NEMS OPERATIONAL ACTIVITIES

MONTHLY REPORT: JULY 2022

**MINISTRY OF HEALTH
AND SANITATION**

*49 J Spur rd, Freetown,
Sierra Leone*

NEMS
National Emergency
Medical Service

Table of Content

Brief description of NEMS Operational Services

Figure 1: Cumulative Number of Supported Indicators

The data collected from the NEMS database and the NEMS Referral Coordinators' database from *15ᵗʰ of October 2018 to the 31st of July 2022*, indicates that NEMS has accomplished over three years and nine months (3.9) of operations; delivering the following:

Cumulative total of **85,528 Calls, 80,229 Missions and 67,804 NEMS referrals** only.

National Grand Total, October 2018 to April 2022

- Calls
- Missions
- NEMS REFERRED PATIENTS
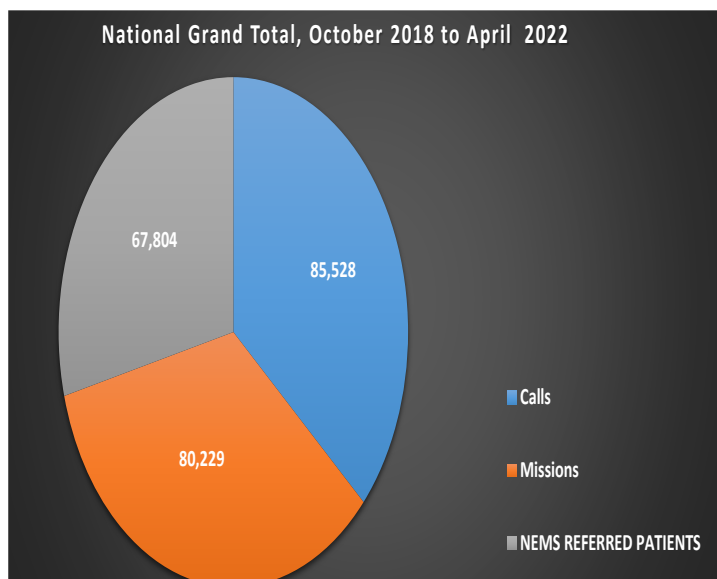
Distributions of the Ambulances

NEMS currently has **one hundred (100) ambulances** in operation nationwide. Each district has one ambulance allocated to the District Ambulance Supervisor (DAS) to serve as replacement in case an ambulance becomes inoperative, which summed to the total reported.

Ambulance Distributions	
District	**Grand Total**
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**

Km Travelled

In June, NEMS operated with below 70% of the ambulances around the country; this includes both the DAS' allocated vehicles. They have travelled a cumulative total of **6,208,241 km**. In *July* 2022, a total of **66,461** kilometre covered by all the ambulances that were used to transport the various patients to the referred health facilities.

COVID-19 Response

The total number of **COVID-19** confirmed cases transported by NEMS ambulances in *July* 2022 are zero, with no suspected case reported, while the cumulative figures since the COVID-19 outbreak in the country in March 2020 is **3,683 confirmed**, 258 **suspected**. **These numbers have not changed since January 2022. The nation has continued to registered no case of COVID-19 that required further referral for specialist care at tertiary hospitals.**

1. Overview of the Calls, Missions and Referrals

Figure 2: Calls, Missions and Referrals (June 2022)

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

Year	Months	CALLS	Trend	MISSIONS	Trend	NEMS REFERRED PATIENTS	Trend
2022	Jan-22	942	0%	686	-32%	426	-34%
	Feb-22	639	-1%	435	-59%	243	-27%
	Mar-22	188	-1%	125	-128%	66	-57%
	Apr-22	599	52%	463	57%	311	65%
	May-22	297	-34%	190	-42%	97	-52%
	Jun-22	505	26%	400	36%	244	43%
	Jul-22	420	-9%	363	-5%	217	-6%
Cummulative Total NEMS Project		85528		80229		67804	

Table 1 above gives a comparative percentage trend analysis for the three (3) major indicators **(i.e., Calls, Missions, and NEMS Referrals)** by NEMS for the month of January, February, March, April, May, June and July 2022. The cumulative grand total for **Calls 85,528, Missions 80,229 and NEMS Referrals only 67,804.**

The graph above displays the number of **Calls, Missions and NEMS Referrals** supported by NEMS in the month of *July* 2022.

The graph shows that for the period under review, **420 Calls**, **363 Missions**, and **217 NEMS Referrals** were supported.

It is observed that there is a dramatic decrease in the percentage Calls by –9%, Missions by –5% and Incoming Referrals by –6%.

1.3.Table 2: NEMS Daily Activities Averages

Daily Operations	Calls	Missions	NEMS REFERRED PATIENTS
Jul-22	13	11	31

Table 2 shows the average daily Calls, Missions and Incoming NEMS Referrals for the same period.

