

NOTIFIABLE MEDICAL CONDITIONS SURVEILLANCE SYSTEM

Issued by the National Institute for Communicable Diseases based

Introduction

This report summarizes data from the National Notifiable Medical Conditions Surveillance System (NMCSS) on cases diagnosed and reported in **May 2023**. Additionally, this report includes information on the distribution of case notifications by sources, such as clinical or laboratory notifications, merged cases (**see Appendix no. 3**), and the number of reported deaths. It monitors the use of the electronic NMC Reporting Application (App) for notification, data quality, specifically the completeness and timeliness of clinical diagnosis and notifications over time, and back-captured cases notified in April 2023 (**see Appendix nos. 1 and 3**). Category 4 NMCs and multi-system inflammatory syndrome (MIS-C) have been excluded from this report.

HIGHLIGHTS

- A total of 7804 cases were notified in May 2023 and the majority were category 2 conditions.
- The average active users of the NMC Reporting App in May 2023 reached the highest of 402 since December 2020.
- In May 2023, the median time to notify category 1 NMCs was one day (IQR: 0–3 days).

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.

NMC data summary, May 2023

A total of 8 627 cases were notified to the NMCSS in May 2023. We are reporting on 7 804 notifications. Of these, 7 080 were diagnosed and notified in May 2023 and 724 cases were delayed from April. (**see Appendix no.3 for definitions**). The majority were category 2 conditions (74%, n=5 802) (**Table 1**). The provinces with the highest number of notifications were KwaZulu-Natal (n=1 975, 25.3%), Gauteng (n=1 839,23.6%), and Western Cape (n=1 164, 14.9%). The provinces with the least number of notifications were North West (n=240, 3.1%) and Northern Cape (n=205, 2.6%) (**Figure 1**). Among the cases captured by clinicians, the majority were from Gauteng (31.5 %, n= 1 517) and Western Cape (20.2 %, n=970). There were 823 back captured clinical notifications diagnosed from January 2019 to 16 April 2023. The majority of those notifications were 409 (56%) TB cases (**See Appendix no.1**).

Table 1: Description of NMC notifications by case source

	Overall N = 7 804	Clinical notifications N = 4 475 (57%)	Laboratory notifications N = 2 993 (38%)	Merged cases N = 336 (4.3%)
Category 1	1 881 (24%)	564 (13%)	1 097 (37%)	220 (65%)
Category 2	5 802 (74%)	3 911 (87%)	1 786 (60%)	105 (31%)
Category 3	121 (1.6%)	0 (0%)	110 (3.7%)	11 (3.3%)

