

THIRD PARTY MONITORING OF THE COVID-19 VACCINE DISTRIBUTION AND DEPLOYMENT IN ZAMBIA

SUMMARY REPORT

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EXECUTIVE SUMMARY

Transparency International Zambia (TI-Z), under the COVID-19 Programme, with support from the Swedish Ministry for Foreign Affairs (SMFA) through TI-UK, has undertaken an assessment on the state of vaccine distribution and deployment in six (6) target districts, namely; Chipata, Choma, Katete, Kazungula, Livingstone and Petauke. This Third-Party Monitoring (TPM) is part of the Transparency, Accountability and Equity in the COVID-19 Vaccine Distribution (TRAE-C19VD) project. In conducting this assessment, TI-Z collected quantitative data from district health offices (DHOs) and health facilities from each of the 6 named districts. The health facilities were purposively selected to include urban, peri-urban and rural facilities. Overall, a total of 24 health offices and facilities were targeted during the month of September 2022; including 6 district health offices (DHOs) and 18 health facilities. The quantitative data was then summarised into tables and figures while the qualitative data was used to enrich the analysis and to develop of appropriate recommendations.

The assessment established that the total number of vaccines received by the sampled 6 districts was 589,885 with the Johnson and Johnson vaccine accounting for 54.98%. It was also established that Chipata district received the highest quantity vaccines at 211,592 and was followed by Choma district which received 114,530 vaccines. Choma district recorded the highest utilization rate at 94.77% and was followed by Petauke district at 80.01%. Among the sampled health facilities, Chibolya Clinic had the least vaccine utilization rate and was followed by Kafunkha Health Post. It was also established that the Sinopharm vaccine was the least utilized while the Johnson and Johnson vaccine was the most utilized. The assessment also found that Livingstone district (25.82%) had the least utilization rate among the 6 sampled districts and that Choma district (94.77%) had the highest. Furthermore, the overall wastage across the districts was only 0.86% owing to the availability of adequate cold storage facilities. However, there was is significant backlog on vaccination records due to inadequate vaccination cards across all the 6 districts and 18 health facilities.

In light of these findings, TI-Z recommends the following:

1. Increased vaccine-specific mass sensitization in order to address vaccine hesitancy in specific districts. This is the sure way to boost vaccine uptake and to demystify the myths associated with COVID-19 vaccines.
2. Steps to be taken to ensure the proper maintenance of cold storage facilities in order to continue safeguarding vaccines.
3. Standardization of record keeping at all health facilities through the maintenance of a uniform register.
4. Adequate provision of vaccines at the facility level and sufficient stock to satisfy preferences.
5. Provision of more vaccination cards and development of a systematic way of dealing with the backlogs at facility level.

1. BACKGROUND AND OBJECTIVES

The Government through the Ministry of Health, with support from cooperating partners has embarked on an intensive campaign to curb the progression of the COVID-19 pandemic in Zambia. This was necessitated by evidence of COVID-19 Vaccination hesitancy, anchored on skeptical beliefs around the COVID-19 severity and risk as well as vaccine safety and effectiveness.¹ In other global contexts, acceptance of the COVID-19 vaccine remains unclear-one study across 19 countries found that vaccine acceptance ranged from 55% to 89%, with 65% in Nigeria and 82% in South Africa.²

In order to implement the COVID-19 immunization program in the country, Zambia drafted the National COVID-19 Deployment Strategy in April 2021.³ The plan has been executed in line with the global guidance whose coordination is anchored in the Incident Management structure at all levels to ensure seamless coordination with all relevant stakeholders through the multi sectoral approach. The key pillars being addressed in the plan include: planning and coordination, regulatory, prioritisation, service delivery, monitoring and evaluation, vaccines, cold chain and logistics, safety surveillance, demand generation and communication.³

The eligible population has evolved over the lifetime of the pandemic with Government having recently settled to vaccinate everyone above 12 years.⁴ In terms of target, the MoH campaigns were set and planned to achieve a 70% vaccination rate countrywide and as of November 2022, Zambia joined the small group of countries in sub-Saharan Africa that have attained the global goal of vaccinating 70% of their eligible citizens.⁵