Calls Analysis

Figure 3: Classifications of Calls

2.1.Figure 3: Breakdown of Calls by District
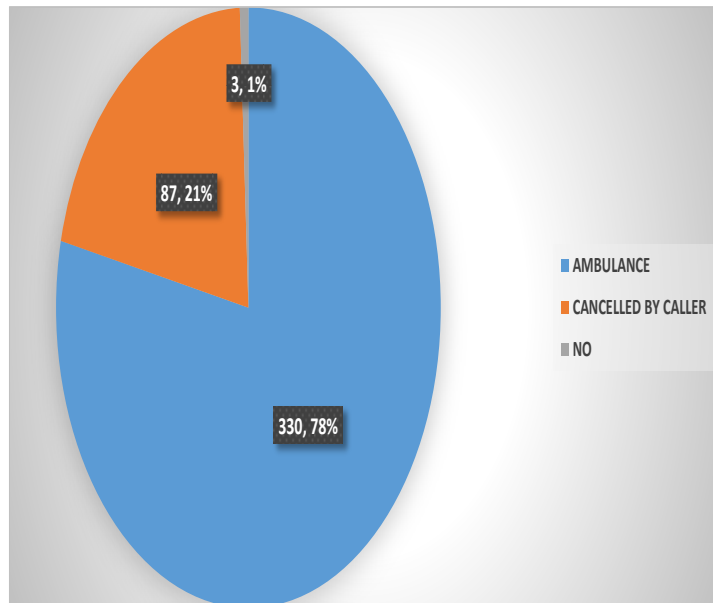
The pie chart labelled F**igure 2** outlines the classification of Calls as they are received at the NEMS Call Center. The call center operators received a cumulative total of 420 Calls with 330 (78%) requiring ambulance, 87 (21%) cancelled by callers due to factors that are determined by the various callers, with 3 Calls that said No.
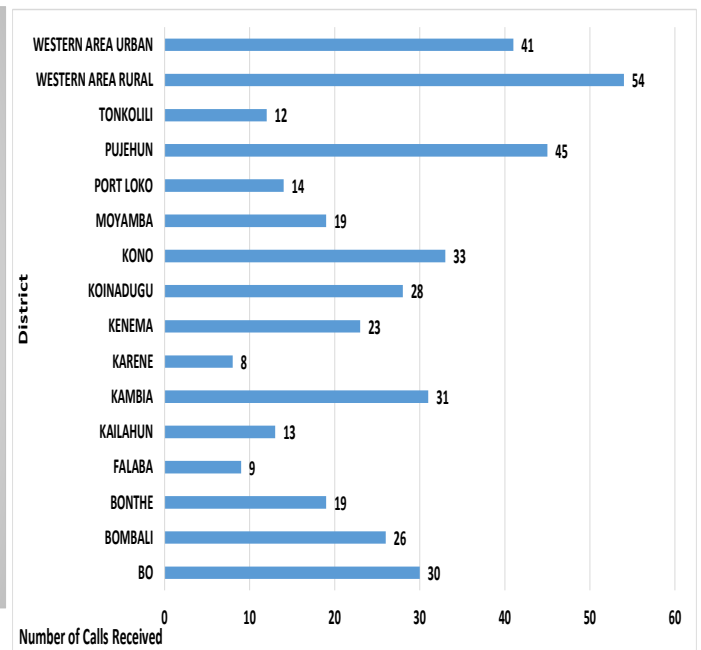
F**igure 3** shows the breakdown of Calls by district. Western Area Rural reports the highest—54 and seconded by Urban with 41 number of calls received.
The least number of Calls were from Karene recorded 8.

2.2.Figure 4: Number of Calls per Hour
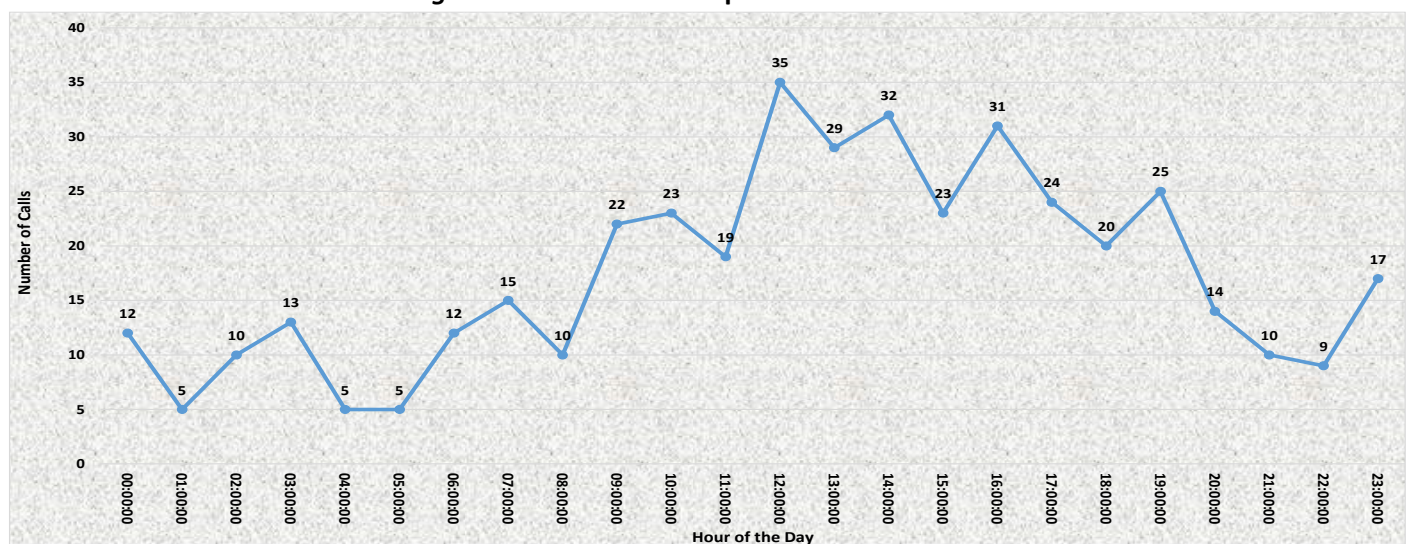
F**igure 4,** shows an oscillating line graph that describes the number of calls received at NEMS operation center on an hourly base. The chart above this narrative shows that, there was a surge in the number of calls received between the hours of 09:00 hours and 19:00hrs GMT, irrespective of its fluctuation. The operation center recorded its climax calls at around 12:00hrs GMT, while the least number of calls were received at around 01:00, 04:00 and 05:00hour.