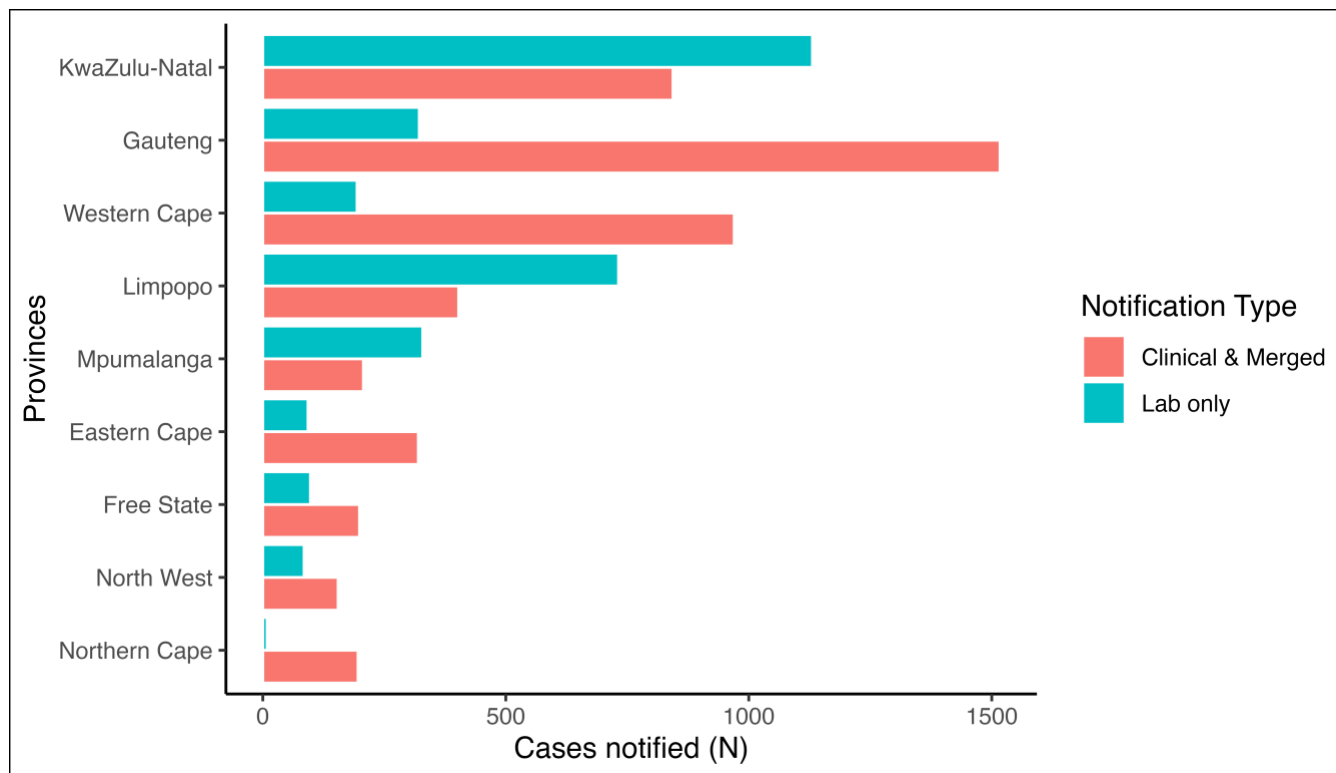


Figure 1: Distribution of notifications by province and notification type

Of the clinical and merged notifications, 11.5 % ($n = 553 / 4\,811$) were from the private sector (i.e. private hospitals, private practice, and the mining industry). We report an overall NMC Reporting App utilisation rate (proportion of clinical notifications reported using the App) of 98 % ($n = 4\,727 / 4\,811$). In all provinces, the majority of the clinical notifications were captured using the NMC Reporting App (**Table 2**).

Table 2: Clinical notifications notified by provinces, reporting platform, and sector

Province	Total clinical notifications and merges cases N = 4 811	App – Private N = 548 (12%)	App – Public N = 4 179 (88%)	Paper-based - Private, N = 5 (6%)	Paper-based – Public N = 79 (94%)
EC	320	29 (9.1%)	284 (89%)	0 (0%)	7 (2.2%)
FS	199	44 (22%)	154 (77%)	0 (0%)	1 (0.5%)
GP	1 517	191 (13%)	1 312 (86%)	4 (0.3%)	10 (0.7%)
KZN	844	67 (7.9%)	774 (92%)	0 (0%)	3 (0.4%)
LP	403	52 (13%)	350 (87%)	0 (0%)	1 (0.2%)
MP	207	37 (18%)	165 (80%)	0 (0%)	5 (2.4%)
NC	196	26 (13%)	165 (84%)	0 (0%)	5 (2.6%)
NW	155	46 (30%)	78 (50%)	0 (0%)	31 (20%)
WC	970	56 (5.8%)	897 (92%)	1 (0.1%)	16 (1.6%)

The majority of the notified cases were male (59.3%) and individuals in the 35-39 years' age groups (10%) represented the majority of notified cases (**Table 3**). Approximately 24% of the notified cases were hospitalized at the time of notification, while 0.9% were referred to another healthcare facility. There were 62 deaths notified during the reporting period.