In promoting transparency and accountability, TI Zambia, under the COVID-19 Programme, with support from the Swedish Ministry for Foreign Affairs (SMFA) through TI-UK, has undertaken an assessment on the state of vaccine distribution and deployment in six (6) target districts, namely; Chipata, Choma, Katete, Kazungula, Livingstone and Petauke. This Third-Party Monitoring (TPM) is part of the Transparency, Accountability and Equity in the COVID-19 Vaccine Distribution (TRAE-C19VD) project. The TRAE-C19VD project mandate is to ensure transparency, accountability, and equity in the COVID-19 vaccine distribution, through ensuring that; (1) Corruption risks in vaccine delivery are identified and engaged with by relevant stakeholders (2) Government formulates transparent and equitable vaccine distribution plans (3) Vaccine delivery takes places in an equitable manner and (4) transparency and equity is enhanced in the global response.

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8920139/>

2. Lazarus JV, Ratzan SC, Palayew A, Gostin LO, Larson HJ, Rabin K, Kimball S, El-Mohandes A. A global survey of potential acceptance of a COVID-19 vaccine. *Nat. Med.* 2021;27:225-28. doi: 10.1038/s41591-020-1124-9

3. https://www.moh.gov.zm/?wpfb_dl=94

4. <https://medium.com/usaaid-2030/the-foot-soldiers-driving-covid-19-vaccinations-in-zambia-c104e01311e0>

5. <https://zm.usembassy.gov/covid-19-vaccination-announcement/>

This report is therefore a product of the third-party monitoring and seeks to contribute to these project objectives. It is our hope that the findings will contribute to ascertaining the progress of the vaccination campaign at the local level and to promoting transparency and accountability in the vaccination process. We further hope that this monitoring will contribute to identifying inconsistencies, disparities and irregularities in the the deployment and management of COVID-19 vaccines across the country, for enhanced government and multi stakeholder action.

2. METHODOLOGY OF THE ASSESSMENT

In conducting this assessment, TI-Z collected both qualitative and quantitative data from 6 district health offices (DHOs), 2 provincial health offices (PHOs) and 18 health facilities from 6 districts, namely; Chipata, Choma, Katete, Kazungula, Livingstone and Petauke. The districts were purposively selected based on the target districts of the TRAE-C19VD Project.

In arriving at the final sample of 18 health facilities, the PHOs and DHOs served as Key Informants by providing aggregate information on the state of vaccine deployment and utilization as well as identifying the health facilities administering vaccines. Consideration was taken to include at least 1 peri-urban, urban and rural health facility in each of the target districts. This was meant to control for differences in status due to geographical location. **Table 1**, presents the distribution of the sampled health facilities by district.

TABLE 1: DISTRIBUTION OF THE SAMPLE

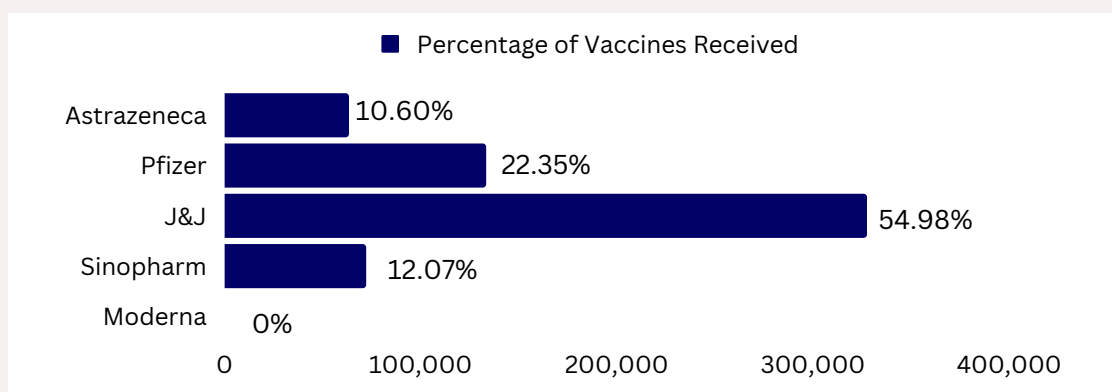
District	Facility
Chipata	Namuseche, and Mchini Health post
Choma	Shampande, and Railway Surgery
Katete	Chibolya clinic, Kafunkha Health Post, Katete Urban health Center, and Mphangwe Clinic
Kazungula	Mambova Rural Health Center, and Nico Clinic
Livingstone	Boma, Kasiya Rural Health Center, Nakatindi, and Namatama
Petauke	Petauke Urban Clinic, Mumbi and Ongolwe Rural Health Center