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2.3.Figure 6: **Number of Calls per Day**
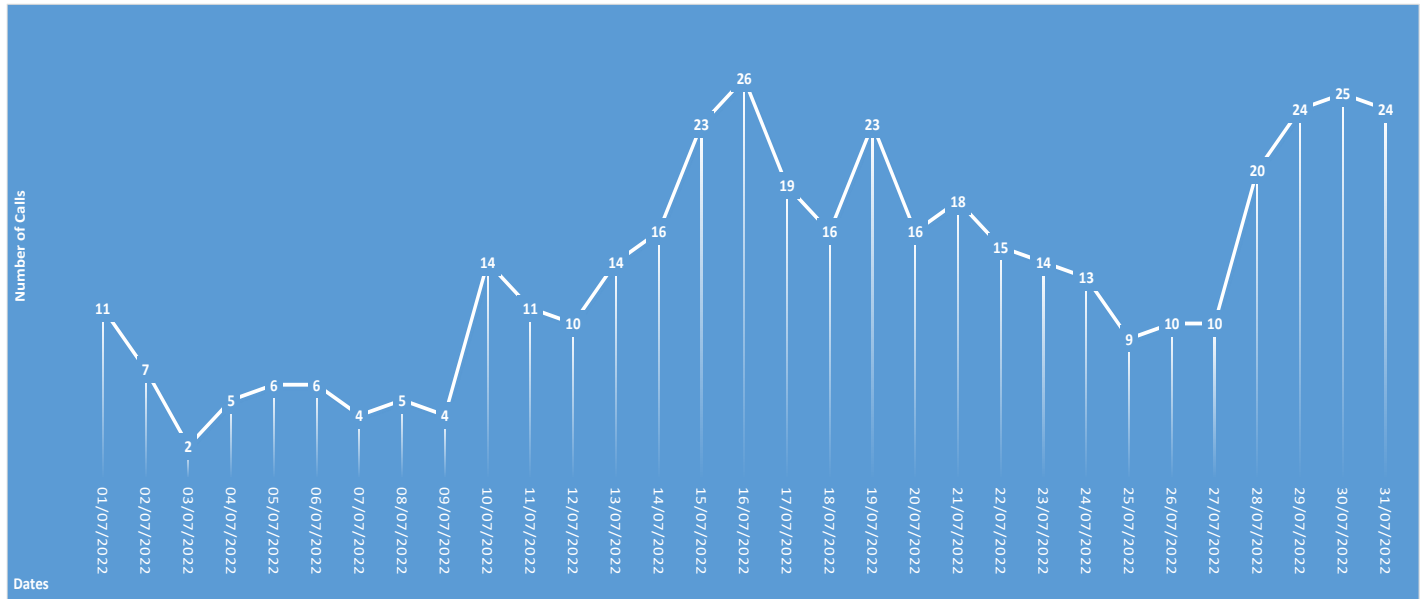
The chart demonstrates the trend of incoming calls to the NEMS call centre per day.
The least number of Calls were recorded on the 3rd with 2 calls, while the highest number of
Calls recorded on the 16th with 26 calls. The chart fluctuated throughout the month of July.