Table 3: Age distribution by gender, admission status, and patient outcome

Age groups	Gender		Admission Status					Vital Status			Overall
	Female	Male	Discharged	Inpatient	Outpatient	Transferred	Unknown	Alive	Deceased	Unknown	N = 7,804
0-4	289	288	46	238	143	2	6	425	5	3	577 (7.4%)
5-9	230	289	37	128	94	3	4	261	1	4	519 (6.7%)
10-14	178	466	19	69	84	3	4	174	0	5	644 (8.3%)
15-19	214	306	18	68	128	3	5	215	1	4	520 (6.7%)
20-24	221	274	25	105	168	6	6	305	3	2	495 (6.3%)
25-29	274	305	22	133	219	6	6	375	6	1	579 (7.4%)
30-34	331	439	24	189	268	6	9	476	10	5	770 (9.9%)
35-39	300	508	34	189	314	7	7	539	4	4	808 (10%)
40-44	275	452	39	203	284	4	4	518	8	6	727 (9.3%)
45-49	190	324	30	131	214	8	6	379	5	1	514 (6.6%)
50-54	155	225	20	103	163	5	2	284	6	2	380 (4.9%)
55-59	127	206	24	95	125	4	3	247	3	0	333 (4.3%)
60-64	86	149	12	78	95	5	5	192	3	0	235 (3.0%)
65+	150	196	20	114	125	5	4	259	7	0	346 (4.4%)
Unknown	157	200	5	21	5	0	1	31	0	1	357 (4.6%)
Total	3177(40.7%)	4627(59.3%)	375(4.8%)	1864(23.9%)	2429(31.1%)	67(0.9%)	72(0.9%)	4680(60.0%)	62(0.8%)	38(0.5%)	

Hospital Form Complete

The Category 1 NMC notifications require completion of the hospitalisation form if the patient was admitted, transferred, or discharged at the time of notification. In May 2023, 643 patients diagnosed with category 1 conditions were either admitted, discharged, or transferred out. Of these, 26% (n=167/643) notifications had the hospitalisation form completed (**Figure 2**). Hospitalized cases of malaria and pertussis had better-completed (38%) hospital forms when compared to other category 1 NMCs.