Table 1: shows the list of facilities where the Third-Party Monitoring (TPM) was conducted in the 6 target districts. Katete and Petauke had the highest number of facilities in the sample while Choma and Chipata had the least number of facilities sampled.

3. FINDINGS-DISTRICT LEVEL

3.1 QUANTITY OF VACCINES AT DISTRICT LEVEL : Out of the five 5 recommended vaccines in the country, the total number of vaccines received by the sampled 6 districts, as at September 2022, was **589,885**. Out of which, the Johnson and Johnson (J&J) was at **327,104** vaccines, representing **54.98%** of the total vaccines. This was followed by the Pfizer vaccine at **132,955**, representing **22.35%**. **Figure 1** presents the distribution of vaccines by the district by type of vaccine.

FIGURE 1: QUANTITY OF VACCINES RECEIVED BY TYPE



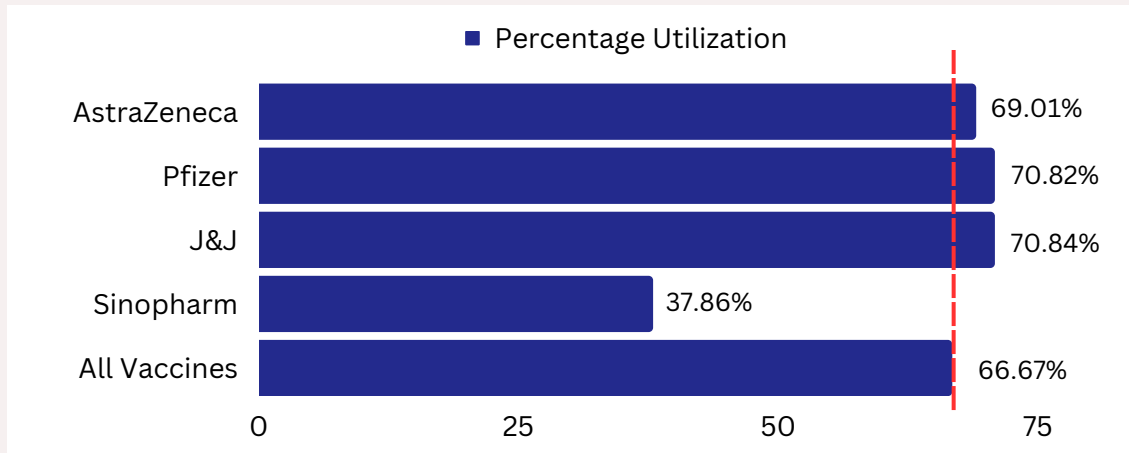
Chipata received the highest quantity of vaccines at **211,592** or **35.57%** and was followed by Choma at **114,530** and Katele at **112,000** vaccines, representing **19.25%** and **18.82%** respectively. **Table 2** presents the distribution of vaccines received by the 6 districts sampled by type of vaccine. It was established that the Moderna vaccine was not received by any of the districts sampled as at September 2022.