2.4.Figure 7: Calls, Missions, Referrals by District
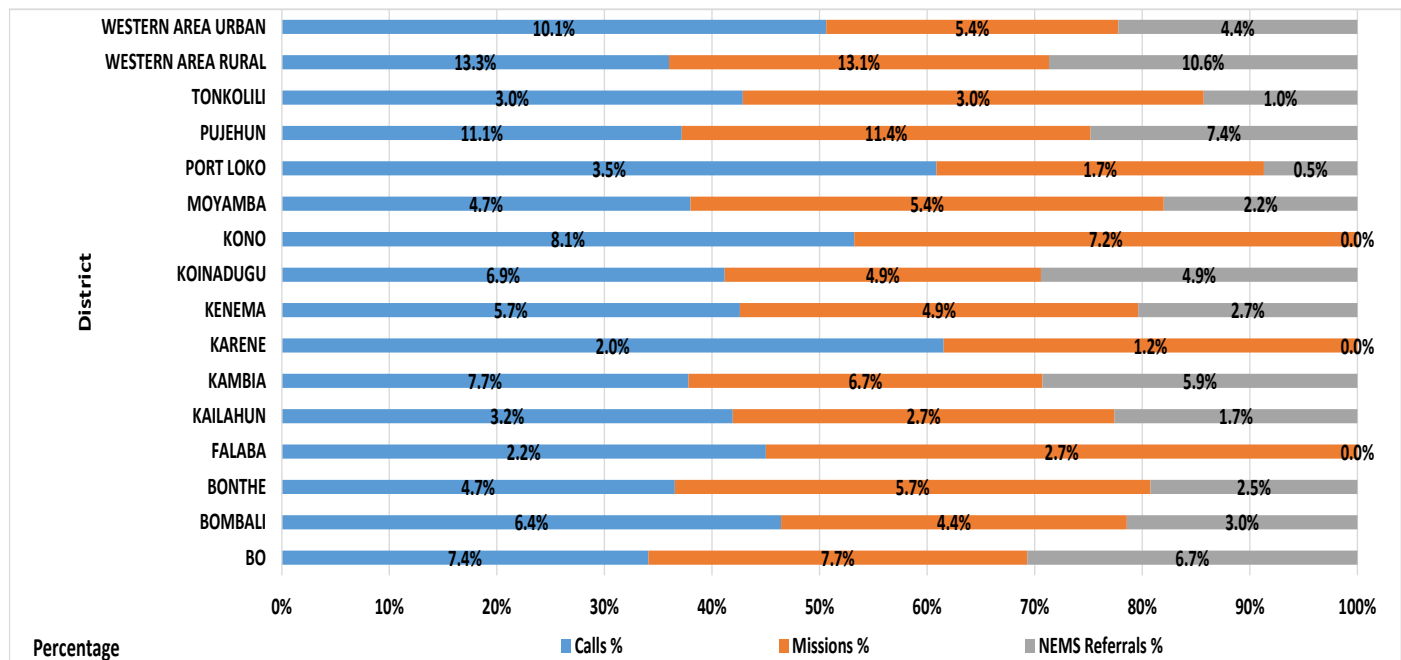
The bar chart above demonstrates the percentage of Calls, Missions and NEMS Referrals supported by NEMS per district in the month of July. For both Calls and Missions, Western Area Rural recorded the highest percentage with 13.3%, seconded by Pujehun with 11.1%, with the least calls from Falaba, while that is not the case with Missions, in which Port Loko and Kailahun reported the lowest Missions. Referrals are a reflection of the number of Missions that were fulfilled.

Chapter 3 -Missions

3.0.Figure 8: Categories of NEMS Missions
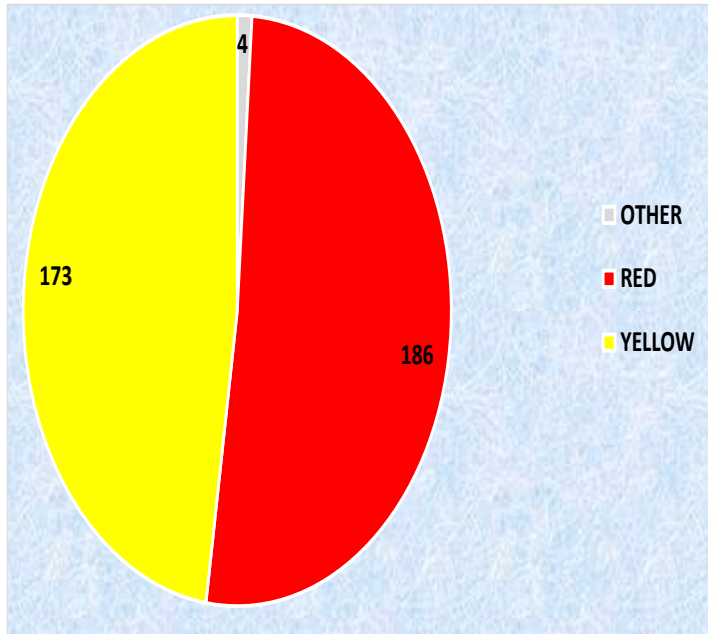
The pie chart labelled **figure 8** gives an insight on how calls are categorized to determine a mission. The severity of the condition are segmented into three major categories, with an additional color described as 'Other' (Red, Yellow and Green).

Triage system is used to determine the severity of the condition of patients, separating the stable patient from the severely ill and then prioritize available resources. NEMS utilizes the triage process to determine whether the patient's condition matches the threshold of an emergency for an ambulance to be dispatched.