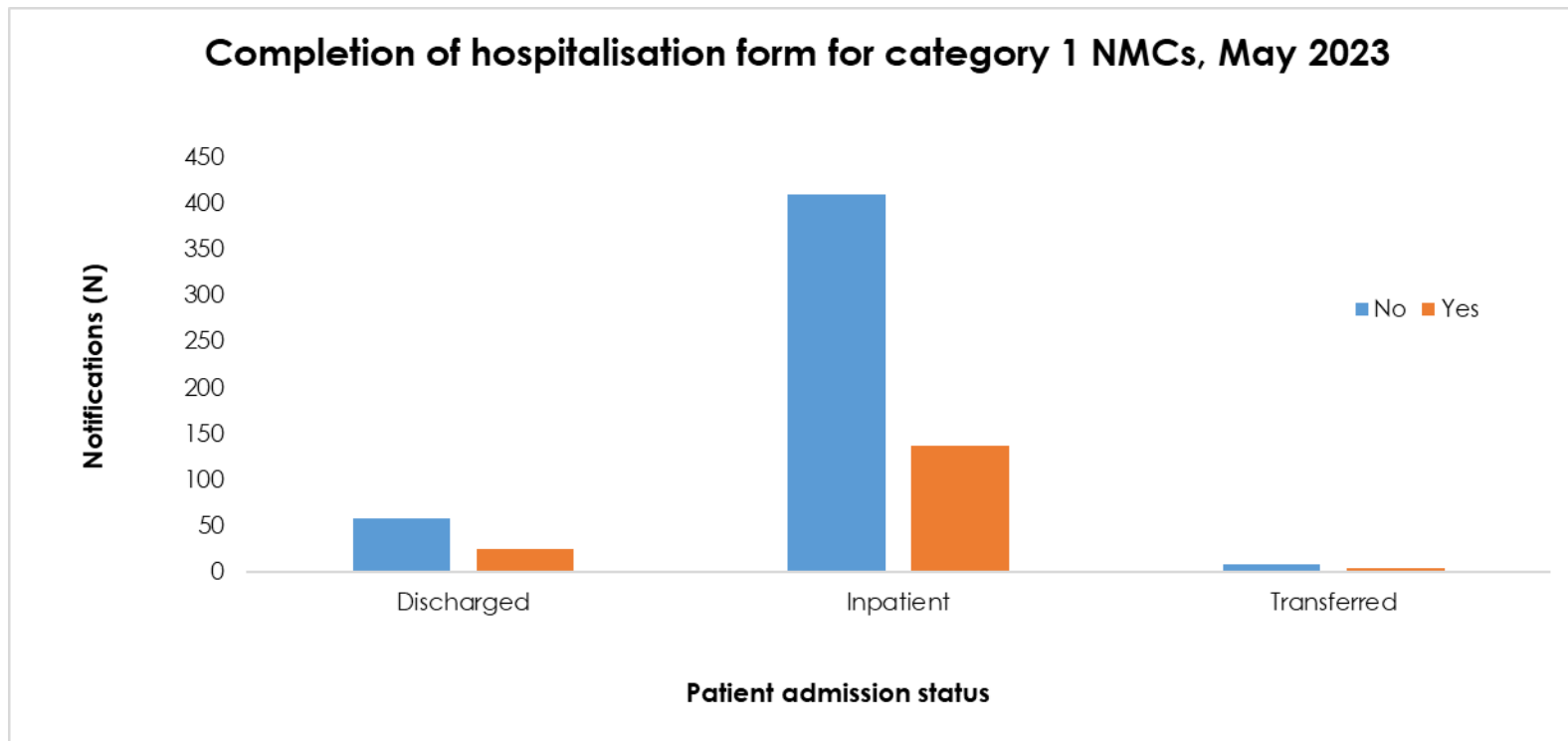


Figure 2: Completion of hospitalisation form for patients diagnosed with category 1 conditions who were either admitted, discharged, or transferred out

Distribution of category 1 NMCs by province and number of deaths

The majority of category 1 notifications were for malaria (64.6%, n=1 220). There is an ongoing [outbreak of cholera](#) in South Africa.

Table 4: Distribution of Category 1 NMC by province, May 2023

Condition	Provinces									Vital Status	
	EC	FS	GP	KZN	LP	MP	NC	NW	WC	Alive	Deceased
Acute Flaccid Paralysis	0	0	7	4	1	1	2	1	2	18 (100%)	0 (0%)
Cholera	0	10	139	0	11	3	0	0	3	162 (98%)	4 (2.4%)
Congenital rubella syndrome	0	1	0	1	1	0	1	0	0	4 (100%)	0 (0%)
Diphtheria	0	0	0	0	0	0	2	0	2	4 (100%)	0 (0%)
Ebola Virus (VHF)	0	0	0	1	0	0	0	0	0	1 (100%)	0 (0%)
Enteric fever (typhoid or paratyphoid fever)	0	0	5	1	0	0	0	0	5	11 (100%)	0 (0%)
Food borne illness outbreak	0	1	9	5	2	0	0	2	3	22 (100%)	0 (0%)
Haemolytic uraemic syndrome (HUS)	0	0	0	0	0	1	0	0	0	0 (0%)	1 (100%)
Listeriosis	0	0	1	2	0	0	0	0	0	3 (100%)	0 (0%)
Malaria	3	15	157	60	694	221	5	31	34	1 212 (99%)	8 (0.7%)
Measles	0	3	17	9	51	3	0	1	11	95 (100%)	0 (0%)
Meningococcal Disease	2	3	4	0	1	0	0	0	2	11 (92%)	1 (8.3%)
Pertussis	18	35	111	48	20	25	5	8	38	306 (99%)	2 (0.6%)
Rabies	3	0	1	1	1	0	0	0	0	6 (100%)	0 (0%)
Rubella	4	1	0	6	1	0	0	4	1	17 (100%)	0 (0%)
Waterborne illness outbreak - UNDEFINED	0	0	1	0	0	0	0	0	0	1 (100%)	0 (0%)
Total (N= 1 889,%)	30 (1.6)	69(3.7)	452(23.9)	138(7.3)	783(41.5)	254(13.4)	15(0.8)	47(2.5)	101(5.3)		

