MINISTRY OF HEALTH
AND SANITATION

NEMS
National Emergency
Medical Service

49 J Spur rd, Freetown,
Sierra Leone

NEMS OPERATIONAL ACTIVITIES

MONTHLY REPORT: AUGUST 2021

Date	**AUGUST 2021.**
Districts	NEMS NATIONAL OPERATION.

Brief description of the NEMS Operational Service

NEMS is an outfit set out to achieve operational or professional excellence providing a sustainable and well maintained Referral system of Ambulances /Hearses; Trained Para Medics and Drivers; Equipped depot and workshop; Management expertise and Administrative personnel; operation centre operatives; Information & communication Systems infrastructure, Monitoring, Evaluation and Data analysis geared towards evidence-based reporting.

This will be accomplished through NEMS core values:

Inspiration: Having a deep-rooted passion and internal drive for success to attain operational excellence

Integrity: Assumes complete accountability for actions, having strong moral principles and is honest in all dealings.

Innovation: Showing creativity by pursuing options that may be risky or novel thinking creatively for solutions while learning from setbacks and mistakes

Inclusiveness: Treating everyone fairly, irrespective of race, religion, gender, nationality, ethnicity, age etc. Taking decisions to keep NEMS vision alive.

The data collected from the NEMS database and the NEMS Referral Coordinators' database from 15th of October 2018 unto the 30th of June 2021, indicate that NEMS has accomplished over two (2) years of operations delivering the following:

***Table 1*: Cumulative Number of Supported Indicators**

Indicators	Summed
CALLS	76846
MISSIONS	73354
INCOMING REFERRALS	62159

- ***Distributions of the Ambulances***

NEMS currently has one hundred (100) ambulances in operation all over Sierra Leone, while each district among the 16 has one ambulance allocated to the District Ambulance Supervisor (DAS) to serve as replacement to inoperative ones, which summed this to the total reported here:

Ambulance Distributions	
District	Numbers
BO	7
BOMBALI	6
BONTHE	5
FALABA	5
KAILAHUN	7
KAMBIA	5
KARENE	5
KENEMA	6
KOINADUGU	5
KONO	7
MOYAMBA	6
PORT LOKO	6
PUJEHUN	7
TONKOLILI	8
WESTERN AREA RURAL	7
WESTERN AREA URBAN	8
Grand Total	100

For the COVID-19 response, NEMS continues to dedicate a vehicle in each district, with the exception of Western Area Urban where two vehicles are deployed for the management of COVID-19 cases. All the ambulances are temporarily located at the district headquarter town except for Western Area, Port Loko and Kenema districts. In June and July 2021, the District Ambulance Supervisors DASs were repurposed for the transporting of COVID-19 related issues, while all other ambulances have been positioned for the transportation of other emergency related complaints reach.

- ***Km Travelled***

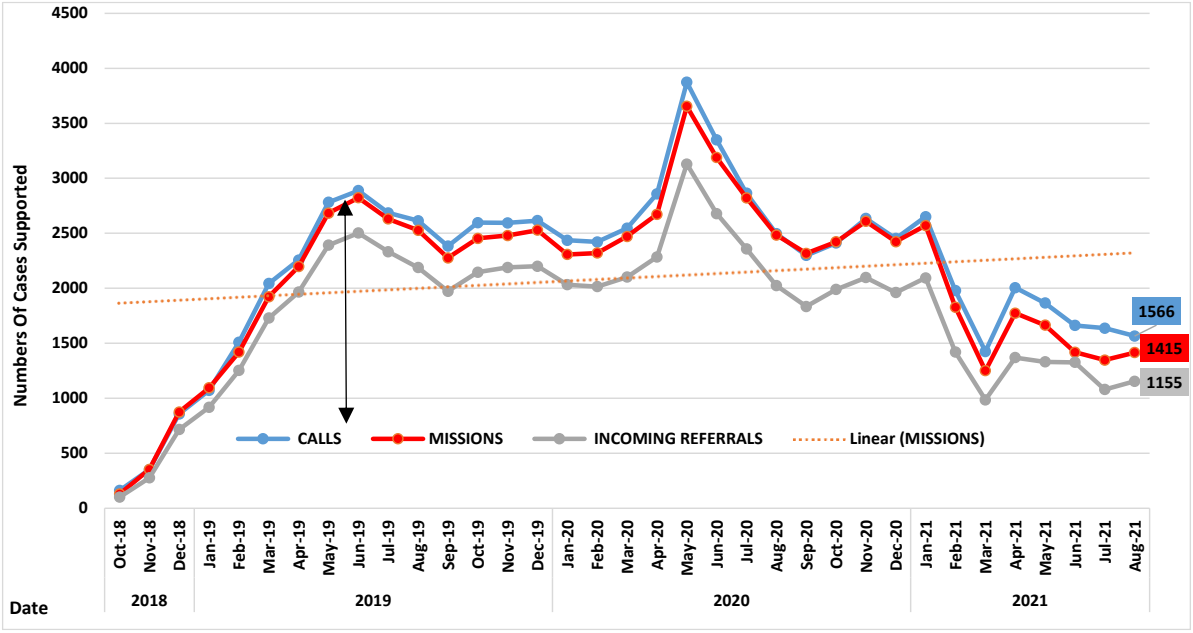
Since the start of NEMS activities in October 2018, when ninety-seven (97) ambulances were initially dispatched across the country, later increased to hundred (100) ambulances that have travelled a total number of **5,593,233 km**. In August 2021, Port Loko emerged as the district with the highest KM travelled.

- ***COVID-19 Response***

The total number of **COVID-19** confirmed cases **referred by NEMS** in August 2021 is 16, while there were 3 suspected case reported. The cumulative figures since the COVID-19 outbreak in the country are 3,635 **confirmed**, 255 **suspected**. In August 2021 NEMS ambulances transported 6 samples for testing at the listed laboratories in figure 25.

1. Overview of the Calls, Missions and Referrals

1. ***Figure 1 Trend of Calls, Missions and Referrals (Oct 2018 – June 2021)***



The graph **Figure 1** displays the trend at which **Calls, Missions and Incoming Referrals** are supported by NEMS since the inception of operations in **October 2018**. The indication of the vertical line in the month of **June 2019** indicates the start of **NEMS service at every district nationwide**. The data showed that, the number of **Calls** consistently surpassed the numbers of **Missions** and **Incoming Referrals.**

The graph further demonstrates that NEMS recorded the highest numbers of **calls, missions, and incoming referrals services** in May 2020. This means that, since inception there has not been any month that these numbers have been surpassed. However, it is also critical to mention that, this was the period of time the nation's instituted several restrictions to curb COVID19 cases.

Figure 1 further outlines a positive flow in the service delivery from the commencement of operations in October 2018 to June 2019; afterwards the graph indicated a sharp drop in September 2019, with the lowest recorded number of services for more than six months and by June 2019, NEMS had initiated operations in every district in Sierra Leone.

From the time NEMS recorded its apex in May 2020, the numbers have been gradually dropping from that period and had not yet reach that peak that was achieved in June 2020.

Irrespective of the fact there is a drop on the number of Calls in the month of August, while both the Missions and Incoming Referrals are gradually increasing, when compared to the previous month (July) that reported a less number on all indicators.

1.1 Number of Calls, Missions, and Incoming Referrals

In **August 2021**, we recorded a total of **1566, 1415 and 1155** for **calls, missions, and incoming referrals services** respectively.

1.Table 2: Cumulative and Percentage Trend of Calls, Missions, Referrals

YEARS	MONTH	CALLS	Trend	MISSIONS	Trend	INCOMING REFERRALS	Trend
2018	Oct-18	162	-	129	-	101	-
	Nov-18	351	37%	353	46%	277	47%
	Dec-18	858	42%	875	43%	716	44%
2019	Jan-19	1072	11%	1095	11%	919	12%
	Feb-19	1510	17%	1420	13%	1253	15%
	Mar-19	2043	15%	1923	15%	1730	16%
	Apr-19	2257	5%	2197	7%	1965	6%
	May-19	2782	10%	2683	10%	2392	10%
	Jun-19	2888	2%	2823	3%	2503	2%
	Jul-19	2685	-4%	2630	-4%	2332	-4%
	Aug-19	2614	-1%	2527	-2%	2189	-3%
	Sep-19	2383	-5%	2276	-5%	1973	-5%
	Oct-19	2597	4%	2454	4%	2146	4%
	Nov-19	2594	0%	2480	1%	2190	1%
	Dec-19	2615	0%	2528	1%	2200	0%
2020	Jan-20	2436	-4%	2308	-5%	2033	-4%
	Feb-20	2421	0%	2321	0%	2015	0%
	Mar-20	2546	3%	2471	3%	2102	2%
	Apr-20	2859	6%	2672	4%	2285	4%
	May-20	3873	15%	3654	16%	3129	16%
	Jun-20	3349	-7%	3189	-7%	2679	-8%
	Jul-20	2864	-8%	2822	-6%	2359	-6%
	Aug-20	2497	-7%	2484	-6%	2025	-8%
	Sep-20	2299	-4%	2317	-3%	1835	-5%
	Oct-20	2411	2%	2422	2%	1989	4%
	Nov-20	2635	4%	2609	4%	2098	3%
	Dec-20	2453	-4%	2423	-4%	1961	-3%
2021	Jan-21	2651	4%	2571	3%	2094	3%
	Feb-21	1979	-15%	1828	-17%	1420	-19%
	Mar-21	1425	-16%	1251	-19%	986	-18%
	Apr-21	2006	17%	1774	17%	1370	16%
	May-21	1866	-4%	1664	-3%	1331	-1%
	Jun-21	1662	-12%	1418	-17%	1327	0%
	Jul-21	1637	-2%	1347	-5%	1080	-23%
	Aug-21	1566	-5%	1415	5%	1155	6%
Total NEMS Project		76846		73353		62159	

The figure **Table 2** above provides a cumulative and percentage trend for the three (3) major indicators **(i.e., Calls, Missions, and Incoming Referrals**) by NEMS from inception to August 2021. It is obvious that there is an upward trend on the number of services offered from October 2018 to June 2019, as initially stated in **Figure 1**. The table further shows a negative trend from the third quarter of 2019. For Calls and Missions recorded in (November and December) 2019, there was no significant change that occurred, while there was slight difference on the referrals reported on the said period. It is essential to note that, there in a positive increase of 5 and 6 percent on both Missions and Incoming Referrals for the month of August respectively.

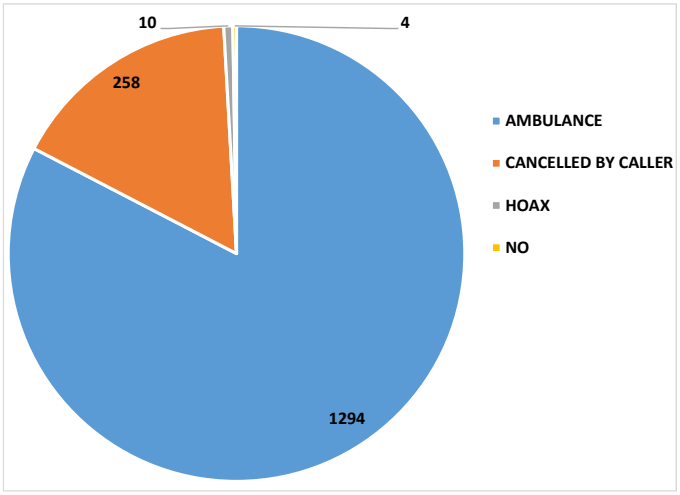
1.3 Table 3: NEMS Daily Activities Averages

Daily Operations	Calls	Missions	Incoming Referrals
Aug-21	51	43	41

The Figure **Table 3** shows the average daily calls, missions and incoming referrals supported in August 2021.

