubella | 9 | 4.5, 6.0 | 6 | 34 | 16 | 28 | 15 | 13 | 10 | 18 | 12 | 38 | 45 | 32 | 49 | 12 | 23 | 12 | 29 | 3 |
| Smallpox | 0.0441 | 1.0, 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waterborne illness outbreak - undefined | 0.21 | 1.0, 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Yellow fever | 0.0485 | 1.0, 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

[1]CI = Confidence Interval

***Trends Plot***

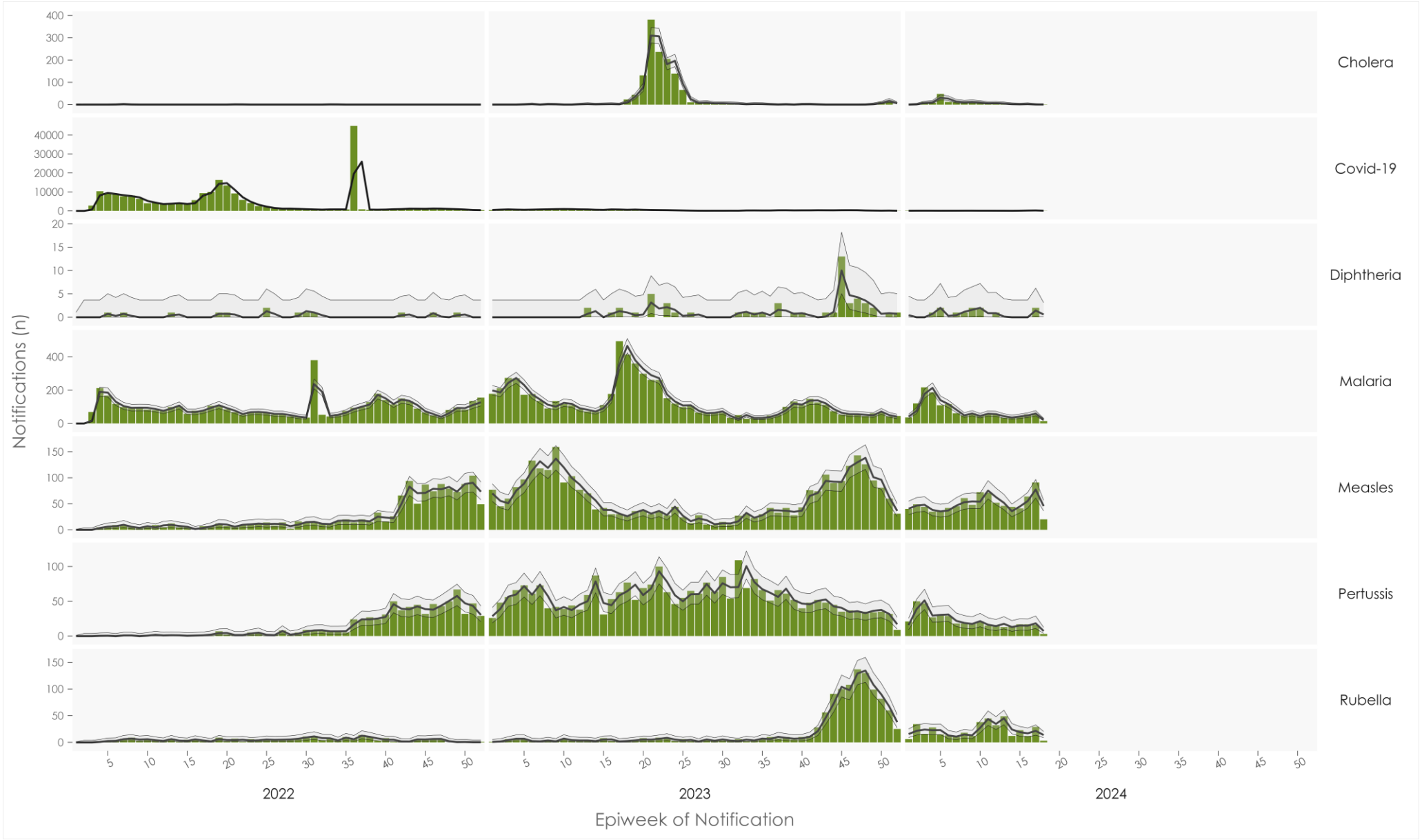



***Figure 6: Trend of weekly number of all notifications for selected conditions reported to the NMC, in South Africa, January, 2022-April***

**END**