TABLE 2: QUANTITY OF VACCINES RECEIVED BY TYPE AND DISTRICT

District	AstraZeneca	Pfizer	J&J	Sinopharm	Moderna	Totals
Choma	14858	28788	54570	16314	0	114,530
Livingstone	8300	35274	32510	11922	0	88,006
Kazungula	1000	250	1500	2	0	2,752
Petauke	7379	7251	48014	3360	0	66,004
Chipata	31500	19392	142510	18190	0	211,592
Katele	0	42000	48000	22000	0	112,000
Totals	63,037	132,955	327,104	71788	0	594,884

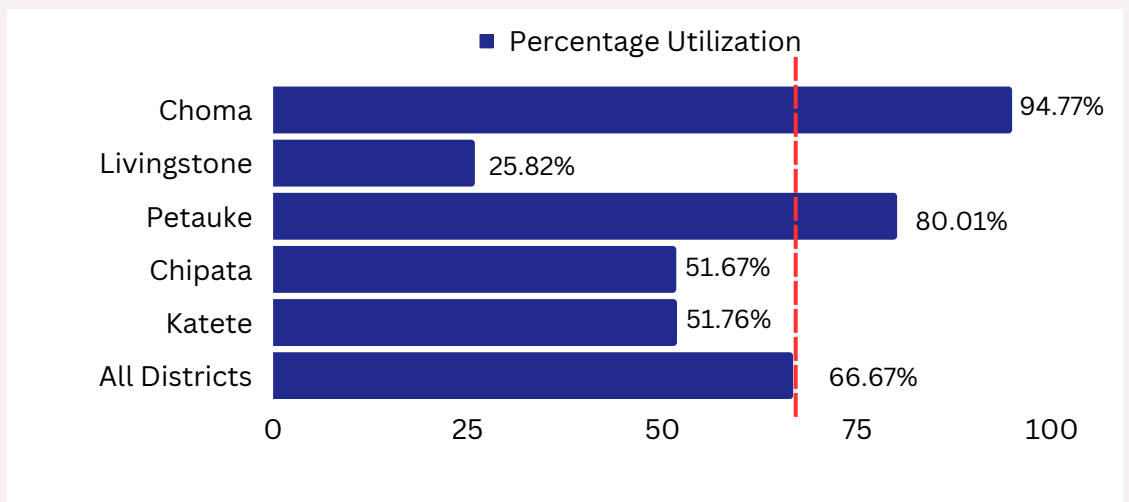
3.2 UTILIZATION AT DISTRICT LEVEL : Out of a total of **594,884** vaccines received by the 6 districts, **396,565** were utilized. This represents an overall utilization rate of **66.67%** across the 6 sampled districts.

FIGURE 2: ANALYSIS OF UTILIZATION BY TYPE



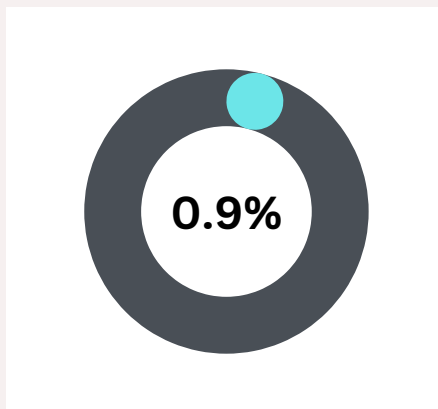
Given the total utilization of **66.67%** across vaccine types, the Sinopharm vaccine was the least utilized at about **37.86%** while all other vaccines recorded utilization rates of about **70%**. The Johnson and Johnson vaccine had the highest utilization rate at **70.84%** and was followed by the Pfizer vaccine at **70.82%**, while the AstraZeneca vaccine recorded a utilization rate of **69.01%**.

FIGURE 3: ANALYSIS OF UTILIZATION BY DISTRICT



Out of the 5 districts sampled, Choma had the highest utilization rate at **94.77%** and was followed by Petauke at **80.01%**. The least utilization rate was recorded in Livingstone, while Chipata and Katete had utilization rates of about **52%** each. Kazungula District was eliminated from this analysis because the information provided on utilization was not consistent with the information on quantity of vaccines received.