Distribution of category 2 NMCs by province and number of deaths

A total of 5 802 category 2 NMCs were notified in May 2023. The majority were pulmonary tuberculosis infection (48.2%). Eighteen deaths were reported due to pulmonary tuberculosis infection.

Table 5: Distribution of Category 2 NMC by Province, May 2023

Condition	Provinces									Vital Status	
	EC	FS	GP	KZN	LP	MP	NC	NW	WC	Alive	Deceased
Agricultural or stock remedy poisoning	2	9	36	0	3	0	1	2	3	53 (95%)	3 (5.4%)
Bilharzia (schistosomiasis)	14	1	14	467	128	156	0	3	13	796 (100%)	0 (0%)
Brucellosis	0	0	0	1	0	0	0	0	0	1 (100%)	0 (0%)
Congenital syphilis	0	0	1	11	0	0	0	0	9	21 (100%)	0 (0%)
Haemophilus influenzae type B	0	0	0	0	2	0	0	0	3	5 (100%)	0 (0%)
Hepatitis A	17	26	71	64	41	17	4	14	152	406 (100%)	0 (0%)
Hepatitis B	34	32	45	631	5	17	5	50	15	834 (100%)	2 (0.2%)
Hepatitis C	1	1	5	2	0	1	0	0	1	1 (94%)	1 (5.6%)
Hepatitis E	0	0	16	0	0	0	0	1	0	17 (100%)	0 (0%)
Lead poisoning	0	0	0	1	0	0	0	0	0	1 (100%)	0 (0%)
Legionellosis	2	0	1	0	0	0	0	0	2	5(100%)	0 (0%)
Maternal death (pregnancy, childbirth and puerperium)	0	0	3	0	0	0	0	0	0	1 (33%)	2 (67%)
Tuberculosis: extensively drug -resistant (XDR -TB)	0	1	6	1	0	0	0	0	0	8 (100%)	0 (0%)
Tuberculosis: multidrug- resistant (MDR -TB)	18	3	40	22	2		2	3	17	105 (95%)	2(4.7%)
Tuberculosis: extra-pulmonary	52	34	297	92	30	12	18	23	170	720 (99%)	8 (1.2%)
Tuberculosis: pulmonary	226	117	837	535	141	82	160	95	610	2785 (99%)	18 (1.3%)
Total (N=5 802,%)	366 (5.5)	224(3.4)	1372(20.7)	1827(27.6)	352(5.3)	285(4.3)	190(2.9)	191(2.9)	995(15.0)		

The average active users on the NMC App, December 2020 to May 2023

In May 2023, there were 402 average active users (sum of total access per day/number of days where users were active) (**Figure 3**). A total of 878 newly authorised users were recorded in May 2023.