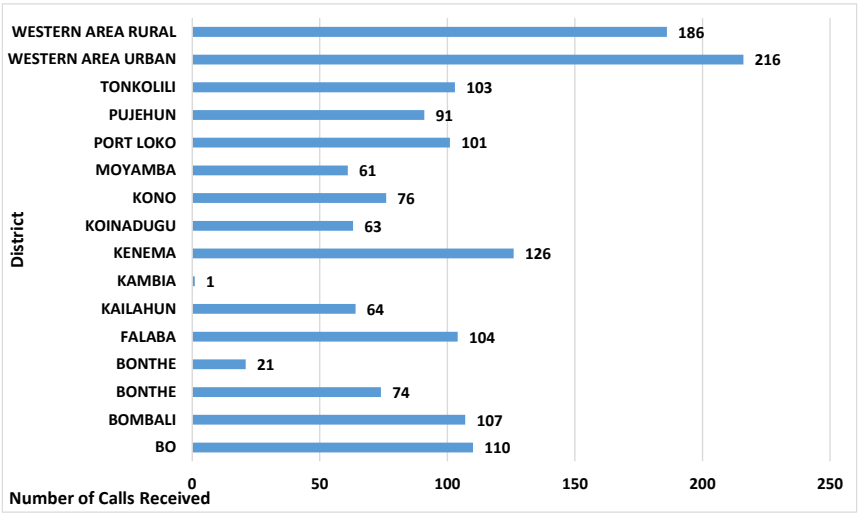
1.4 Calls Analysis

1.4.1 Figure 2: Classifications of Calls



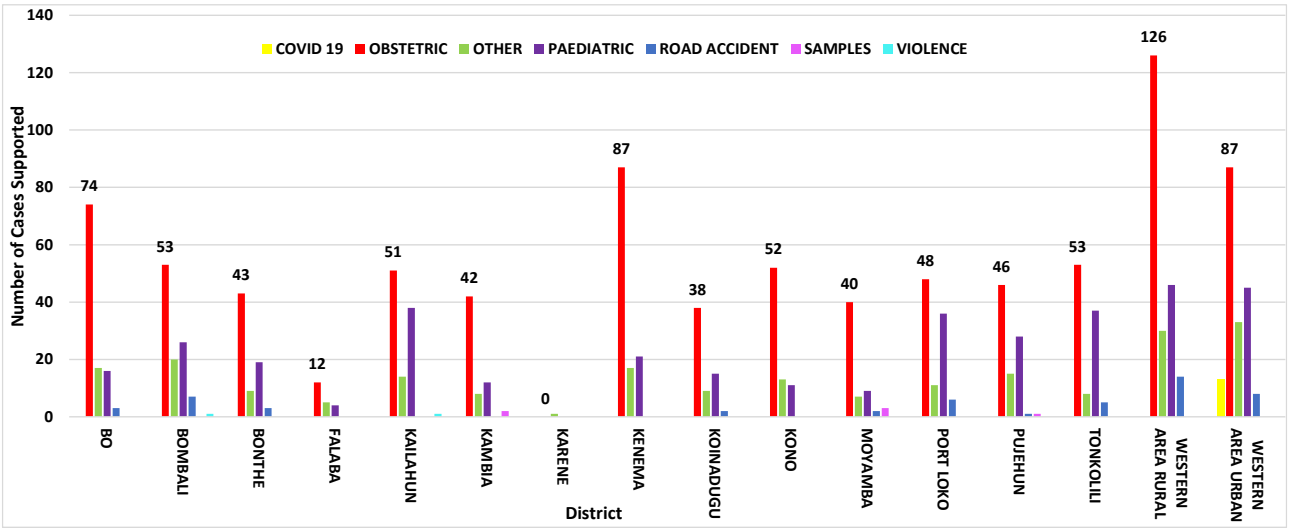
*The diagram **figure 2** outlines the classification of Calls as they are received at the NEMS call center (Operation Center). NEMS Call center operatives received 1294 Calls that required NEMS to dispatch an ambulance, while 272 of the total number of calls were considered as either cancelled by the caller (258), as hoax (10) calls or not completed (4).*

1.4.2 Figure 3: Breakdown of Calls by District



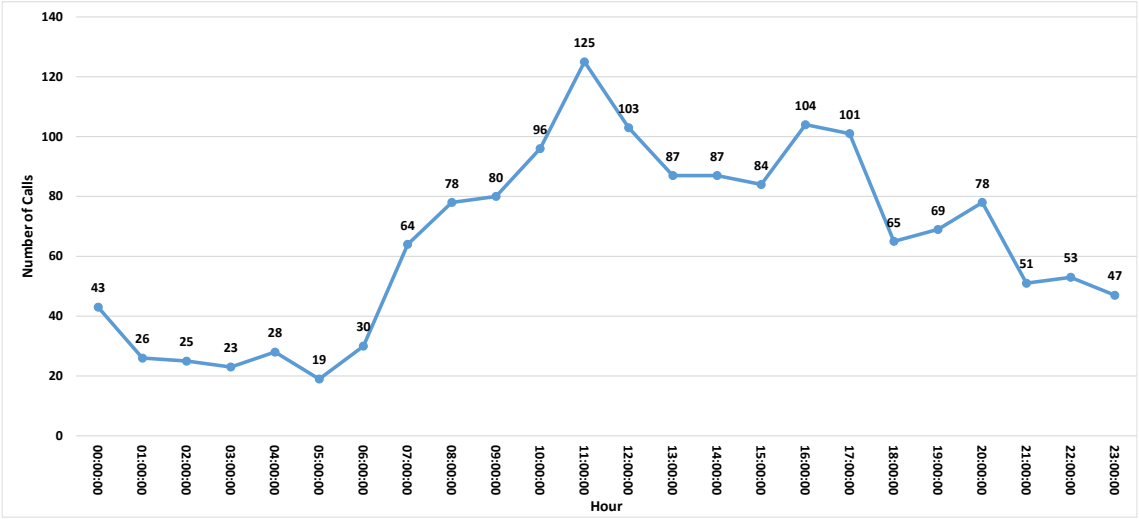
The graph **figure 3** provides a breakdown of Calls by district in the month under review. Western Area Urban (216) reported the highest number of Calls, seconded by Western Area Rural (186). Kambia recorded the least number of Calls (1), while Kenema (126) with the most Calls coming from the provinces. All the regional headquarter towns (Kenema – 126, Port Loko – 101, Bombali – 107, and Bo - 110) registered over 100 Calls, while the others had less than 100, except for Tonkolili with 103 Calls.

1.4.3 Figure 4: Breakdown of Calls Complaint by District



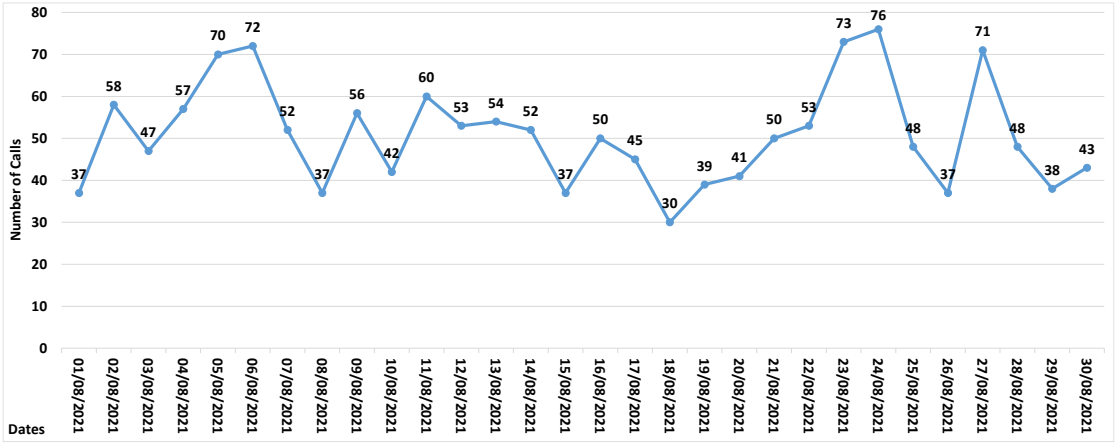
The chart **figure 4** provides an in-depth understanding of the various complaints received by call center. It is obvious from the chart that every district recorded numbers of calls for obstetric and Paediatric complaints, with the exceptions of Karene district, and fewer district reported COVID19, road accident and violence.

1.4.4 Figure 5: Number of Calls per Hour



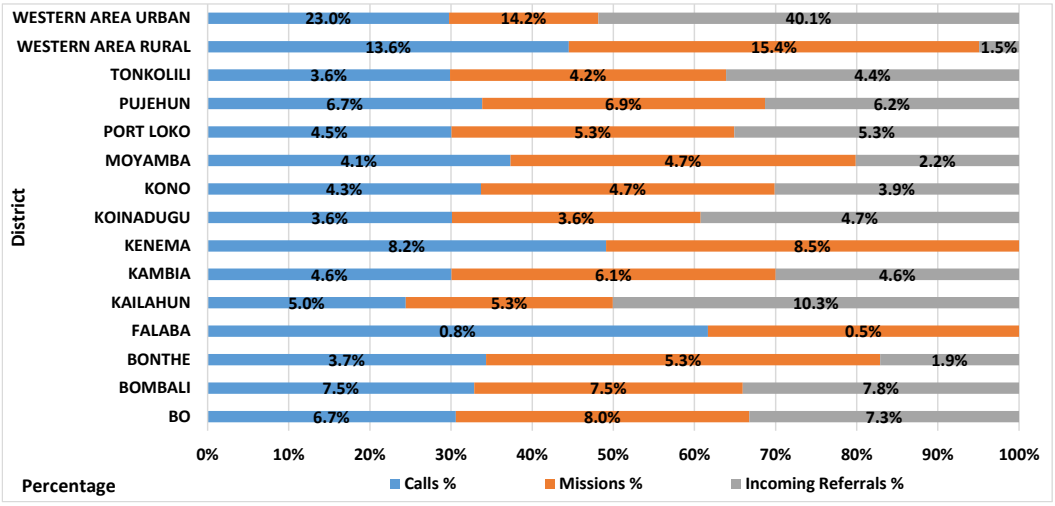
The diagram **figure 5** is a line graph that describes the number of calls received at NEMS operation center on an hourly based. The chart above showed that, there was a surge on the number of calls received during the day than those at mid-night.

1.4.5 Figure 6: Number of Calls per Day



The oscillating line chart above demonstrates the trend of incoming calls to the NEMS call centre, per day in the month of August 2021. The line graph showed that there has been an increment on the number of incoming Calls received. The least number of calls recorded on the 18th, while on the 24th, the call system recorded its apex on calls, with 76 calls received.