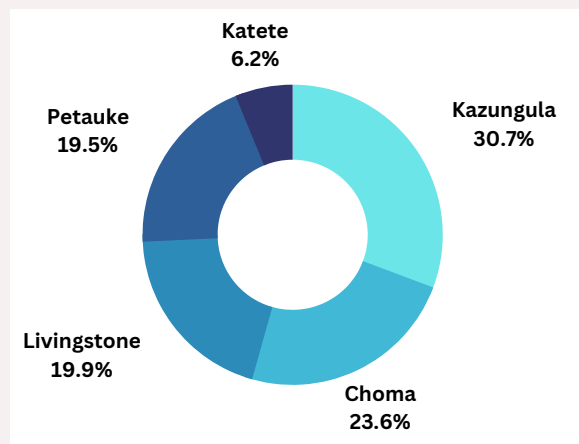
FIGURE 4: OVERALL WASTAGE DISTRIBUTION AT DISTRICT LEVEL



3.3 WASTAGE OF VACCINES AT FACILITY LEVEL :

Out of a total of **594,884** vaccines received by the 6 districts, only **0.86%** were wasted. This wastage rate is below the **5%** minimum threshold for liquid vaccines and is therefore not significant.¹ **Figure 4** provides the overall waste distribution across the 6 districts.

FIGURE 5: VACCINATION CARDS BY DISTRICT



3.4 QUANTITY OF VACCINATION CARDS AT FACILITY LEVEL :

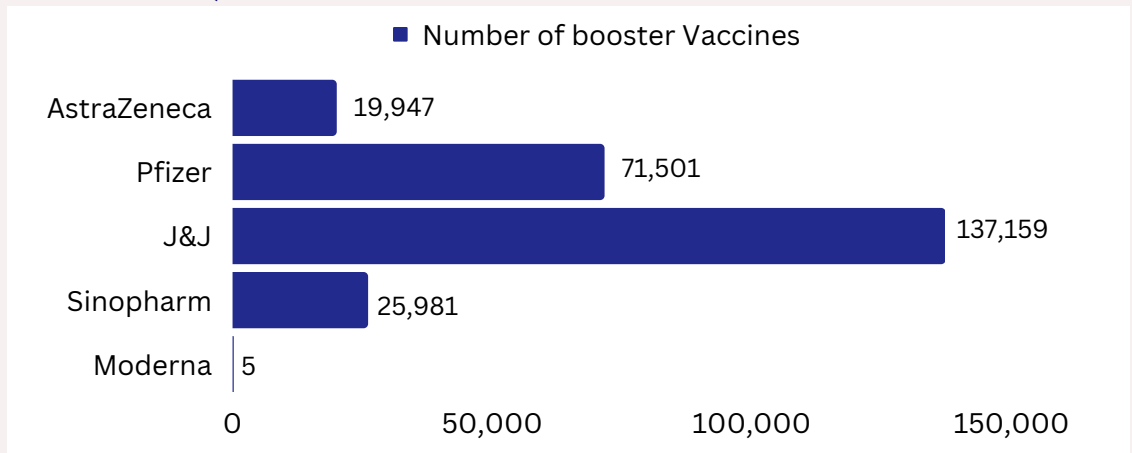
A Total of **289,848** vaccination cards were allocated to the 6 districts sampled. **Figure 5** presents the distribution of vaccination card allocation across the 6 districts.

Kazungula had the highest allocation at **30.7%** while Chipata district had no vaccination cards at the time of the assessment.

3.5 BACKLOG OF RECORDS AT DISTRICT LEVEL: Due to limited availability of vaccination cards, the assessment found a backlog of **38,389** vaccination records across the 6 sampled districts. The highest backlog of **34,700 (90.39%)** was recorded in Livingstone and was followed by Choma at **2,700**, Kazungula at **600** and Chipata at **389**. Petauke and Katete had no backlogs in vaccination records.

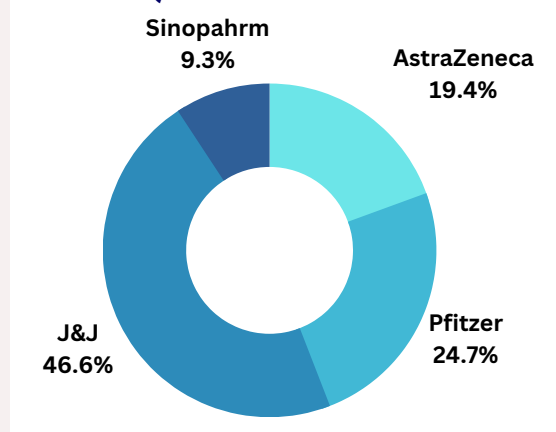
3.6. QUANTITY OF BOOSTERS ADMINISTERED: A total of **254,593** booster vaccines were administered within the 6 sampled districts. This included **137,159** Johnson and Johnson and **71,501** Pfizer booster vaccines. Moderna booster vaccines were the least administered across the districts (see **Figure 5**).