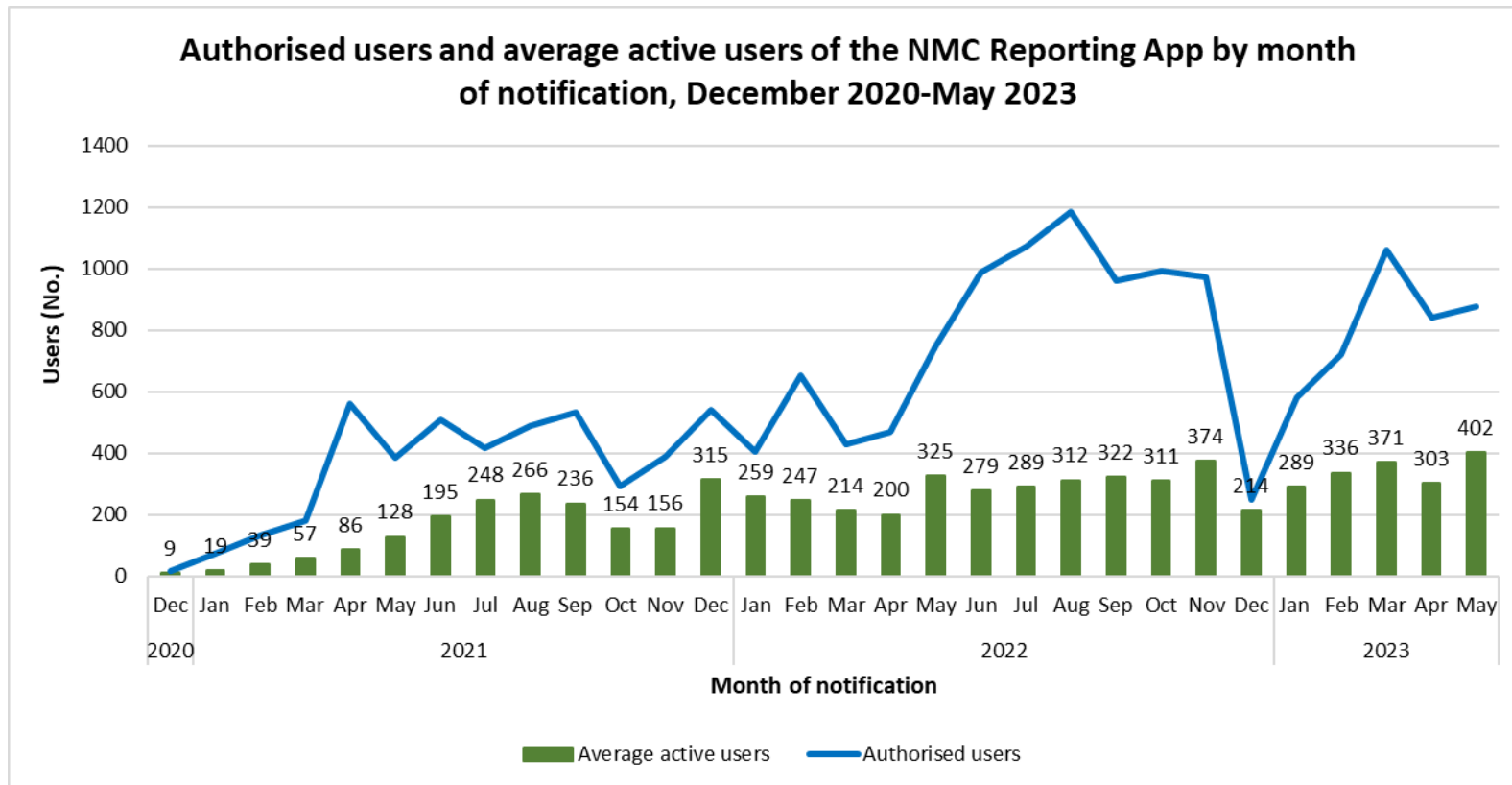


Figure 3: The average active user of the NMC reporting Application, December 2020-May 2023.

Data quality

Completeness refers to the proportion of complete data entries per variable in the dataset among clinical and merged notifications. In May 2023, date of symptom onset and patient outcome were less complete compared to other variables (**Table 6**). Timeliness 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 of a day (Interquartile range: 0-3 days) to report category 1 NMCs and a median of 2 days (interquartile range: 0-7 days) for category 2 NMCs.

