Analysis of COVID-19 Sensitization and Vaccination Data - Sept 2020

An analysis conducted by

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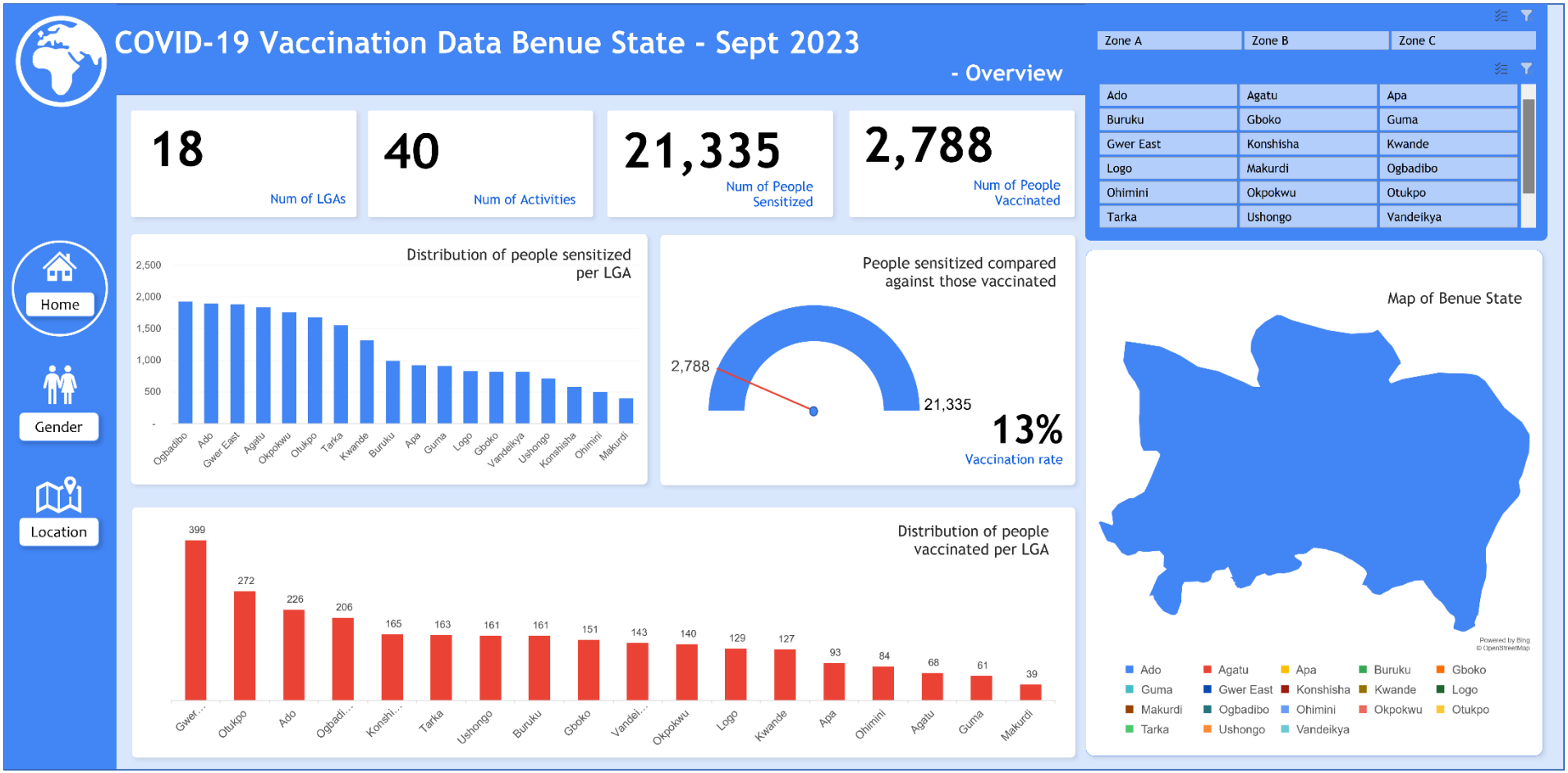
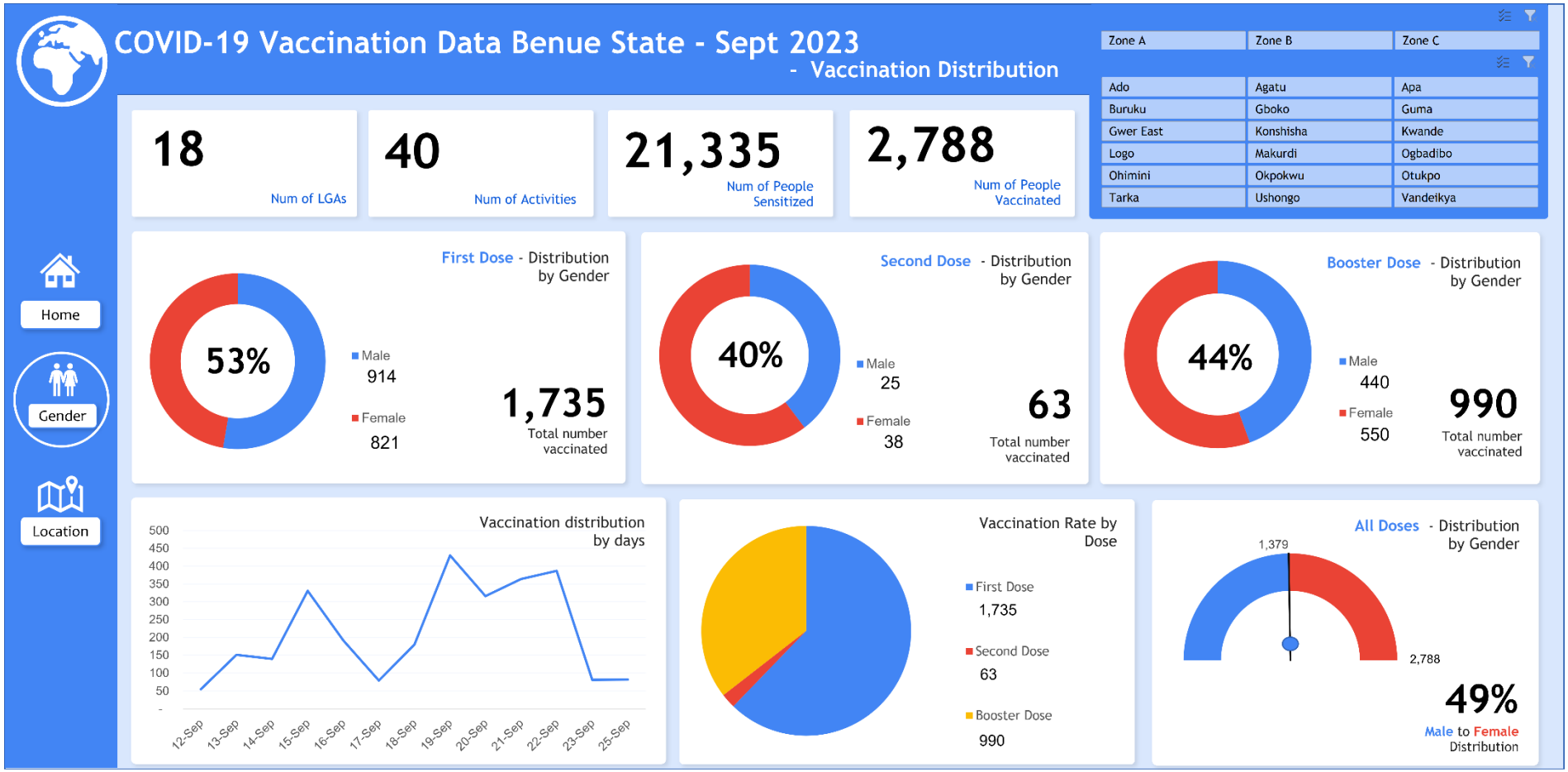
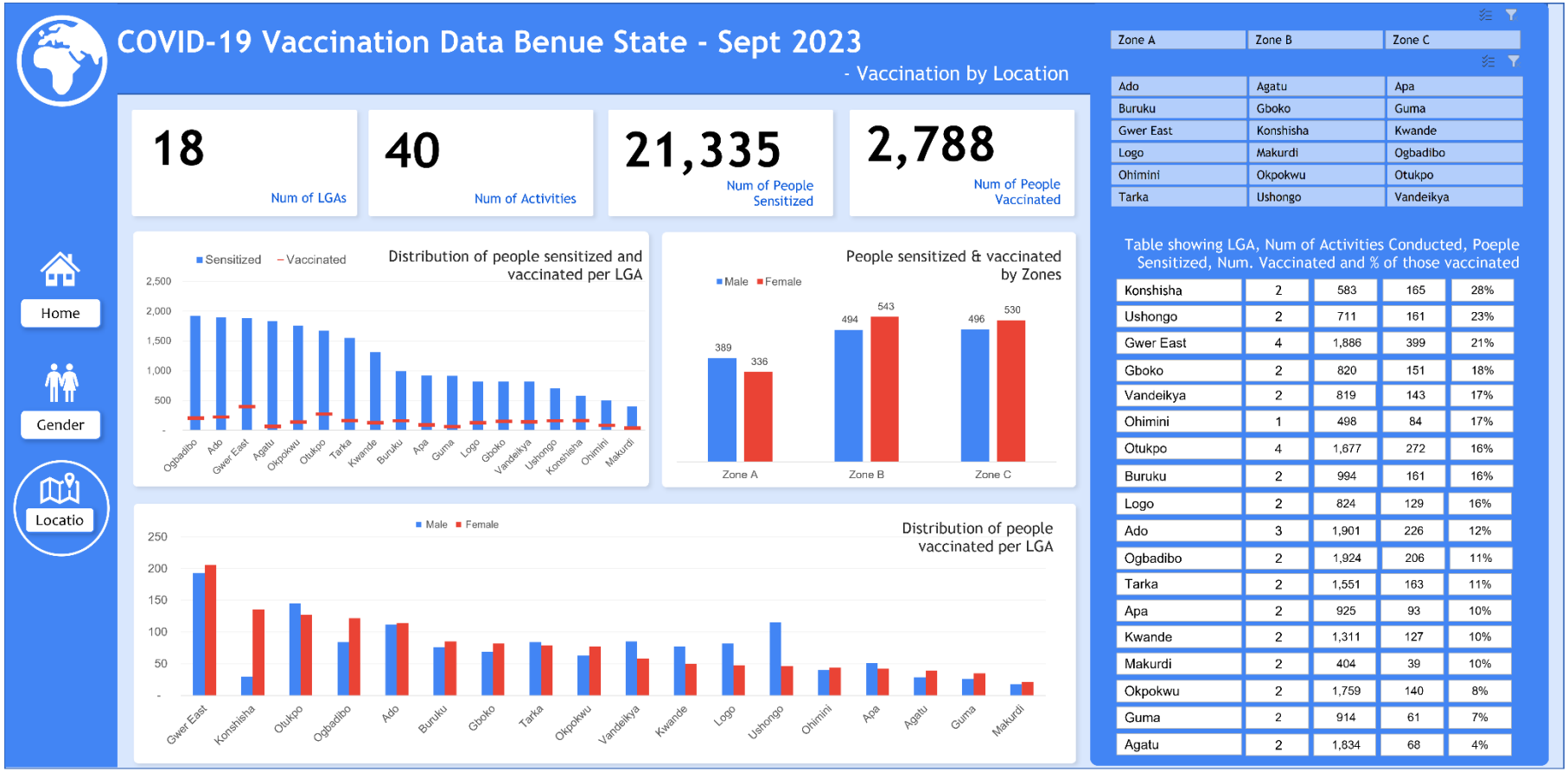
PAGE 1 (Home Page) – Dashboard showing an overview of the activities and overall performance of the LGAs during the month