A NEMS mission can be activated by dispatching an ambulance provided the condition of the patient in line with the severity criteria for Yellow and/or Red. The color code Green is ascribed when the patient's condition does not match the NEMS threshold for an emergency and the formation is shared with call center, for the operator to activate a mission and dispatch ambulance (s).

In this month's review, a total of **363** calls were received, out of which 359 led to a missions, and 4 of those were classified as other.

3.1.Figure 9: Time of the day of the Missions

The 'time of the day' is a measure of the period of the time within the day the call centre activates a mission. The diagram labelled Figure 9 demonstrates the percentage of missions undertaken in the morning (i.e., from 8 am to 2 pm), afternoon (from 2 pm to 8 pm) and night (from 8 pm to 8 am) comparing the daily percentages for the month of July.

Figure 9 displays a comparative percentage analysis for the months of July and June. In July, the percentage of Missions done in the **Afternoon hours increase were 36.9%, while at Night - 30.2%, with 32.9% - Morning**. For June, a significant number of missions were undertaken during morning hours, with **38.2%, while 30.7% were done at Afternoon and those that were done during the Night 31.1%.**

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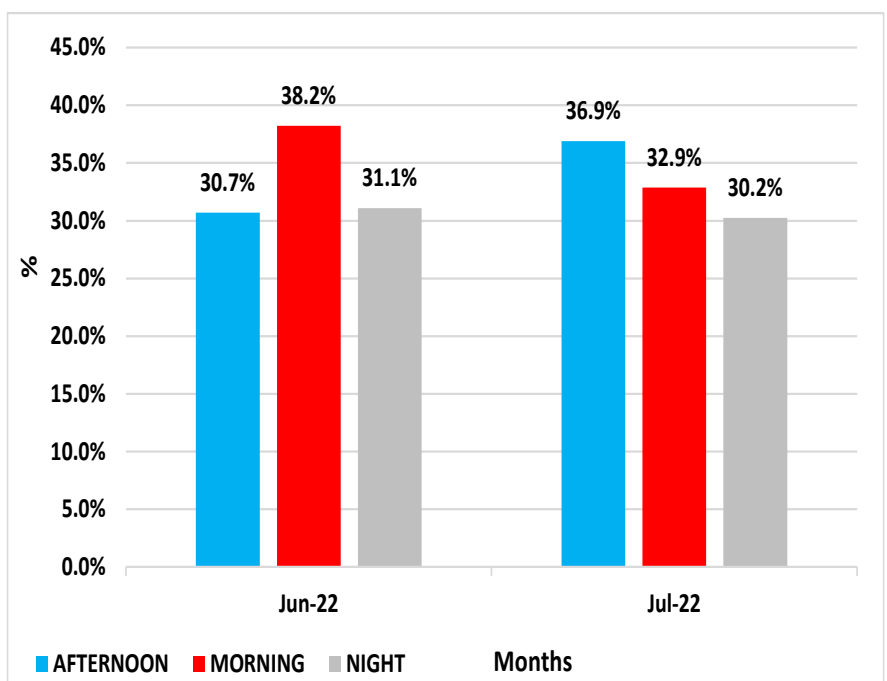
3.2.Figure 10: Comparative Analysis of NEMS Mission's complaints for the Previous month (April 2022) to Current month (June 2022)
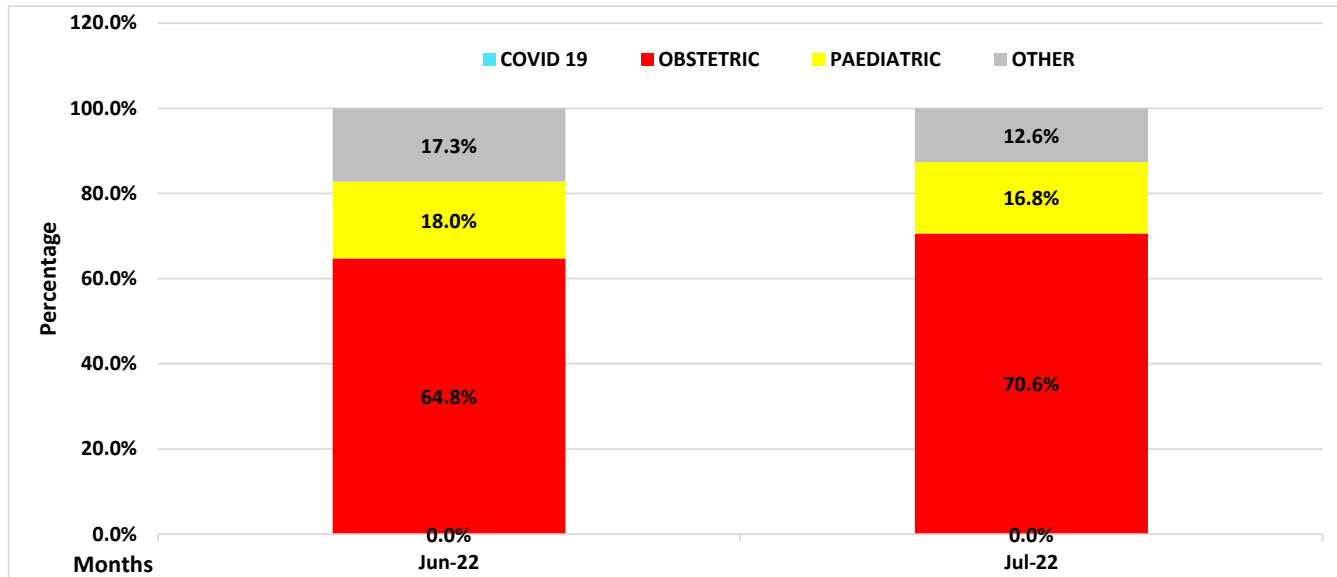
Figure 10 represents the major categories of complaints of the Missions comparing **June and July 2022** data. The data for COVID-19 Missions continues to be zero for both suspected and confirmed cases for the last seven months. It is visible from the data that Obstetric cases are in the majority of the missions transported to the various health facilities.