1.4.6 Figure 7: Calls, Missions, Referrals by District

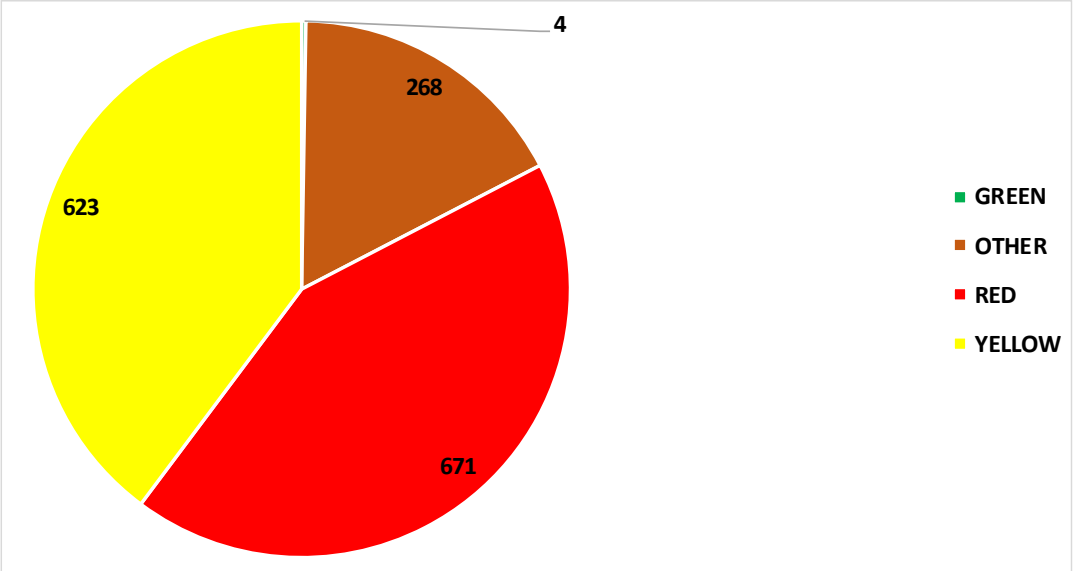


The bar chart above is demonstrating the percentage of Calls, Missions and Incoming Referrals supported by NEMS per district in the month of August 2021. From the diagram above, Western Area Urban accounted for 23% and 40.1%, which is the highest percentage of all the incoming Calls, and incoming referrals respectively. For Missions, Western Area Rural, stood out and reported 15.4% which is the highest percentage of the cases transported to the hospitals, while the data showed that it has the lowest percentage of incoming referrals.

Kenema and Lungi are both not included here for the Incoming Referrals only, which was due to the participation of the Kenema referral coordinators on the MOHs workers verification that took place at Bo while the RCs in Lungi experienced some issues with their computer.

2. Missions

2.1 Figure 8: Categories of NEMS Missions

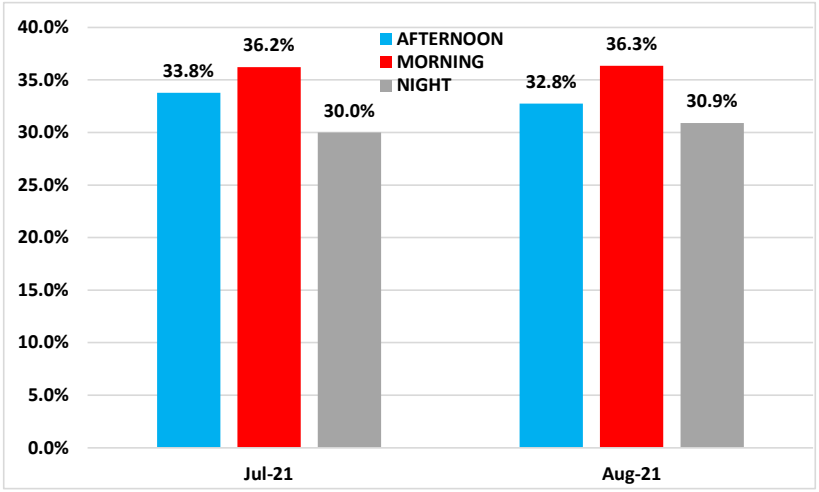


The chart **figure 8** provides an insight on how calls are categorized for a mission. The severity of the patient's condition has three major categories, with an additional color 'Other' (Red, Yellow and Green). A

patient assessment (Triage) is to determine the severity of the condition; separate the stable patient from the unstable ones and then prioritize available resources. NEMS utilizes the triage process to determine whether the patient's condition matches the threshold of an emergency and dispatch an ambulance. A NEMS mission can be activated, and an ambulance dispatched if the condition of the patient matches the severity criteria for Yellow or Red. The color code Green is ascribed when the patient's condition does not match the threshold to activate a mission and dispatch ambulance.

Out of the 1415 Missions undertaken in August, only 4 did not meet the requirement for emergency.

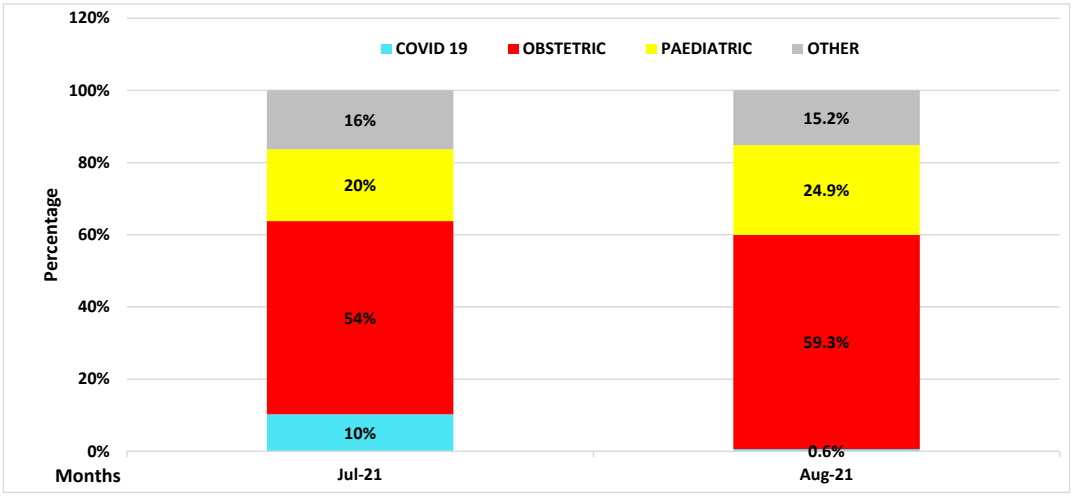
2.2 ***Figure 9****: Time of the day of the Missions*



The '**time of the day**' is a measure of the time of the call that consequently activates the NEMS mission. The diagram labelled **Figure 9** shows the percentage of missions undertaken in the morning (i.e., from 8 am to 2 pm is); afternoon (from 2 pm to 8 pm) and night (from 8 pm to 8 am) comparing the data for July with August 2021 as displays below:
It is obvious that a significant number () of the missions were undertaken in the morning hours, for the month of August, which almost has a similar percentage to that of July. There is a slight increment on the percentage of missions made at night and a slight drop on those in the afternoon, there has been a tremendous increment on the percentage of missions made at morning hours.
In contrast, the percentage of missions undertaken in July and August vividly shows that, there is 0.1% and 1% surge and fall on the morning and afternoon correspondingly, while there is 0.9% rise on night missions.

2.3 Complaints that lead to Missions

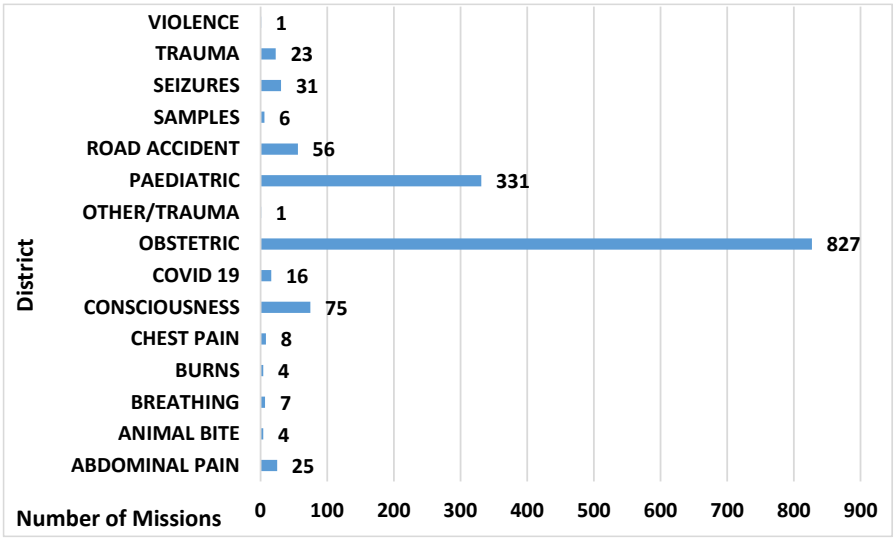
2.3.1 Figure 10: Comparative Analysis of NEMS Mission's complaints for the Previous month (May) to Current Month



The graph (Figure 10) represents the major category of complaints of the NEMS missions comparing July 2021 to **August** 2021 data. The data of COVID-19 missions include only confirmed.

The **August** 2021 data presented in this diagram shows that approximately 59% of NEMS missions are associated with **obstetric** complaints compared to July 2021 with 54%, indicating 5.3% rise in obstetric complaints in **August** 2021. When we compared the represented data, **paediatric complaints** accounted for about **24.9% in August 2021 compared to July with 20%**. The percentage of missions for complaints associated with COVID-19 illustrated a decline of 9.4% to that of the previous month. It is seen that, roughly 15.2% of the complaints are grouped and classified as 'others', which is a fall to that of the month before.

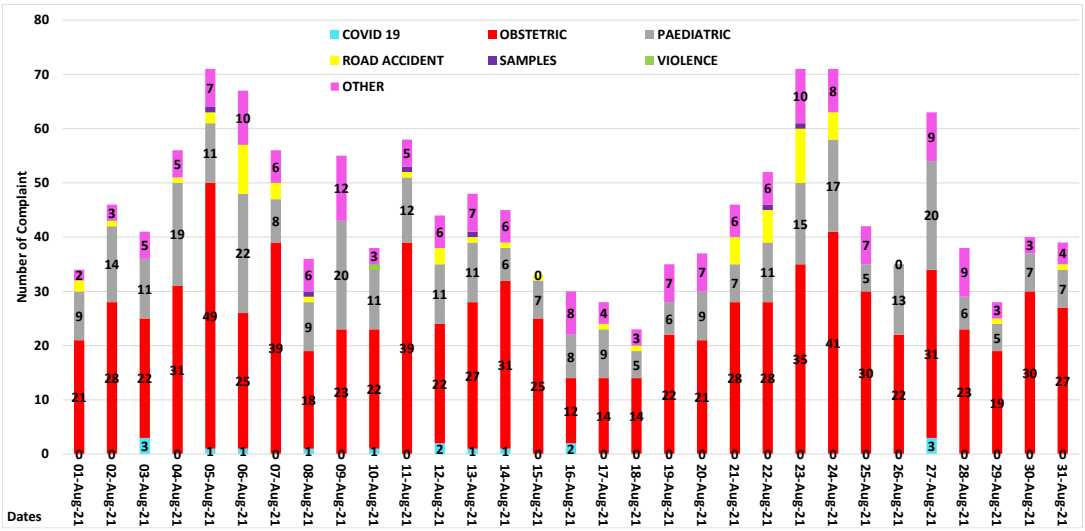
2.3.2 Figure 11: Typology of complaints that lead to Missions



The chart **figure 11** above provides a detailed breakdown of the number of complaints received and considered as missions. It is evidently clear that obstetric complaint was the most occurring indicator,

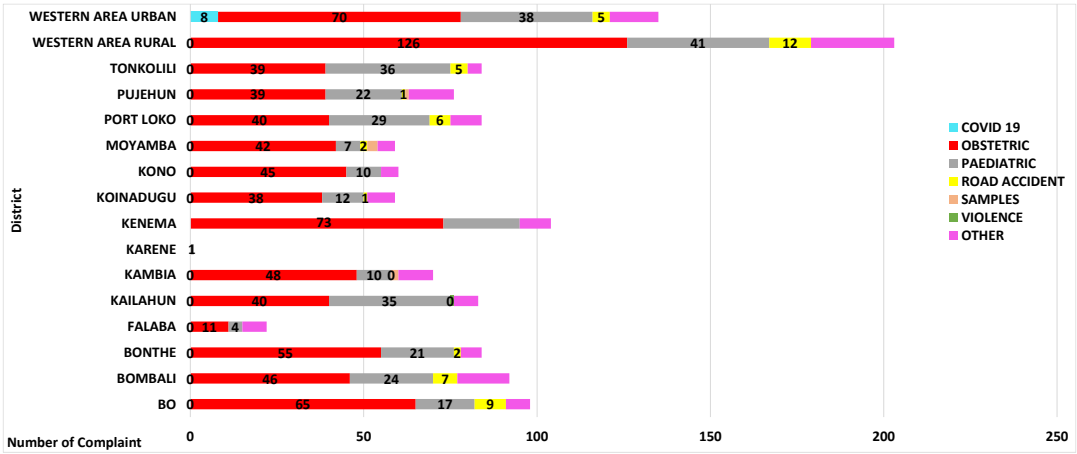
seconded by Paediatric, while violence and other trauma remain to be the least complaints received for the month under review.