PAGE 2 (Gender) – Dashboard showing in detail the different covid-19 doses administered disaggregated by gender during the month



PAGE 3 (Location) – Dashboard showing an performance by LGA and political zones during the month



INTRODUCTION

COVID-19, caused by the SARS-CoV-2 virus, first identified in Wuhan China in December 2019. The pandemic spread rapidly like wildfire, infecting millions and causing widespread illness, death and economic disruption.

To combat covid-19 in Nigeria, Life Abundance Int'l an NGO in Benue state is charged with the responsibility to sensitize people on symptom, prevention, and treatment of covid-19, they also provide vaccination services encouraging those sensitized to get vaccinated as a means to stop the spread and reduce impact of COVID-19 if infected

This data (Fictional) was provided by Life Abundant Int'l and can be downloaded from here

OBJECTIVE

The objective of the analysis is to track progress of activities during the month, also to compare if sensitization influence the number of people vaccinated and the overall objective is to use track KPIs across all the implementing LGA to be able to identify poorly performing LGAs while also being able to improve performances in these LGAs in subsequent months.

CLEANING & TRANSFORMATION

To ensure proper analysis, I used power query for data cleaning and transformation. Some of the cleaning done including

1. With the data structured in a template with lots of merged cells, I had to unmerge the merged cells and rename the blank ones appropriately. This is done across board for people sensitized, first doze vaccination, second dose, booster doses and total vaccinated columns
2. Appropriate data types were applied to all columns used in the analysis
3. A new column (Zone) was added to the data to be analyze the data by political zones within the state.

MODELLING, ANALYSIS (FINDINGS) AND VISUALIZATION

This data was analyzed using pivot tables and visualized with pivot charts, and for comprehensive understanding it was visualized as a 3-paged dashboard

Page 1 – Overview: This is also the home / first page of the dashboard, this page gives an overall summary of the findings from the dataset

Page 2 – Gender: this is the second page of the dashboard, on the page the data is summarized by the different doses of the vaccine, first dose, second dose and booster dose and further summarizes these by gender

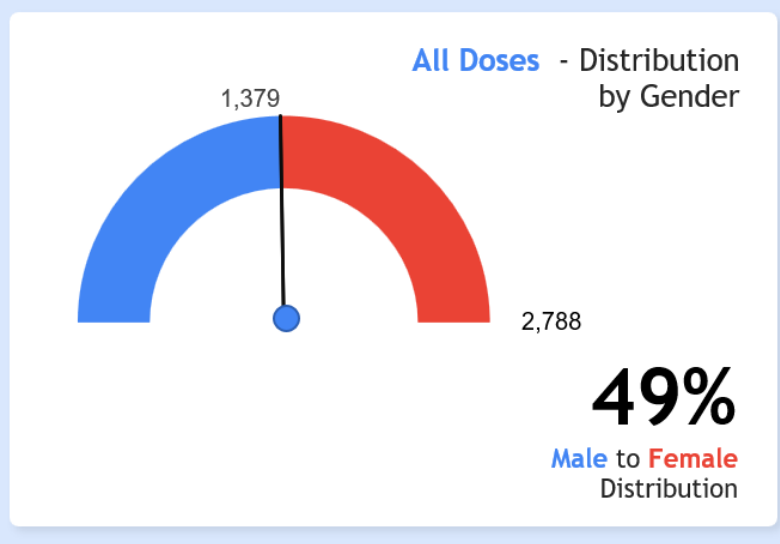
Page 3 – Location: the third / last page in the dashboard, it visualizes and summarizes the data by the different locations within the state.

1. Program was implemented in across 18 LGAs within the month in consideration, across these 18 LGAs 40 implementation sessions were conducted, this led to sensitization of

Gender	No Vaccinated	
Total Vaccinated Male	1,379	49%
Total Vaccinated Female	1,409	51%
Total Vaccinated Male & Female	2,788	100%

21,335 people and the vaccination of 2,788 people. This gives a 13% vaccination rate.

2. Across all doses, we found a close match between the male and female gender, with the mala accounting for 49% of the total number of people vaccinated and the female 51%



3. First Dose: A total of 1,735 people took the first dose of the covid vaccine which translate to 62% of the total number of people who were vaccinated within the month.