Table 6: NMC data completeness on both reporting platforms,

Characteristic	App, N = 4 397 (%)	Paper-based, N = 84 (%)
Folder Number	4,397 (100%)	84 (100%)
First Name	4,397 (100%)	84 (100%)
Surname	4,397 (100%)	84 (100%)
Symptom Onset Date	4,385 (99.7%)	83 (98.8%)
Date of Diagnosis	4,397 (100%)	84 (100%)
Outcome	4,367 (99.3%)	83 (98.8%)

Conclusion

The majority of notifications were clinical notifications. The increase in average active users and newly registered users over time is an indication of an increase in the acceptance of the NMC Reporting App in the provinces. The completeness of patient clinical details and patient demographic details have improved, due to the application of mandatory fields on the NMC App. There was a delay in reporting tuberculosis cases. The data harmonization processes between the current and improved NMC system are underway to improve reporting.

Recommendations

- We recommend the expedition of NMC App “whitelisting” on the provincial departmental intranet to make the electronic notification platform more accessible to health facilities.
- We recommend that clinicians should complete all patient clinical and demographic details to improve completeness.
- NMC Trainers to emphasize the importance of timeous reporting of Category 1 and 2 NMCs, in order to ensure real-time availability of data for public health action.
- We recommend completion of the hospitalisation for patients who were admitted in hospital.
- We recommend that clinicians edit existing laboratory notifications

Appendix no.1: Back captured clinical notifications

Condition	Overall	Province								
	N = 724	EC N=35	FS N=29	GP N=284	KZN N=109	LP N=77	MP N=17	NC N=22	NW N=24	WC N=127
Acute Flaccid Paralysis	1 (0.1%)	0	0	1	0	0	0	0	0	0
Agricultural or stock remedy poisoning	8 (1.1%)	0	2	6	0	0	0	0	0	0
Bilharzia (schistosomiasis)	8 (1.1%)	0	0	0	5	0	1	0	1	1
Congenital rubella syndrome	1 (0.1%)	0	0	0	0	1	0	0	0	0
Food borne illness outbreak	3 (0.4%)	0	0	1	0	2	0	0	0	0
Haemophilus influenzae type B	2 (0.3%)	0	0	0	0	1	0	0	0	1
Hepatitis A	9 (1.2%)	1	0	3	2	1	0	0	0	2
Hepatitis B	18 (2.5%)	2	0	5	6	0	3	0	1	1
Hepatitis C	5 (0.7%)	0	0	2	1	0	1	0	0	1
Malaria	76 (10%)	1	0	15	2	46	7	0	1	4
Maternal death (pregnancy, childbirth and puerperium)	1 (0.1%)	0	0	1	0	0	0	0	0	0
Measles	9 (1.2%)	0	0	0	1	6	0	0	0	2
Meningococcal Disease	1 (0.1%)	0	0	0	0	0	0	0	0	1
Non-typhoidal Salmonellosis	1 (0.1%)	0	0	0	0	0	0	0	0	1
Pertussis	21 (2.9%)	0	2	7	7	0	1	0	0	4
Tuberculosis: extensively drug -resistant (XDR -TB)	1 (0.1%)	0	0	1	0	0	0	0	0	0
Tuberculosis: multidrug- resistant (MDR -TB)	25 (3.5%)	1	0	10	8	0	0	2	1	3
Tuberculosis: extra-pulmonary	125 (17%)	2	3	63	14	3	0	2	5	33
Tuberculosis: pulmonary	409 (56%)	28	22	169	63	17	4	18	15	73