The indicator 'Other' is a combination of other complaints, such as Abdominal Pain, Animal Bite, Consciousness, Road Accident, Trauma and etc. Between the months of **June and July**, there is a –**4.7%** decrement in other cases. For Obstetric, there is 5.8% increment from the previous month, and for Paediatric a 2.8% decrease.

3.3.Figure 11: Typology of complaints that lead to Missions
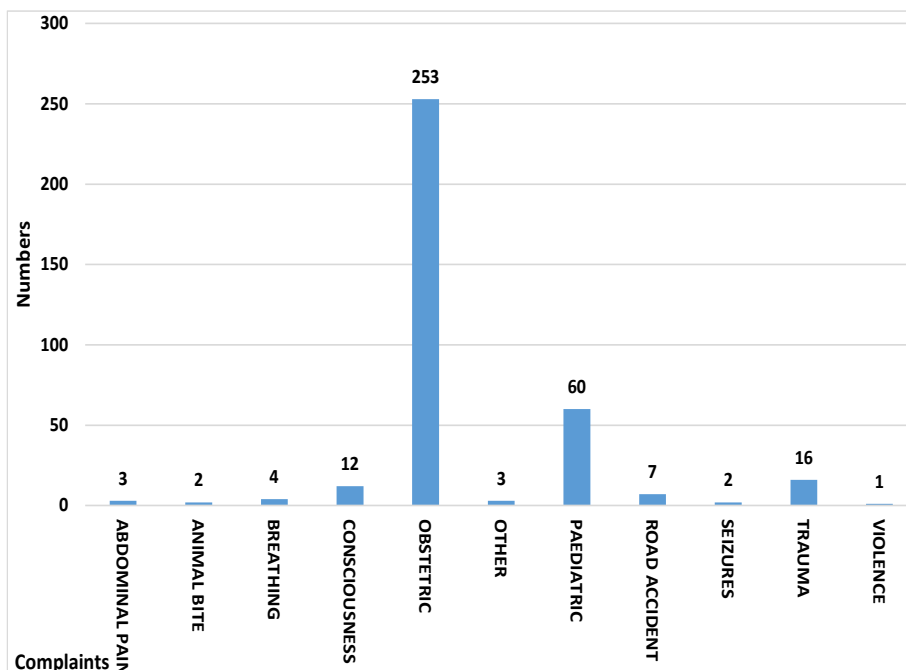
Figure 11 provides a detailed breakdown of the number of complaints received that are considered as missions.

It is evidently clear that obstetric (253) complaints were the most occurring, seconded by Paediatric (60), while Road Accident (7), Consciousness and Seizures (14) each, while combining Trauma, Abdominal Pain, Breathing, Violence and Animal Bite gives (29) cases complaints received for the month under review.