1. <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-022-14328-w>

FIGURE 5: QUANTITY OF BOOSTER VACCINES ADMINISTERED BY DISTRICT

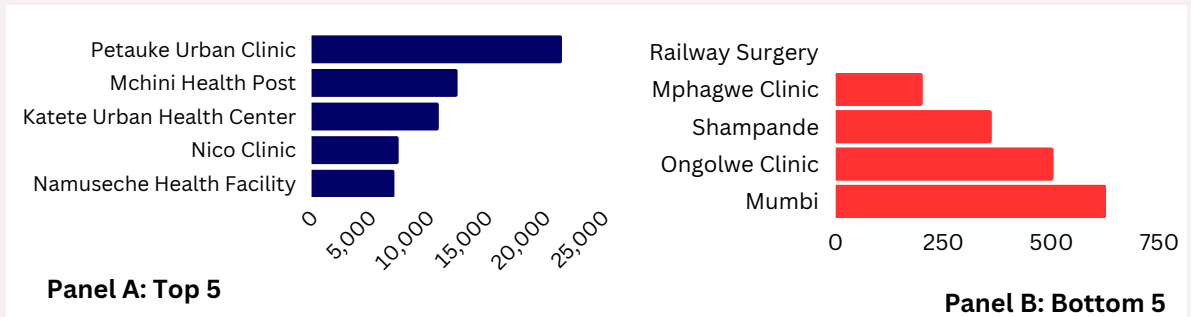
4. FINDINGS-FACILITY LEVEL

4.1 PLANNING: All the 18 health facilities indicated that they had macro and micro plans in place and that these were used to implement the vaccine immunization activities in their respective facilities and surrounding communities. This is indicative that all the sampled facilities had clear vaccine immunization implementation plans and resources.

FIGURE 6: QUANTITY OF VACCINES RECEIVED BY TYPE

4.2 QUANTITY OF VACCINES AT FACILITY LEVEL: A total of **153,314** vaccines were received by 17 out of the 18 health facilities sampled. This included **71,416 (46.6%)** Johnson and Johnson and **37,790 (24.7%)** Pfizer vaccines. **Figure 6** indicates the distribution of received vaccines by type of vaccine.

The facilities which received the highest number of vaccines included; Petauke Urban Clinic with **21,482**, Mchini Health Post with **12,500**, Katete Urban Health Center with **10,883** and Namusheche Health Facility with **7,068**. The least number of vaccines were received by Mphagwe clinic at **200** while Railway Surgery received no vaccines. **Figure 7** presents the top 5 and bottom 5 facilities in terms of number of vaccines received.

FIGURE 7: QUANTITY RECEIVED OF VACCINES BY FACILITY

4.3. QUANTITY OF VACCINES UTILIZED: In terms of utilization at the facility level, the overall utilization rate was **50.29%**. **Figure 8** presents the utilization analysis for 15 health facilities out of the 18 sampled. Ongolwe Rural Health Center and Mumbi were dropped from this analysis due to inconsistent utilization data while Railway Surgery was dropped since it received no vaccines.