2.3.2 Figure 12: Showing Trend of Missions complaints by day



The data displayed in the stacked column chart labelled **figure 12** above gives a further breakdown on the number of complaints per day and the trend at which complaints that lead to missions are reported for the month of **August** 2021. The chart showed a positive increase on the number of complaints for each day, with a sharp dropped on the 8th, 18th and 29th. As displayed on the diagram above, Obstetric and Paediatric cases appear to be the most registered complaints in the month of **August** 2021. The number of COVID 19 complaint in **August** is under control as to the previous month. Road Accident occurred on most of the days in the month **August**. A few numbers of violence complaints were received for the month under review.

2.3.3 Figure 13: Missions Complaints by District



The chart above is a supplementary analysis on complaints with an in-depth description for the various categories of complaints **by district for the month of August 2021**. This figure does not only justified figure 3, but also that of figure 10. As western Area Rural reported the highest number of missions, so it records a massive number of obstetric complaints, which alone crossed over most of the other district indicators.

Figure 14: **Number of Calls, Missions and Referrals Supported per Day**

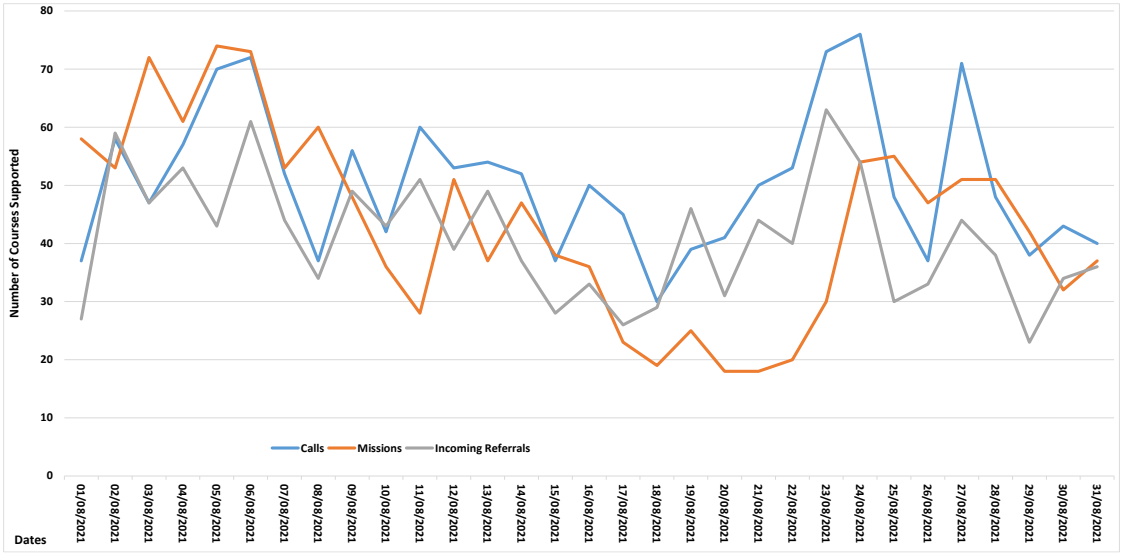


Figure 14 shows the number of Calls received, missions carried out, and referrals managed per day by NEMS for August 2021. Throughout August 2021, the indicators fluctuated. The average call was 51, Missions is 43 and referrals 41 for the month under review.

2.4 Figure 15: Outcome of the Missions

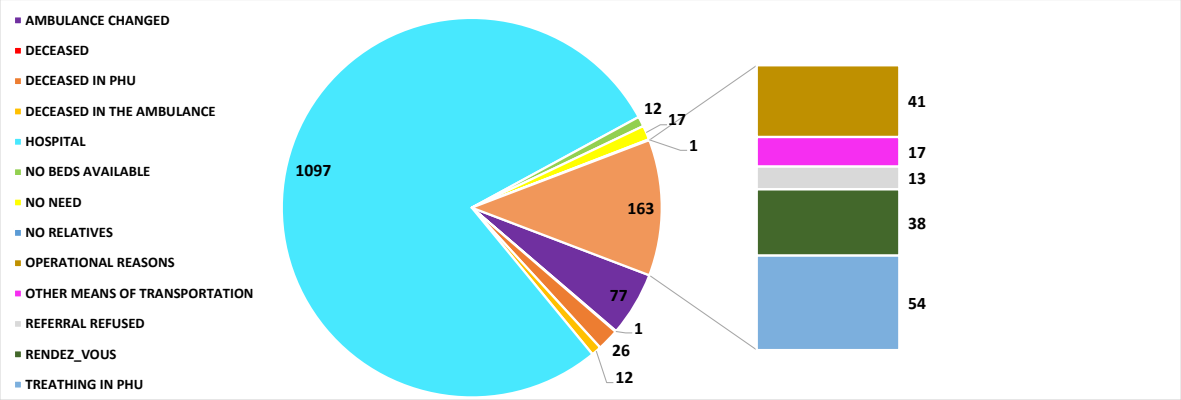


Figure 15 shows the outcome of missions carried out by NEMS in August 2021.

'**Hospital**' refers to missions leading to referral to a pre-identified health facility (Hospital). Referencing the August 2021 data displayed in the pie chart above shows that (1,097) 77.5% of the missions led to referral to a pre-identified specialist health facility compared to the July 2021 figure that showed that 76% of the missions referred to a pre-identified specialist health facility. This indicates an increase in the referrals figure for August 2021 compared to July 2021. This is further simplified by table labelled ***Table 4.***

2.4.1 Table 4: Displays Missions Outcome and the Reasons why missions are aborted

INDICATORS	ABORTED	DECEASED	DECEASED IN THE AMBULANCE	HOSPITAL	RENDEZ_VOUS	TOTAL/REASON
AMBULANCE CHANGED	77	0	0	0	0	77
DECEASED	0	1	0	0	0	1
DECEASED IN PHU	0	26	0	0	0	26
DECEASED IN THE AMBULANCE	0	11	1	0	0	12
HOSPITAL	0	0	0	1097	0	1097
NO BEDS AVAILABLE	12	0	0	0	0	12
NO NEED	17	0	0	0	0	17
NO RELATIVES	1	0	0	0	0	1
OPERATIONAL REASONS	41	0	0	0	0	41
OTHER MEANS OF TRANSPORTATION	17	0	0	0	0	17
REFERRAL REFUSED	13	0	0	0	0	13
RENDEZ_VOUS	0	0	0	0	38	38
TREATHING IN PHU	54	0	0	0	0	54
TOTAL	178	38	1	1097	38	1352

Table 4 above serves as a supplementary analysis to the pie chart above showing the outcomes of missions for the month under review.

'**Aborted**', The August 2021 data showed that out of the 1,415 missions undertaken, 178 (12.6%) of those missions were cancelled before or after the arrival of the NEMS ambulance team at the Peripheral Health Unit. For a mission to be cancelled, there are diverse reasons, and these could be any of the following:

- **'Ambulance Changed'** - the data for August 2021 revealed that out of 178 missions aborted, 77 (43.3%) of the aborted missions in August 2021 were due to 'ambulance changed',
- **'Deceased'** – this mission outcome refers to death before the arrival of the NEMS ambulance team. August 2021 data showed that (38) of the mission were cancelled because of the patient died. Out of the 38 missions cancelled, 26 of those aborted mission occurred because the patients passed away in the PHU and 11 of the missions were aborted because the patients passed away in the ambulances and 1 died while the ambulance was heading to the PHU.
- **'Operational reasons'** - this type of mission outcome has a strongly correlation with the ambulance technical problems. The table above shows that 41 (23%) of the aborted missions occurred because of technical problems with the ambulances in the month of August 2021 compared with July with 31% of aborted missions relating to 'operational reasons'
- **'Other Means of transportation'** – refers to a situation where the patients or families decided to employ other medium of transportation after requesting for an ambulance. The August 2021 data showed that 17 (9.6%) of the aborted missions occurred because the patients used other means of transportation
- **'Treated at the PHUs'** refers to a situation where either the PHU personnel or the ambulance team managed the emergency at the PHU level, with 54 (30%).
- **'Referral refused'** the table above shows that out of 178 missions aborted, 13 (7%) was due to the patients or family members refusal to use the ambulance dispatched by NEMS,
- **'Other reasons'** includes 'no-need' of the ambulance (17), 'no beds available at the referral hospitals' (12).

- '**Rendezvous**' has been used to describe situations that may require more than one ambulance to complete a mission. The NEMS data for August 2021 shows that '**Rendezvous**' was use to accomplish 38 (2.7%) mission out of 1415 mission outcomes compared to July 2021 that was (1.4%).

3. National Hospital Bed capacity

3.1 Table 5: Bed Capacity and Average Percentage Bed Occupancy by Facility

Facility	Adult Bed Capacity	% Average Bed Occupancy per Month	Maternity Bed Capacity	% Average Bed Occupancy per Month	Peadiatric Bed Capacity	% Average Bed Occupancy per Month
Bo Government Hospital	139	43	54	62	95	55
Makeni Government Hospital	94	62	27	55	62	38
Mattru UBC Hospital	36	43	12	87	17	73
Connaught Government Hospital	167	81	0		24	73
Kailahun Government Hospital	38	43	37	59	42	61
Kambia Government Hospital	44	24	21	61	31	63
Kenema Government Hospital	118	53	41	58	96	34
Kabala Government Hospital	49	36	37	48	55	38
Koidu Government Hospital	75	82	40	78	56	119
Lungi Government Hospital	40	34	20	37	20	66
Moyamba Government Hospital	48	33	24	80	39	69
Ola During Children Hospital	0		0		174	95
Princess Christian Maternity Hospital	0		115	90	18	
Port Loko Government Hospital	65	34	35	44	20	96
Pujehun Government Hospital	41	43	34	82	36	56
Tonkolilli Government Hospital	97	6	28	65	89	41
34M Military Hospital	82	112	22	50	40	53
King Harman Road Government Hospital	4	91	17	50	30	46
Rokupa Government Hospital	6	112	21	112	39	53
Lumley Government Hospital	12	31	10	33	4	65
Macauley Government Hospital	13	43	10	40	4	53
Emergency Memorial Hospital	47	46	0	0	20	147
Total National Bed Capacity	1215		605		1011	

The tabular representation labelled **table 5** above, provides further breakdown on the bed capacity and the percentage average for the different facilities.

From the tabular presentation, Connaught Hospital does not directly provide care to pregnant women with maternal related complaints and there is no specific department to handle pregnancy related complaints. Ola During Children's Hospital (ODCH), is a specialized children hospital providing care to only under-5 cases, while Princess Christian Maternity Hospital (PCMH), located adjacent ODCH with the purpose to support and address maternity related issues. The SCBU beds available at PCMH are not counted in determining the bed capacity of the facility, as they serve a different purpose from the others.