Appendix no.2: Summary of NMCSS Data Flow

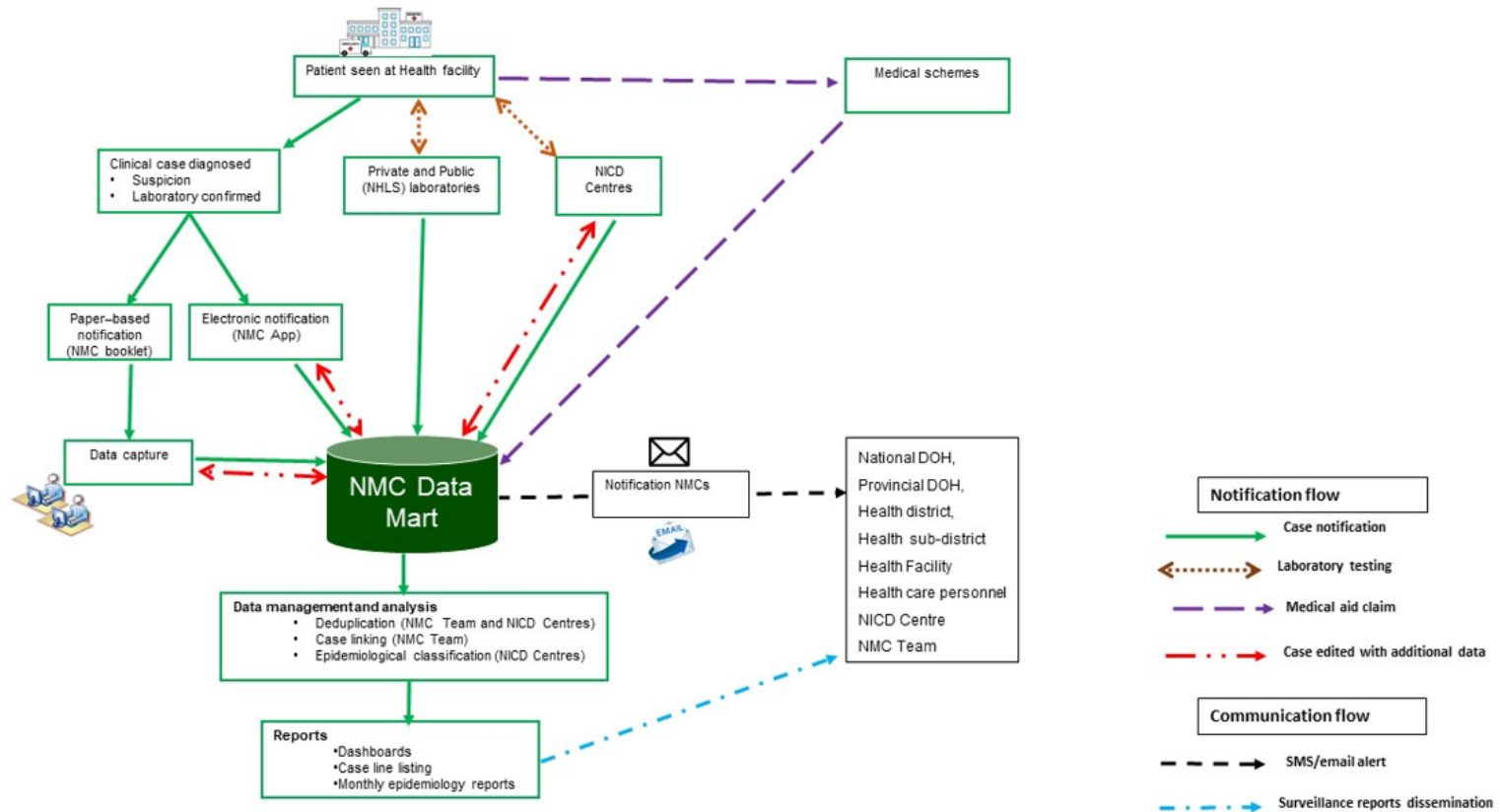


Figure 4: Summary of data flow within the NMC surveillance system

Appendix 3: NMC Categories, and Case Classification definitions

NMC categories

Category 1: NMCs 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 an 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 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 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 case: are cases reported to the NMC by health care providers at facilities, either through completion of a paper form that is faxed, emailed to 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 case: 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 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: All cases diagnosed and notified in the current month

Delayed notification: All cases diagnosed in the last 14 days from the previous month

Back capture notification: All cases diagnosed in previous months and before the last 14 days of the previous month.