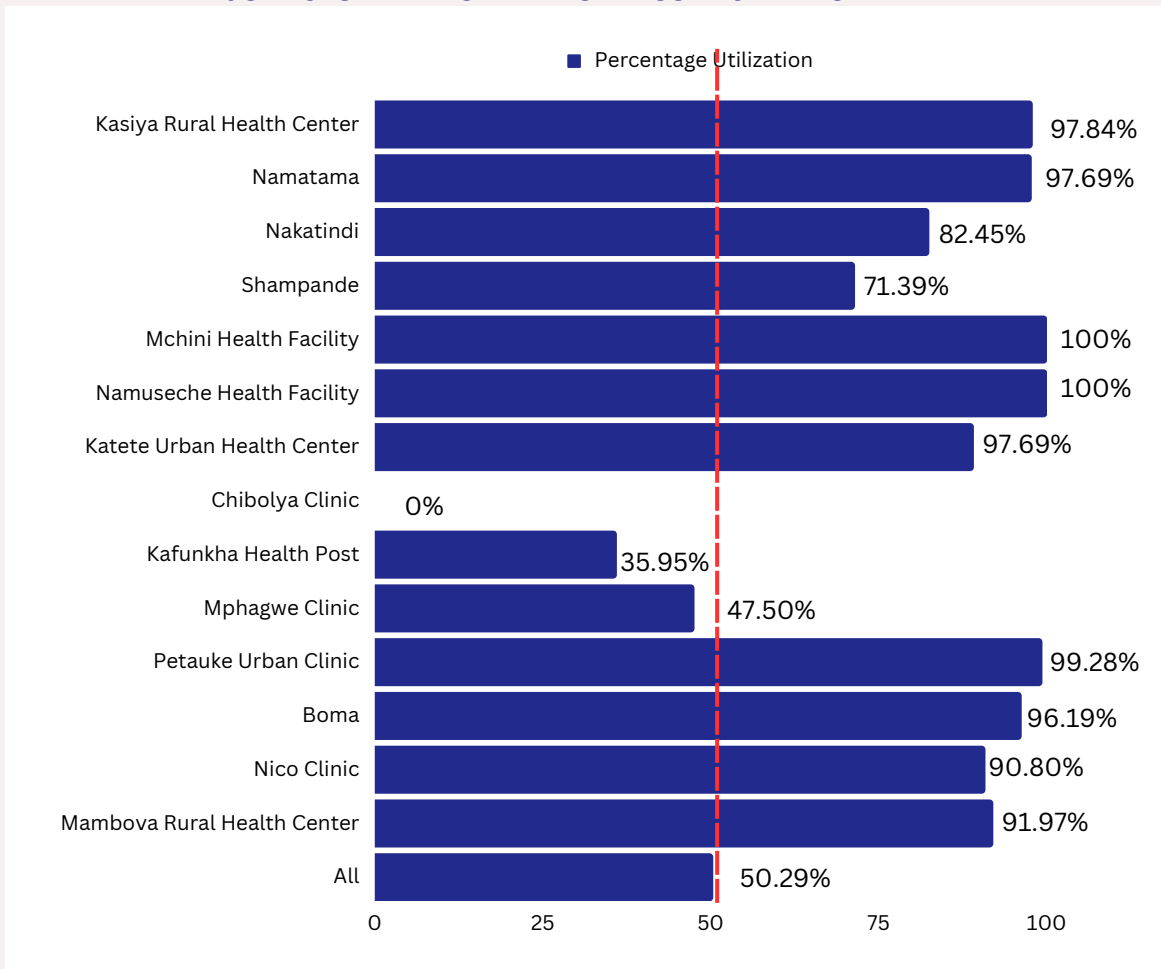
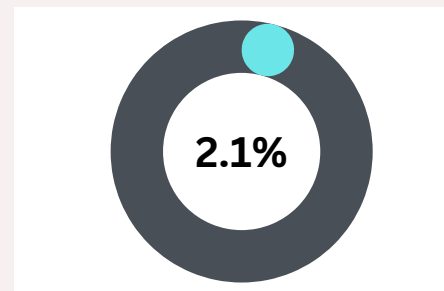
FIGURE 8: UTILIZATION RATE OF VACCINES BY FACILITY

Figure 8 indicates that the highest utilization rates were recorded at Mchini Health Post and Namuseche Health Facility at **100%** utilization. These were followed by Petauke Urban Clinic (**99.28%**), Kasiye Rural Health Center (**97.84%**) and Namatama (**97.69%**). Considering the underperformance of Chipata, Katete and Livingstone with respect to district utilization (see **Figure 3**), it is indicative that there is a wide variation in facility level utilization. Further, the least utilization was recorded at Chibolya clinic where all the received vaccines were not utilized as at September 2022.