Also it is observed that more men took the first dose of the vaccine as they amount to 53% of the total number

4. Second Dose: A total of 63 people received second dose of the covid vaccine in the month, 48% of which were male.

Second Dose Vaccination	No Vaccinated	Percentage
Male	25	40%
Female	38	60%
Total	63	100%

VERDICT: There is a noticeably sharp decline in the number of persons vaccinated, with 1,735 people vaccinated for first dose, and just 63 in the second dose, this call for more deeper check by the implementation team to understand the reason behind such outrageous decline

5. **Booster Dose:** a total of 990 people got their booster dose of the covid vaccine, with 44% of those being male

Values	No. Vaccinated	Percentage
Male	440	44%
Female	550	56%
Total	990	100%

6. **Sensitization and Vaccination Per LGA:** The table below shows the sensitization results per LGA within the state. Major outliers in this table are the 2 most populous / biggest LGAs – Makurdi and Gboko, despite these 2 LGAs being the biggest, they sensitized considerably less than other LGAs

Row Labels	Sensitized	Vaccinated
Ogbadibo	1,924	206
Ado	1,901	226
Gwer East	1,886	399
Agatu	1,834	68
Okpokwu	1,759	140
Otukpo	1,677	272
Tarka	1,551	163
Kwande	1,311	127
Buruku	994	161
Apa	925	93
Guma	914	61

Logo	824	129
Gboko	820	151
Vandeikya	819	143
Ushongo	711	161
Konshisha	583	165
Ohimini	498	84
Makurdi	404	39
Grand Total	**21,335**	**2,788**

7. Vaccination Data by LGA: Gwer East, Otukpo, Ado, Ogbadibo and Tarka rank as the top 5 best performing LGAs by number of people vaccinated within the month. Makurdi, Guma and Agatu are the bottom 3 LGAs.

LGA	No. Vaccinated
Gwer East	399
Otukpo	272
Ado	226
Ogbadibo	206
Konshisha	165
Tarka	163
Buruku	161
Ushongo	161
Gboko	151
Vandeikya	143
Okpokwu	140
Logo	129
Kwande	127
Apa	93
Ohimini	84
Agatu	68
Guma	61
Makurdi	39

8. LGA performances: All LGAs conducted 2 activities except Otukpo and Gwer East who conducted 4 sessions each, Ado conducted 3 and Ohimini conducted 1. The table seeks to compare what percentage of those sensitized was vaccinated, this measure attempts to verify if sensitization was effective in getting people vaccinated. From this data we found Konshisha LGA to be most efficient as it records 28% conversion rate, Ushongo 23%, Gwer East 21%, Gboko 18% and Vandeikya17% all rounds up the top 5 LGAs.
Agatu, Guma and Okpokwu made the bottom 3 list with 4%, 7% and 8% conversion rates respectively.

LGA	No of Activities	People Sensitized	Vaccinated	% of People Vaccinated vs Sensitized
Konshisha	2	583	165	28%
Ushongo	2	711	161	23%
Gwer East	4	1,886	399	21%
Gboko	2	820	151	18%
Vandeikya	2	819	143	17%
Ohimini	1	498	84	17%
Otukpo	4	1,677	272	16%
Buruku	2	994	161	16%
Logo	2	824	129	16%
Ado	3	1,901	226	12%
Ogbadibo	2	1,924	206	11%
Tarka	2	1,551	163	11%
Apa	2	925	93	10%
Kwande	2	1,311	127	10%
Makurdi	2	404	39	10%
Okpokwu	2	1,759	140	8%
Guma	2	914	61	7%
Agatu	2	1,834	68	4%

9. People Vaccinated by Zone: It is observed that Zone B vaccinated the most number of people with 1037 vaccinations recorded, this is followed by Zone C with 1026 vaccination, finally, Zone A recorded a meagre 725 vaccinations.

People Vaccinated By Zone			
Row Labels	**Male**	**Female**	**Total**
Zone A	389	336	**725**
Zone B	494	543	**1,037**
Zone C	496	530	**1,026**
	1,379	**1,409**	**2,788**

CHALLENGES

A major challenge encountered is the format/structure in which the data was collected, the data was collected in a template that already summarized values for all the columns, thus making it near impossible for a more robust analysis. It must also be stated that this challenge did not in any way negatively influence the accuracy or reliability of the result.

SUMMARY

While the purpose of this analysis is not to draw any major project defining conclusion, considering the relatively small period (1 month) being analyzed. 2 pertinent questions must be asked

1. Why is the vaccination rate for second dose so poor?
2. Why is Makurdi being the state capital and the most populous in the state record low figures across all the metrics being considered (Sensitized, Vaccinated and Vaccinated percentage)?

Answers to these 2 questions will enable to the implementation team improve performance over the coming months and also provide strategies to overcoming any technical challenges if any that led to the currently low performances.