There are currently no referrals for admission to Macaulay Street and Lumley government hospitals because they are currently undergoing rehabilitation. However, there is a provision for consultation available only for emergency cases that can be further referred if that is required.

Emergency Memorial Hospital provides specialist care to patients requiring surgical care and cannot do so for maternity related complications.

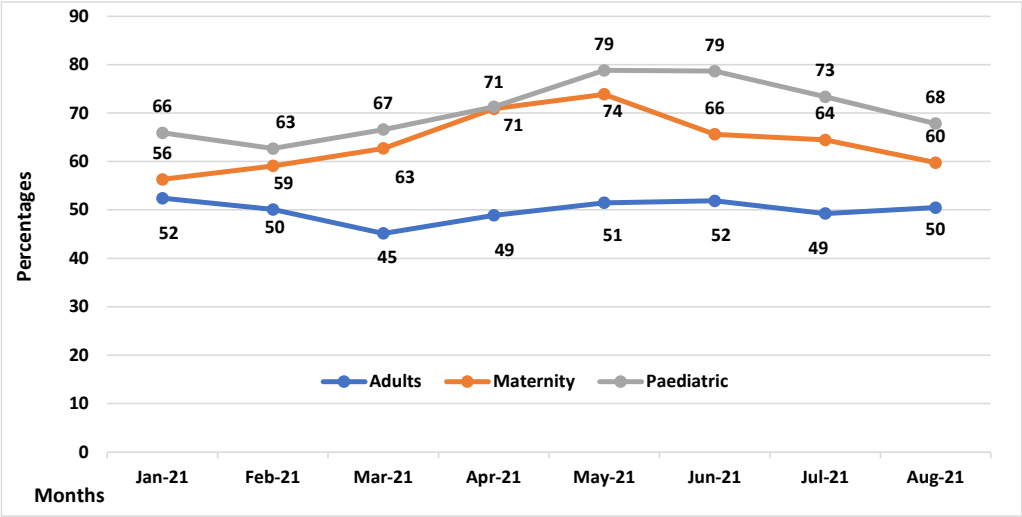
All other facility listed in the table above provide care and has space for the various department listed in the table.

Adult Occupancy: for the adult bed capacity, no facility reported overcrowding, while 34 Military Hospital and Rokupa Government Hospital recorded over 100% average occupancy for the month of August, while is overcrowding.

Maternity Occupancy: Rokupa Government Hospital reported 112% as average bed occupancy for the month of August, which means that the facility admitted patients more than its capacity. Princess Christian Maternity Hospital recorded 90% average bed occupancy, as that shows a potential overcrowding.

Paediatric Occupancy: Koidu Government Hospitals and Emergency Memorial Hospital reported overcrowding for the month of August, as the averages for the month are 119% and 147% respectively, while Port Loko Government Hospital has 96% capacity for the month under review.

Figure 15: **National Percentage Bed Occupancy by Department**



The diagram **figure 15** above provides an average percentage bed occupancy by month. Health facilities have various subsectors that are merged to form the major listed departments on the line chart. Since the commencements 2021, the average bed occupancy has been below 80% for the different departments and all the various health facilities Referral Coordinators are attached with a slight drop to 68% for the month of August.

4.NEMS National Referrals

4.1 Table 7: **Number of Incoming and Outgoing Referred patients**

Facility	Total Referrals	Incoming	Outgoing	Incoming-repeat	Outgoing-repeat	NEMS
National	**1268**	**1155**	**113**	**0**	**0**	**864**
34M	44	31	13	0	0	7
Bo	86	83	3	0	0	86
Bombali	86	82	4	0	0	76
Bonthe	48	47	1	0	0	47
Connaught	66	64	2	0	0	53
Emergency	37	8	29	0	0	29
Kailahun	122	117	5	0	0	50
Kambia	52	52	0	0	0	51
Kenema	0	0	0	0	0	0
King Harman Road	13	8	5	0	0	3
Koinadugu	65	54	11	0	0	57
Kono	46	44	2	0	0	44
Lumley	16	6	10	0	0	0
Lungi	0	0	0	0	0	0
Macauley Street	15	6	9	0	0	1
Moyamba	26	25	1	0	0	25
ODCH	161	152	9	0	0	31
PCMH	160	157	3	0	0	122
Port Loko	62	60	2	0	0	41
Pujehun	71	70	1	0	0	57
Rokupa	39	39	0	0	0	39
Tonkolili	53	50	3	0	0	45
Total	**1268**	**1155**	**113**	**0**	**0**	**864**

From the diagram labelled **table 7** above, a total of 1,268 referrals were supported by NEMS. In that number 1,155 were classified as incoming referrals, while 113 represented the total outgoing referred patients supported. In August 2021, Princess Christian Maternity Hospital recorded the highest number of incoming referred patients, while Macauley street reported the least. It is essential to note that this report does not include Kenema and Lungi for the total number of referrals supported in August.

4.3 Table 8: The Outcome of the Number of Incoming Referred Patients by Districts

Facility	Admission ongoing	Death	Death on arrival	Discharge against medical advice	Discharge	Onward referral	Patient did not arrive	Rejected referral	Unable to admit	Death in Ambulance	Total
National	**431**	**43**	**2**	**21**	**642**	**6**	**5**	**0**	**3**	**1**	**1154**
34M	31	0	0	0	0	0	0	0	0	0	**31**
Bo	2	1	0	1	76	2	1	0	0	0	**83**
Bombali	21	5	0	0	52	0	1	0	2	1	**82**
Bonthe	13	2	0	1	30	0	1	0	0	0	**47**
Connaught	9	6	0	0	49	0	0	0	0	0	**64**
Emergency	7	1	0	0	0	0	0	0	0	0	**8**
Kailahun	25	3	0	3	85	1	0	0	0	0	**117**
Kambia	1	2	0	4	42	1	1	0	1	0	**52**
Kenema	0	0	0	0	0	0	0	0	0	0	**0**
King Harman Road	0	2	0	0	6	0	0	0	0	0	**8**
Koinadugu	16	1	1	1	33	0	1	0	0	0	**53**
Kono	16	0	0	0	28	0	0	0	0	0	**44**
Lumley	1	0	0	0	4	1	0	0	0	0	**6**
Lungi	0	0	0	0	0	0	0	0	0	0	**0**
Macauley Street	1	0	0	0	5	0	0	0	0	0	**6**
Moyamba	4	1	0	0	20	0	0	0	0	0	**25**
ODCH	97	3	1	2	49	0	0	0	0	0	**152**
PCMH	154	0	0	0	3	0	0	0	0	0	**157**
Port Loko	3	10	0	8	39	0	0	0	0	0	**60**
Pujehun	30	5	0	1	33	1	0	0	0	0	**70**
Rokupa	0	1	0	0	38	0	0	0	0	0	**39**
Tonkolili	0	0	0	0	50	0	0	0	0	0	**50**
Grand Total	**431**	**43**	**2**	**21**	**642**	**6**	**5**	**0**	**3**	**1**	**1154**

The outcomes of incoming referrals to the various health facilities nationwide are presented in the tabular diagram labelled **Table 8** for the month under review. A significant portion of the referred patients were discharged (642), while out of the 1,154 patients, 43 of those were reported dead. 431 of the total patients were reported to still be in the various facilities receiving care.

Table 9: **Number of Incoming Hospital Referrals supported by Category**

Facility	Total Referrals	Lactating	Non-FHCI	Pregnant	Under 5	EVD Survivor	Yes - other
National	1155	27	195	539	388	0	6
34M	31	0	29	1	0	0	1
Bo	83	0	12	59	12	0	0
Bombali	82	0	16	33	31	0	2
Bonthe	47	0	6	30	11	0	0
Connaught	64	2	51	0	11	0	0
Emergency	8	0	6	0	2	0	0
Kailahun	117	5	16	51	45	0	0
Kambia	52	1	6	35	10	0	0
Kenema	0	0	0	0	0	0	0
King Harman Road	8	0	0	1	7	0	0
Koinadugu	54	0	9	31	14	0	0
Kono	44	3	4	28	7	0	2
Lumley	6	0	0	6	0	0	0
Lungi	0	0	0	0	0	0	0
Macauley Street	6	0	0	0	5	0	1
Moyamba	25	0	2	20	3	0	0
ODCH	152	0	18	0	134	0	0
PCMH	157	12	0	145	0	0	0
Port Loko	60	2	8	26	24	0	0
Pujehun	70	2	8	28	32	0	0
Rokupa	39	0	2	26	11	0	0
Tonkolili	50	0	2	19	29	0	0
Total	1155	27	195	539	388	0	6

Table 9 above explains the categories of incoming referred patients at the various health facilities nationwide for the month of August 2021. From the table above, 34 Military hospital, Makeni government hospital, Koidu government hospital, and Macauley Street Government Hospitals received 1 patient outside of the free health care group (pregnant women, lactating mothers, under 5 and EVD survivors). Every facility reported cases related to maternity or pediatric cases, with the exception of Connaught, Emergency, ODCH and Macualey. In the month of August 2021, there were no records of EVD survivor.

Table 10: Referral by Health Facilities (Hospitals)

REFERRAL HOSPITAL	Jun-21	Jul-21	Aug-21
Tertiary Facility Total	**18.6%**	**34.6%**	**20.2%**
Connaught Hospital	5.5%	8.6%	5.4%
Ola During Children's Hospital	1.6%	7.2%	2.9%
Princess Christian Maternity Hospital	11.6%	18.8%	12.0%
Regional and District Hospital Total	**54.8%**	**42.8%**	**61.2%**
Bo Government Hospital	7.0%	4.6%	7.1%
Bonthe Government Hospital	0.8%	0.7%	0.9%
Kabala Government Hospital	3.2%	4.0%	4.9%
Kailahun Government Hospital	2.7%	3.4%	4.3%
Kambia Government Hospital	4.4%	4.2%	4.2%
Kenema Government Hospital	9.4%	5.0%	8.3%
Koidu Government Hospital	4.4%	2.6%	4.7%
Lungi Government Hospital	0.6%	0.8%	2.1%
Magburaka Government Hospital	2.8%	2.7%	5.4%
Makeni Government Hospital	5.0%	3.7%	6.4%
Moyamba Government Hospital	2.6%	1.7%	2.9%
Port Loko Government Hospital	3.2%	4.1%	4.0%
Pujehun Government Hospital	7.6%	4.4%	5.3%
Segbwema Government Hospital	1.2%	1.0%	0.7%
Other Government Facility	**1.2%**	**10.0%**	**6.8%**
Kingharman Road Government Hospital	0.1%	0.9%	0.7%
Other Government facilities (i.e.Macauley)	-	0.4%	0.1%
Rokupa Government Hospital	1.1%	4.9%	5.5%
34 MILITARY HOSPITAL	-	3.6%	0.4%
JUI HOSPITAL		0.1%	-
Private/NGO facility Total	**26.0%**	**12.3%**	**6.7%**
Emergency	1.0%	0.4%	0.9%
Kamakwie	1.5%	1.0%	0.3%
Masanga	1.2%	0.1%	0.4%
Mattru UBC Hospital	2.2%	1.8%	3.7%
MSF Hospital – Kenema	-	0.4%	0.6%
ABERDEEN WOMEN'S CENTER	2.1%	0.4%	0.2%
SERABU	0.3%	0.1%	-
LIFE CARE HOSPITAL	0.6%	0.1%	0.2%
MARCY SHIP	2.1%	2.1%	-
YELE	0.6%	0.6%	-
ASPEN	-	0.1%	-
REGENT HOSPITAL	-	0.1%	-
SHUMAN HOSPITAL	-	-	0.1%
NIXSON MEOMORIAL	-	-	0.1%
CHOITHRAM MEMORIAL HOSPITAL	-	-	0.1%
KORTUMAHUN RIVER	-	-	0.1%
LUNGI AIR PORT	-	-	0.1%
COVID-19 CTC/CCC/ISOLATION	**13.4%**	**5.1%**	**1.2%**
RENDEZ_VOUS	**-**	**-**	**3.8%**