4.4 WASTAGE OF VACCINES AT FACILITY LEVEL:

Out of a total of **153,314** vaccines received by the 17 health facilities, **3,137** vaccines were wasted, representing a wastage rate of **2.07%** at health facility level. In terms of vaccine type, the highest wastage was for the Johnson and Johnson vaccines at **1,465** and was followed by AstraZeneca at **1,054**. This wastage rate is also not significant.¹

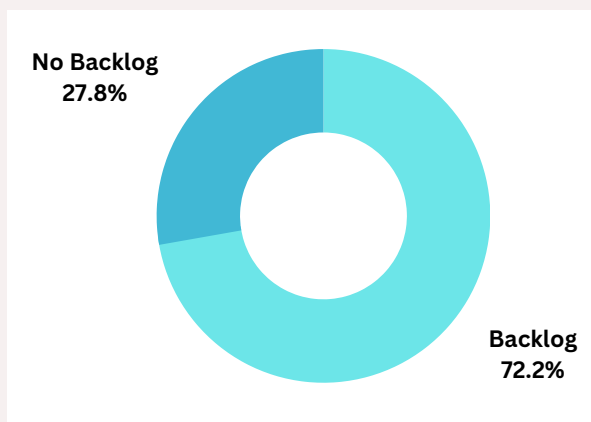
FIGURE 9: OVERALL WASTAGE DISTRIBUTION AT FACILITY LEVEL



4.5 QUANTITY OF VACCINATION CARDS FACILITY LEVEL :

A Total of **152,675** vaccination cards were allocated to 12 out of the 18 health facilities sampled. The highest allocation was to Chibolya Clinic at **112,000** despite only receiving **4,197** vaccines. This was followed by Petauke Urban clinic which was allocated **21,482** vaccination cards and Katete Urban Health Center which was allocated **7,060** vaccination cards. 5 health facilities sampled, namely; Namatama, Railway Surgery, Namuseche Health Facility, Nico Clinic and Mambova Rural Health Center were not allocated any vaccination cards. Information on the receipt and utilization of vaccination cards was inconsistent and was therefore not analysed.

FIGURE 10: BACKLOG IN RECORDS-FACILITY LEVEL



4.6 BACKLOG OF RECORDS AT FACILITY LEVEL:

Due to limited availability of vaccination cards, the assessment found that out of the 18 health facilities sampled, 13 indicated that they had a backlog of records. This represents an overall backlog of **72.22%** at facility level. **Figure 10** presents the backlog status with respect to recording of vaccinations.

1. <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-022-14328-w>

5. CONCLUSIONS AND RECOMMENDATIONS

Overall, this assessment has established the following:

- 1. There are indications that vaccine hesitancy varies by vaccine type and geographical location.** The low utilization rate of the Sinopharm vaccine amidst high utilization of other vaccines calls for increased vaccine-specific mass sensitization in order to address vaccine hesitancy in specific districts. This is the sure way to boost vaccine uptake and to demystify the myths associated with COVID-19 vaccines.
- 2. There is a low rate of wastage of vaccines across the the districts and health facilities.** This may be attributed to the availability of cold storage facilities in all the 18 health facilities sampled. The Ministry should therefore take steps to ensure the proper maintenance of these cold storage facilities in order to continue safeguarding vaccines.
- 3. There are considerable inconsistencies in the records kept by health facilities.** Some health facilities provided utilization statistics which were higher than the stock of vaccines received and/or allocated. There is therefore need to standardize the record keeping at all health facilities through the maintenance of a uniform register. Further, there is need for more designated data entry clerks, more gadgets such as laptops and computers as well as adequate provision of internet bundles in the health facilities to support this process.
- 4. Some health facilities received no vaccines while others only received vaccines during period of vaccination campaigns.** There is need to ensure that adequate vaccines are provided at the facility level and that there is sufficient stock to satisfy the preference of people. This should be complementing by the provision of adequate personnel for the vaccination teams.
- 5. There is a backlog of vaccination records due to limited vaccination cards in most of the health facilities and districts.** The Ministry of Health should therefore provide more vaccination cards and develop a systematic way of dealing with the backlogs at facility level.