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3.4.Figure 12: Trend of Missions complaints by day
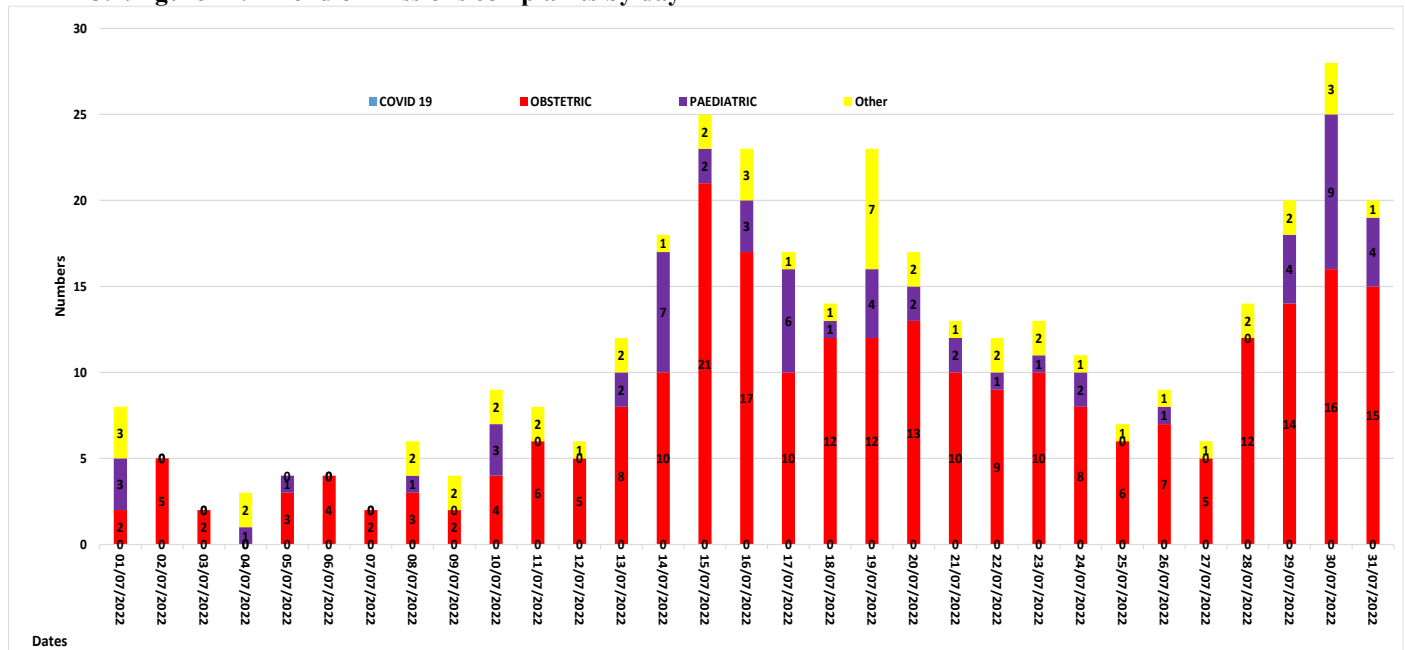
The bar chart displays the number of missions undertaken in the month of July 2022 on a daily basis, with a special attention to the various complaints. Obstetric cases appear to be the only complaint that was transition to a mission for almost every other day of the month, while an enormous number of the total missions done on the 30th.

3.5.Figure 13: Missions Complaints by District
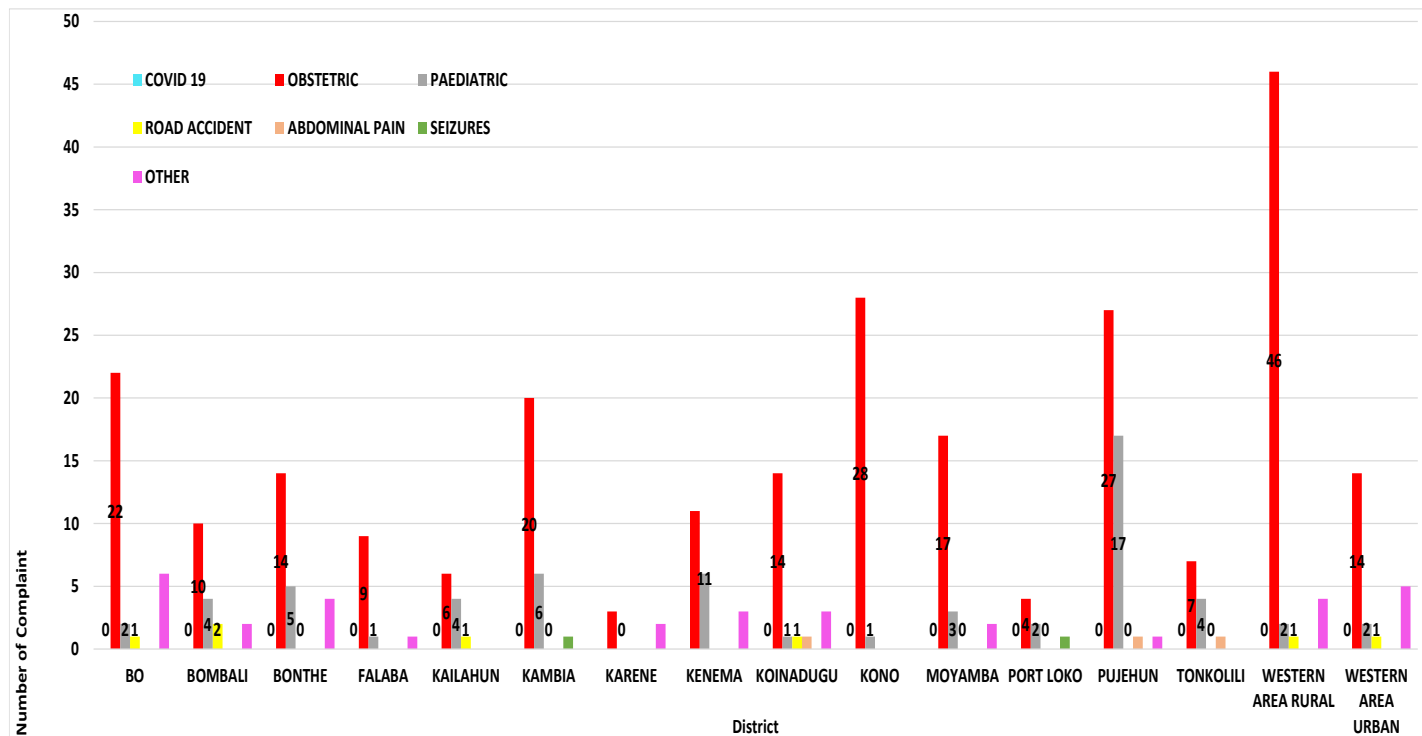
A breakdown on the number of complaints by the different districts nationwide. Every district in Sierra Leone reported obstetric, while the others complaint did not happen at every other district. Western Area Rural happens to be the district with the highest obstetric cases, and reported the highest number of missions overall.