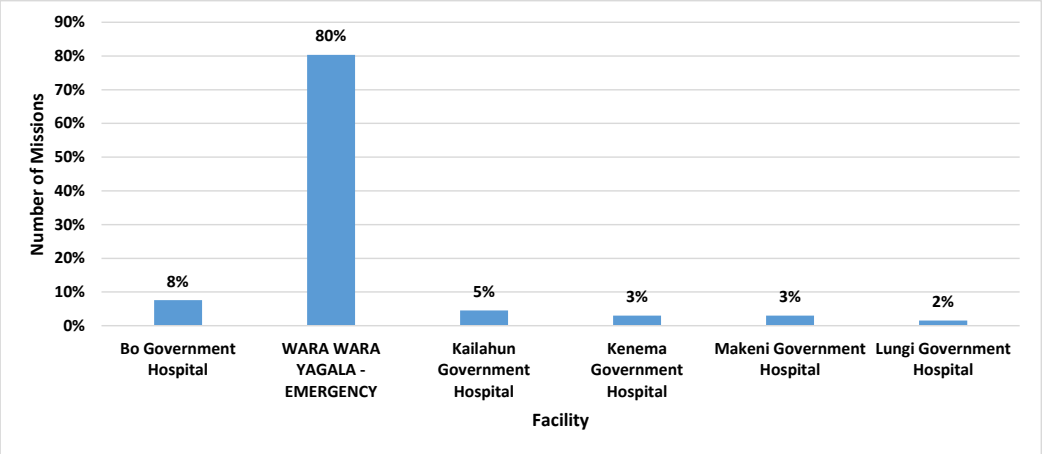
Table 10 shows the percentages of NEMS general monthly referrals to the main hospitals for the month of August 2021. The tabular diagram compares the data between June, July and August 2021. You can see that for the month under review, The tertiary facilities account for as the least recipient of referrals (20.2%) as follows: **Connaught Hospital (5.4%), Princess Christian Maternity hospital (PCMH) (12%), and Ola During Children's Hospital (ODCH) (2.9%)** compared to July 2021 with a total receipt of 34.6% for tertiary institutions. This indicated 14.4% reduction in the August referrals data than July data.

For the month under review, the **Regional and District Hospitals** received 61.2% of all referrals compared to July 2021 with 42.8% of the referrals. This indicates a significant drop by 18.4% in the percentage of patients referred to the **Regional and District Hospitals**.

Furthermore, the table above displays the percentage of patients referred to **COVID-19 Treatment Centers and Isolation Units,** with a fall on the percentage of confirmed cases in August 2021 that changed 5.1% in the previous months to 1.2% in August. It is intriguing to see that Rendezvous is 3.8% for August.

56. Inter-hospitals Referrals

Figure 16: Showing Destination Hospitals for Inter-Hospital Referrals



It is visible that, Goderich Emergency reported the highest number of inter-hospital referrals with 53, while 5 of the total inter-hospital referrals were from Bo Government Hospital.

You will observe from the representation in Figure 16 that, Goderich Emergency, are the facilities receiving the highest percentages of inter-hospital referrals, with a percentage score of 80%. The facility with the least reported cases of inter-hospital referrals is from Lungi Government Hospital, with 2%.

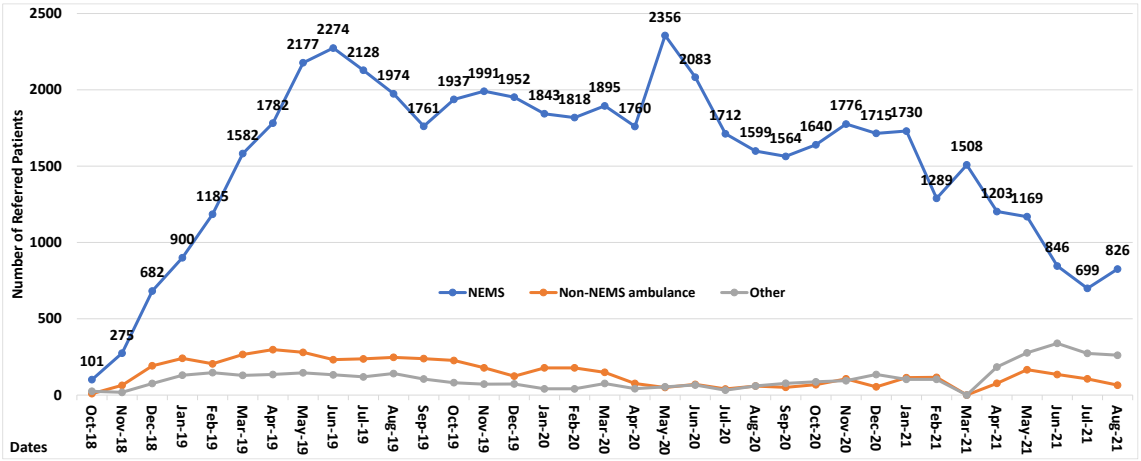
Table 11: **Number of Inter – Hospital and Inter-District Missions and Referrals**

NTERHOSPITAL REFERRALS	MISSIONS	REFERRALS
Bo Government Hospital	5	3
WARA WARA YAGALA - EMERGENCY	53	31
Kailahun Government Hospital	3	5
Kenema Government Hospital	2	1
Makeni Government Hospital	2	2
Lungi Government Hospital	1	3
INTER-DISTRICT REFERRALS (TOTAL)	66	45
Fourabay	2	1
34 Military Hospital	3	5
Kingharman Road Government Hospital	7	1
Ola During Children's Hospital	4	12
Macauley Government Hospital	4	9
Lumley Government Hospital	4	1
Goderich Emergency	3	2
Rokupa Government Hospital	10	1
Sarabu	6	3
SEGBWEMA	1	1
Masanga	2	2
Panguma Towm	1	1
SERLA LIMBA CHIEFDOM	3	2
Princess Christian Maternity Hospital	4	3
WITHIN THE SAME DISTRICT (TOTAL)	54	44
Grand Total	120	89

The tabular diagram labeled **table 11** above, illustrates the number of inter-hospital missions and referrals covered by NEMS in the month of August 2021. A total of 66 mission to that 45 referrals reported for inter-hospital, while 54 and 44 for missions and referrals for inter-district movements supported by NEMS.

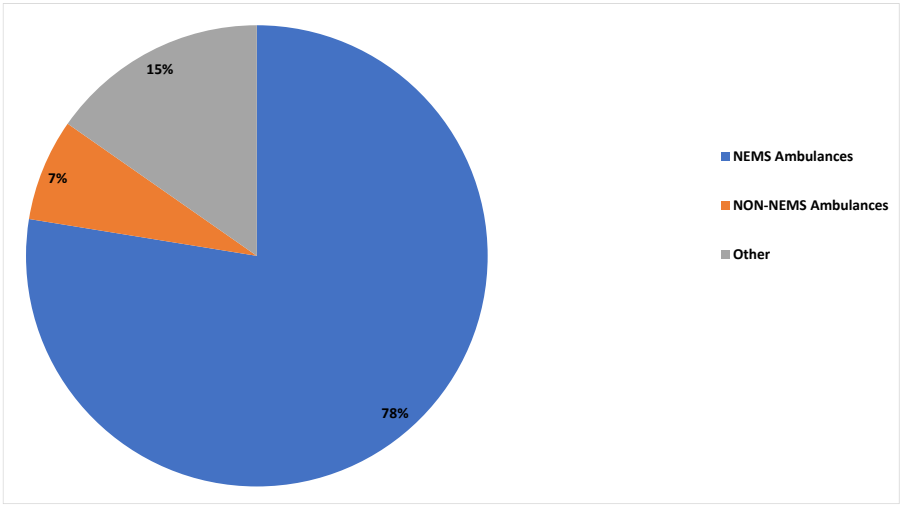
7. Arrival Methods

Figure 17: **Number of Referred Patients by Arrival Methods**



The graph labelled **figure 17** provides a detailed analysis on patients' arrival at the various hospital where referral coordinators are attached. The data for August 2021 demonstrates that major or most common means of arrival at hospital is through the utilization of NEMS' ambulances since the inception of this programme in Sierra Leone's health sector.

Figure 18: Arrival Methods at the Hospital of the Referrals



The pie chart labelled **figure 18** above, exemplifies the methods of arrival at the various health facilities nationwide for the month of August 2021. 78% of the total number of referred cases received by the respective hospitals was transported by NEMS ambulance, while a combined total of 22% of the total number of referred cases used other means of transportation as displayed on the pie chart above.

Table 12: ***Arrival Methods of the Referrals by Hospital***

REFERRAL FACILITIES	NEMS Ambulances	NON-NEMS Ambulances	Other
Tertiary Facility	**49%**	**19%**	**32%**
34 Military Hospital	**23%**	**45%**	**32%**
Connaught Hospital	**83%**	**17%**	**0%**
Kingharman Road Govt. Hospital	**38%**	**63%**	**0%**
Lumley Govt. Hospital	**0%**	**0%**	**100%**
Ola During Children's Hospital	**20%**	**5%**	**74%**
Princess Christian Maternity Hospital	**78%**	**3%**	**19%**
Rokupa Govt. Hospital	**100%**	**0%**	**0%**
Private/NGO facility Total	**98%**	**0%**	**2%**
Matru UBC Hospital	**98%**	**0%**	**2%**
Regional/District Hospital	**86%**	**2%**	**11%**
Kabala Govt. Hospital	**93%**	**2%**	**6%**
Bo Govt. Hospital	**100%**	**0%**	**0%**
Kailahun Govt. Hospital	**43%**	**5%**	**52%**
Kambia Govt. Hospital	**98%**	**0%**	**2%**
Kenema Govt. Hospital	-	-	-
Koidu Govt. Hospital	**100%**	**0%**	**0%**
Lungi Govt. Hospital	-	-	-
Magburaka Govt. Hospital	**90%**	**10%**	**0%**
Makeni Govt. Hospital	**89%**	**7%**	**4%**
Moyamba Govt. Hospital	**100%**	**0%**	**0%**
Port Loko Govt. Hospital	**68%**	**0%**	**32%**
Pujehun Govt. Hospital	**80%**	**0%**	**20%**
Grand Total	**78%**	**7%**	**15%**

The tabular representation labelled **table 12** provides a further breakdown on patients' arrival at secondary and tertiary hospital nationwide for the month of **August** 2021. For tertiary hospital, there has been a drop on the percentage of NEMS arrival method, with Rokupa Government Hospital appears to be the only tertiary hospital in Western Area to register 100% NEMS arrival method, while most others recorded less than 80% with the exception of Connaught Hospital, which has 83%. Kabala, Kambia and Magburaka are the secondary hospitals that showed more than 90% NEMS, while Bo, Koidu and Moyamba reported 100% as NEMS arrival method. Overall, the major means of transporting emergency cases from peripheral health units nationwide is through NEMS. Mattru UBC Hospital has 98% NEMS arrival.

8. Time Analysis

Table 13: Time Taken to Triage

Time Taken to Triage	BO	BOMBALI	BONTHE	FALABA	KAILAHUN	KAMBIA	KARENE	KENEMA	KOINADUGU	KONO	MOYAMBA	PORT LOKO	PUJEHUN	TONKOLILI	WESTERN AREA RURAL	WESTERN AREA URBAN	Grand Total	Percentage
00:00:00 to 00:05:00	40	39	19	5	32	17	0	37	18	24	19	40	28	40	0	0	358	32.7%
00:05:01 to 00:10:00	40	45	19	8	41	31	0	64	20	28	20	29	30	32	0	0	407	37.1%
00:10:01 to 00:15:00	17	8	9	4	14	9	0	11	3	13	5	10	8	12	0	0	123	11.2%
00:15:01 to 00:20:00	8	6	1	4	4	4	0	2	4	1	2	5	7	3	0	0	51	4.7%
00:20:00 to 00:30:59	5	1	10	2	3	4	0	5	2	2	2	6	7	4	0	0	53	4.8%
00:31:00 to 01:59:59	1	10	14	6	4	3	0	5	2	7	8	3	7	7	0	0	77	7.0%
02:00:00 to 02:59:59	0	2	4	0	1	0	0	1	0	3	0	1	2	1	0	0	15	1.4%
03:00:00 to 03:59:59	1	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	5	0.5%
04:00:00 to 04:59:59	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2	0.2%
05:00:00 to 05:59:59	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
06:00:00 to 06:59:59	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0.2%
07:00:00 to 07:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
08:00:00 to 08:59:59	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1%
09:00:00 to 09:59:59	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1%
10:00:00 to 10:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
11:00:00 to 11:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
12:00:00 to 12:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
13:00:00 to 13:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
14:00:00 to 14:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
15:00:00 to 15:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
16:00:00 to 16:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
17:00:00 to 17:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
18:00:00 to 18:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
19:00:00 to 19:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
20:00:00 to 20:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
21:00:00 to 21:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
22:00:00 to 22:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
23:00:00 to 23:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
	113	111	77	30	100	68	0	126	51	78	57	96	90	99	0	0	1096	14.3%

The table above delineates the time taken by Call Centre to triage a patient when a call is received. It is significant essential to see that a cumulative total of 81% of the calls received by Call Centre takes less than 15 minutes to triage as displayed on the table above. The calls data shows that 9.5% of the total calls received took more than 30-minute, which could be due to inevitable challenges in the allocation of an ambulance to undertake a specific mission.

Table 13: Time Taken to Reach the Target

Time Taken to Reach the Target	BO	BOMBALI	BONTHE	FALABA	KAILAHUN	KAMBIA	KARENE	KENEMA	KOINADUGU	KONO	MOYAMBA	PORT LOKO	PUJEHUN	TONKOLILI	WESTERN AREA RURAL	WESTERN AREA URBAN	Grand Total	Percentage
00:00:00 to 00:30:59	41	42	42	7	34	33	0	36	20	29	25	32	36	41	145	108	671	58.0%
00:31:00 to 01:59:59	36	32	28	3	31	21	0	42	13	19	16	40	29	26	44	12	392	33.9%
02:00:00 to 02:59:59	4	1	4	5	3	2	1	3	5	5	5	2	2	3	0	0	45	3.9%
03:00:00 to 03:59:59	3	1	1	1	2	0	0	6	5	0	2	1	1	4	0	0	27	2.3%
04:00:00 to 04:59:59	0	1	2	2	0	0	2	0	1	0	1	1	1	1	0	1	13	1.1%
05:00:00 to 05:59:59	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	3	0.3%
06:00:00 to 06:59:59	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	0.3%
07:00:00 to 07:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
08:00:00 to 08:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
09:00:00 to 09:59:59	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.1%
10:00:00 to 10:59:59	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
11:00:00 to 11:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
12:00:00 to 12:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
13:00:00 to 13:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
14:00:00 to 14:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
15:00:00 to 15:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
16:00:00 to 16:59:59	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
17:00:00 to 17:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
18:00:00 to 18:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
19:00:00 to 19:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
20:00:00 to 20:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
21:00:00 to 21:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
22:00:00 to 22:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
23:00:00 to 23:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
	84	78	78	19	71	56	3	87	47	54	50	76	69	75	189	121	1157	100.0%

When a decision is made to allocate an ambulance for a specific mission, the time taken by the ambulance team to reach the targeted Peripheral Health Unit (PHU) or a health facility is shown in the table above. 95.8% of the total missions supported by NEMS took less than 2-hour to get to the particular health facility that requested for an ambulance, while 4.2% took more that 2-hour to locate the health unit.

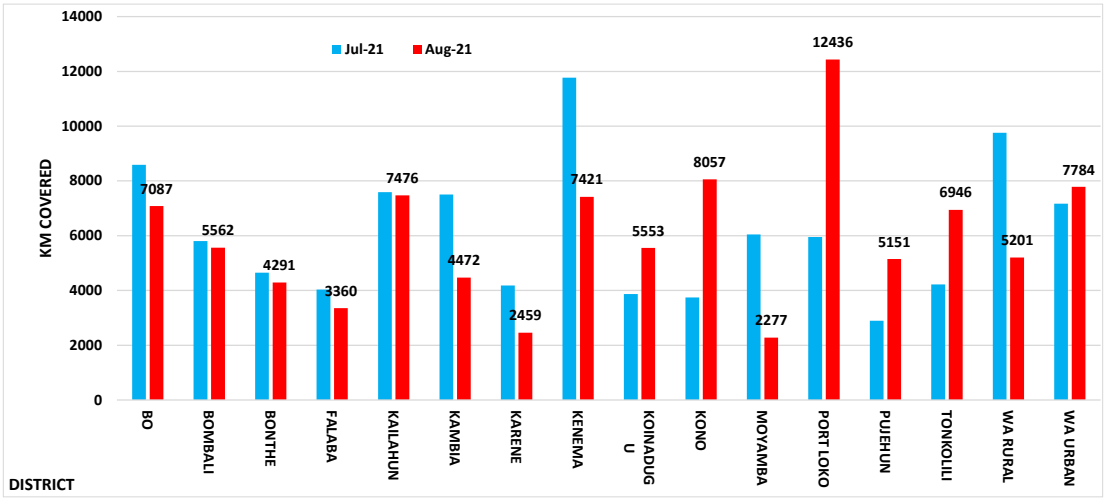
Table 14: Time Taken to Reach the Hospital

Time Taken to Reach the Hospital	BO	BOMBALI	BONTHE	FALABA	KAILAHUN	KAMBIA	KARENE	KENEMA	KOINADUGU	KONO	MOYAMBA	PORT LOKO	PUJEHUN	TONKOLILI	WESTERN AREA RURAL	WESTERN AREA URBAN	Grand Total	Percentage
00:00:00 to 00:30:59	40	49	36	11	29	35	0	40	17	30	23	31	29	30	81	66	547	43.8%
00:31:00 to 01:59:59	37	35	34	4	41	25	0	50	20	17	28	43	37	30	109	58	568	45.5%
02:00:00 to 02:59:59	13	1	9	2	3	3	0	5	4	8	4	3	6	10	6	3	80	6.4%
03:00:00 to 03:59:59	2	0	2	0	2	2	0	1	6	3	2	1	1	7	1	0	30	2.4%
04:00:00 to 04:59:59	0	0	0	1	0	0	0	1	4	0	0	0	1	0	0	0	7	0.6%
05:00:00 to 05:59:59	0	0	0	1	0	0	0	1	4	0	0	0	0	2	0	1	9	0.7%
06:00:00 to 06:59:59	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0.2%
07:00:00 to 07:59:59	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
08:00:00 to 08:59:59	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0.2%
09:00:00 to 09:59:59	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.1%
10:00:00 to 10:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
11:00:00 to 11:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
12:00:00 to 12:59:59	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
13:00:00 to 13:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
14:00:00 to 14:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
15:00:00 to 15:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
16:00:00 to 16:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
17:00:00 to 17:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
18:00:00 to 18:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
19:00:00 to 19:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
20:00:00 to 20:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
21:00:00 to 21:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
22:00:00 to 22:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
23:00:00 to 23:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
	92	86	81	20	77	66	0	98	56	59	57	78	74	79	197	128	1248	100.0%

After locating the health unit that requested for an ambulance, the ambulance team then travelled with the patients to a specific health facility that has the required health services needed by the patients. The table above this narrative provides an in-depth analysis on the time taken to reach secondary or tertiary health facility. It is visible that 89.3% of the total number of missions supported by NEMS took less than 2-hour to reach their various health facilities.

8. Missions by Ambulances

Figure 19: Km Travelled by District



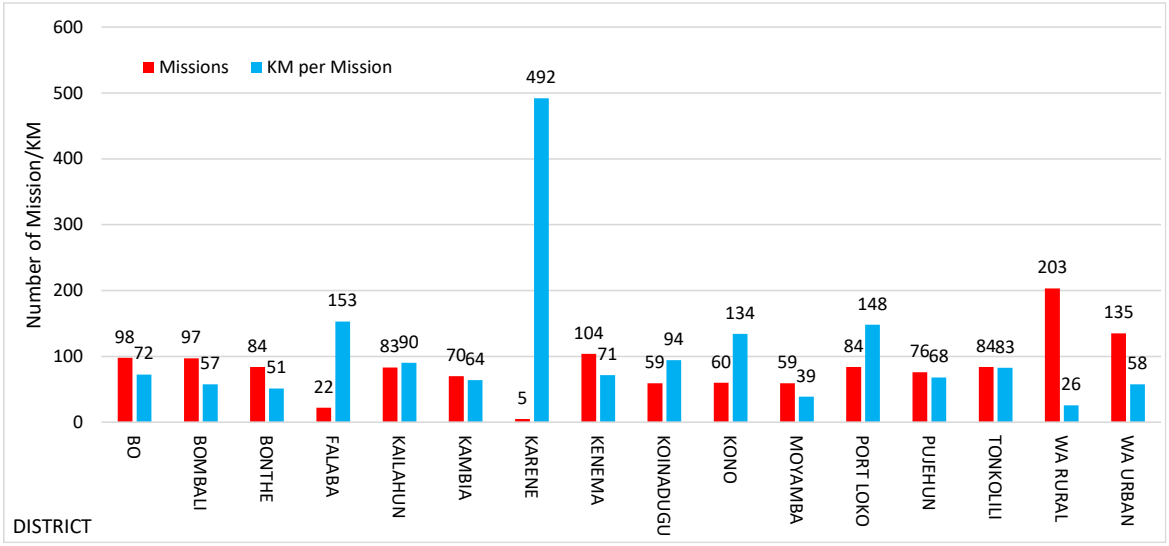
The District Ambulance Supervisors (DAS) Monthly Kilometre Reports showed that, In August 2021 data, a cumulative **95,533 km** was travelled, when put in contrast with the July 2021, with **97,794 Km** indicating a significant drop by **2,261** km in the kilometres travelled by NEMS ambulances for the month under review. This reduction is consistent with the general drop in the number of missions undertaken by NEMS in August 2021.

The two graphs (**Figure 19 and Figure 20**) displays the number of km travelled by NEMS ambulances per district and the average km/mission covered per district, with the calculation of all the missions undertaken by NEMS as recorded in the NEMS database. A comparison was the inter-district figures for August 2021 with July 2021. Calculated the average km/mission is for all the missions handled by NEMS as per our database

(and not only the one ending with a referral to the hospital, but those which required the ambulance to move from its location).

Assessment of the district data showed that, there was a general drop in the August 2021 figure compared to the July 2021 figure. However, Koinadugu, Kono, Pujehun, Tonkolili and Western Area Urban recorded a significant increase in the figure for the KM covered, while there is a major drop for that of Kenema and Western Area Rural. Another critical revelation of the June 2021 data evaluation is that only one district Port Loko covered above twelve thousand kilometres compared to July 2021 with six thousand KM.

Figure 20: Average Km/Mission



The Bar chart labelled **figure 20** compares the **average KM covered for a mission by district** for August 2021. For the month under review, the district with the highest average KM per mission is Karene with 5 missions, the ambulances covered a significant 492 Kilometers per mission (km/mission). The other districts that experienced significant increases include Falaba by (153) km/mission, Port Loko by 148 km/mission and Kono by 134 km/mission.

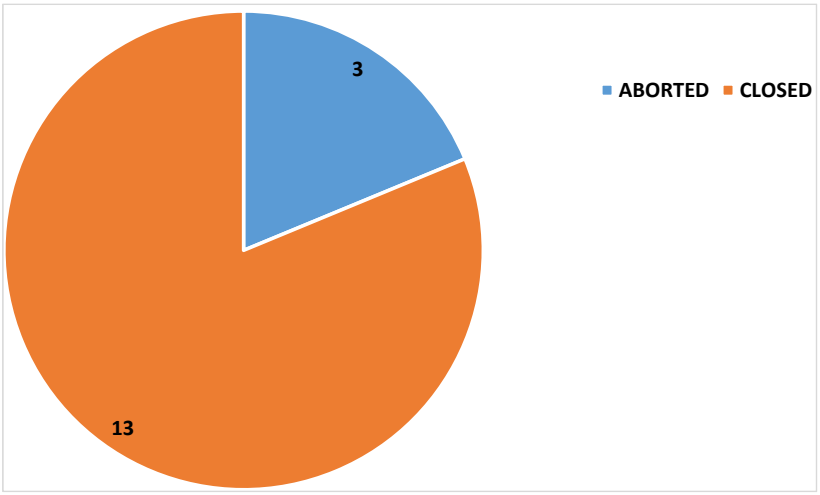
It is essential to understand that, other district NEMS ambulances transported the missions recorded by Falaba and Karene.

5. NEMS National COVID-19 Response

5.1 COVID-19 Missions

From NEMS data sources related to August 2021, we observed that the strategy to repurposing the ambulances in August 2021 laid the foundation for the seamless accomplishment an exponential increase in both the movement of samples and the number of COVID-19 missions. As can be seen from the data presented, 16 missions that are strongly linked to COVID-19 related cases that required NEMS ambulance for transportation. The data further showed that 13 cases were successfully transported to their respective treatment centers, and (6) samples from the provinces.

5.2 Figure 21: Outcome of COVID-19 Missions



The pie chart **figure 20** describes the transportation outcome of COVID-19 activated missions. Overall, the data showed that out of 16 cases that NEMS dispatched ambulances for, 13 (81.2%) of the cases were transported to their various care centers. However, 16 (18.8%) was aborted.

5.3 COVID-19 Missions and Samples transported

Typology of Complain	Aug-21	Jul-21	Jun-21	May-21	Apr-21	Mar-21	Feb-21	Jan-21	TOTAL Dec 2020-March 2020
Covid19 Confirmed Case	16	138	197	14	9	12	24	113	1251
Covid19 Suspected Case	3	3	-	3	-	-	6	8	232
Covid19 Confirmed/Suspected Case	-	-	-	-	-	-	-	7	59
SAMPLES	6	28	16	17	34	19	40	66	1314
TOTAL	**25**	**169**	**213**	**34**	**43**	**31**	**70**	**194**	**2856**

Table 13 for this report reinforces you with adequate information on the general COVID -19 operations for the month of August 2021. The rigorous measures implemented by the authorities responsible to management of covid-19 in Sierra Leone has contributed to the fall of covid-19 cases in the month of August.

5.4 Figure 22: Trend of COVID-19 missions (confirmed and suspected cases)

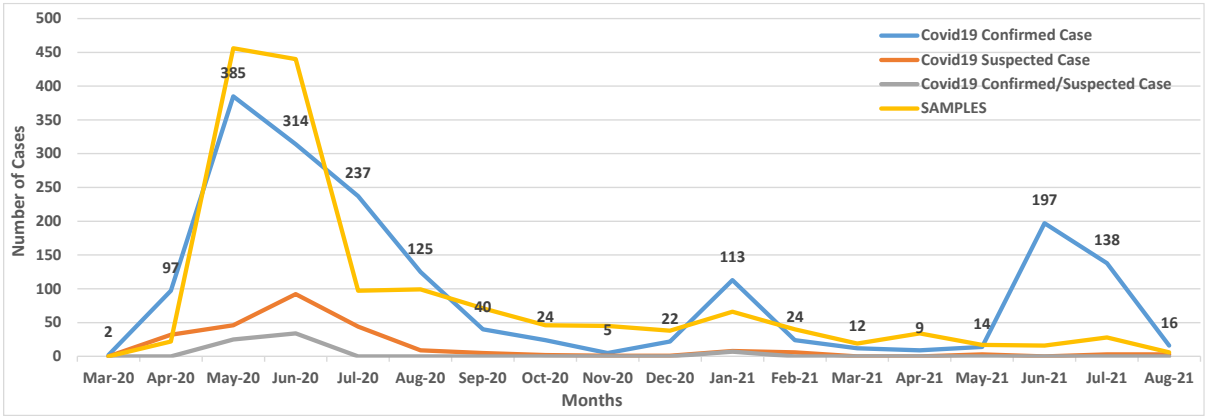


Figure 22 is a line graph that illustrates the trend at which COVID-19 cases are reported to NEMS and transported by NEMS. A critical analysis from the chart above demonstrated that there has been constant drop in the number of confirmed cases since the nation recorded its highest number of confirmed COVID19 cases in January 2021 and commenced a steady drop until May 2021 when the we saw a sharp rise in the following month. The management of the covid-19 cases has seen a significant drop on the numbers recorded

for the month of August. The number of samples transported plunged, when put in contrast to July 2021. In Western Area, samples are hardly transported, while this is common for the provincial districts.

5.5 COVID-19 Confirmed Cases

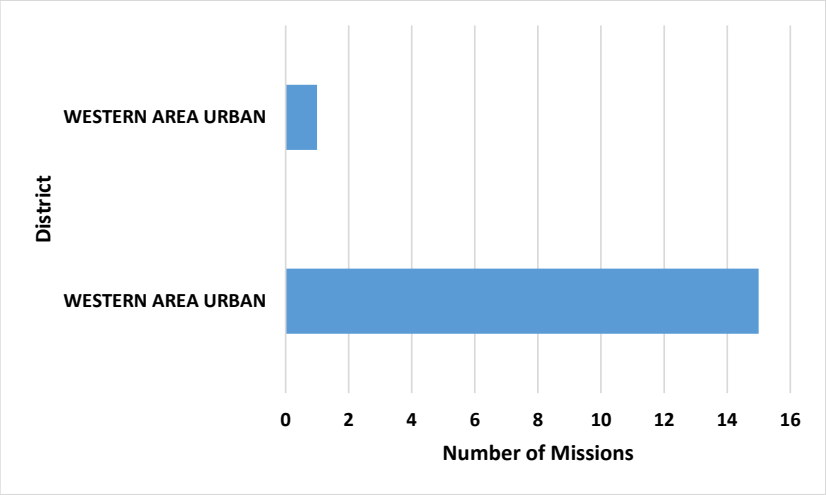
A detail analysis of the number of coronavirus (COVID-19) cases is done here. 16 cases were recorded in the month of June 2021 and these were all transported by NEMS to the respective treatment centres and holding homes.

The cumulative number of confirmed COVID19 cases are dropping since the first cases of the third wave was registered in mid-June. The current total number of confirmed COVID19 cases is at 3,635 since March 2020 to the month under review.

5.6 District of Origin of the Patients

The bar chart **figure 22** depicts a bar chart, which showed the origin of all transported COVID-19 cases. It is evidently clear that Western Area Urban and Rural continues to record the majority of the cases transported, which is a total of 15 and 1 respectively. The other district did not reported confirmed cases for the month of August 2021.

5.6.1 Figure 23: Origin district of the COVID-19 patient (frequencies)



5.7 Table 14: COVID-19 Missions by Ambulance Station (confirmed cases)

District	Station	Code	% of Missions
WESTERN AREA URBAN	St. Joseph - Covid-19	W U 04	88%
WESTERN AREA RURAL	Hasting - Covid-19	W R 06	6%
WESTERN AREA URBAN	St. Joseph - Covid-19	W U 08	6%

5.7.1 Ambulance Station

Table 14 describes COVID19 confirmed cases by their respective stations. W U 04 which is the St. Joseph ambulance allocated to transport COVID19 cases at reported a significant portion of the cases moved.

In the event of an emergency, the ambulance that is operational and at the nearest location to the patients is mostly called upon to transport the patients to the appropriate health facility for care. In the month of

August, we did not see any ambulance that is not allocated to travel with non-COVID-19 cases asked to move suspected cases.

5.8 COVID-19 Treatment Centres Destination

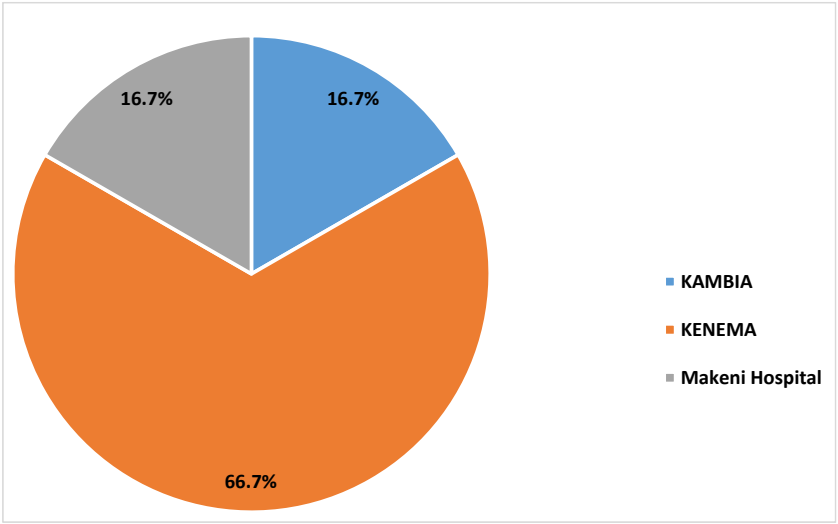
The Table 15 on this report delineates the COVID19 confirmed cases transported to their respective treatment centres in Sierra Leone. 34 Military Hospital has two treatment centers for COVID19 patients (CTC 1&2) as displayed on the graph below. It has been the hub for COVID19 treatment and continues to do so, with the surge in cases. PMTC CCC seconded the table below, with 29% of the total number of confirmed cases transported to PMTC CCC, while Connaught has 14% of the total number. All the other treatment centres recorded 7% of the total confirmed cases.

5.8.1 Table 15: Missions for Confirmed COVID-19 Cases by Treatment Centre

Facility	Treatment Center	%
WESTERN AREA URBAN	34 MILITARY HOSPITAL	43%
WESTERN AREA URBAN	CONNAUGHT	14%
WESTERN AREA URBAN	DIALYSIS HOSPITAL	7%
WESTERN AREA RURAL	PMTC CCC	29%
WESTERN AREA URBAN	SHIFAA	7%

5.9 Samples' Referrals

6.0 Figure 25: Percentage of Samples transported by destination laboratories



The pie chart above describes the percentages of COVID-19 laboratory results for August 2021. Kenema Lab continues to record the highest percentages of specimen assessed in the month of August 2021, with 66.7%. While Kambia and Makeni laboratories reported an equal receipt of 16.7% of the COVID-19 samples in their respective labs. Hence, the combination of both Kambia and Makeni labs received and processed 33.4% of the total labs.