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

Figure 14 is a line chart that shows the number of Calls received, Missions carried out, and NEMS referrals managed per day. Throughout July, the indicators fluctuated. The average call were 13, Missions is 11 and referrals 7 for the month under review.

3.7. Figure 15: Outcome of the Missions
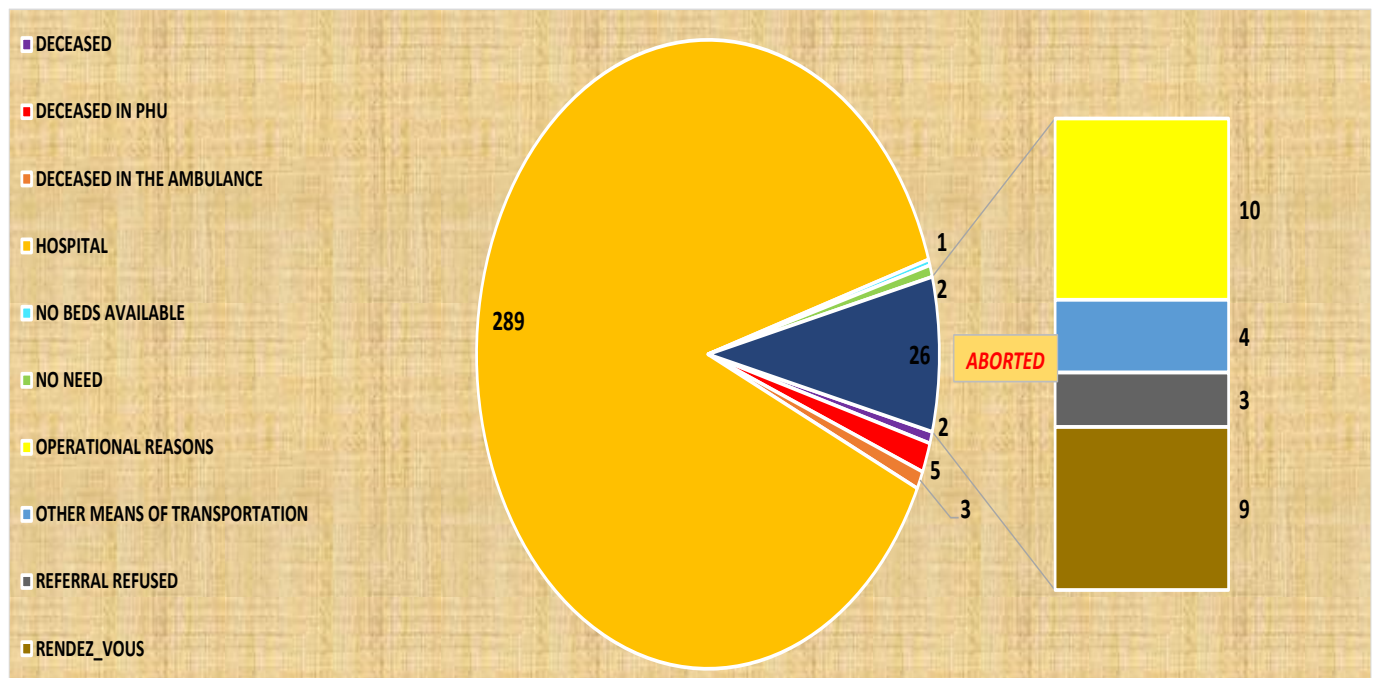
Figure 15 shows the outcome of missions carried out by NEMS in July 2022.

'Hospital' refers to mission lead referrals to a pre-identified health facility (Hospital).
Referencing the data displayed in the pie chart above, for July shows that (289) 79.6% of the missions lead to referrals to a pre-identified specialist health facility, compared to the June 2022 data that shows that 82.2% of the missions were referred to a pre-identified specialist health facility. This indicates a decrease of 2.6% in the referrals when the data for July 2022 is compared to that of June 2022.

3.8.Table 4: Missions Outcome and the Reasons why missions are aborted

INDICATORS	ABORTED	DECEASED	HOSPITAL	RENDEZ_VOUS	Grand Total	% of Aborted Cases
AMBULANCE CHANGED	21	0	0	0	21	38.2%
DECEASED	0	2	0	0	2	0.0%
DECEASED IN PHU	0	5	0	0	5	0.0%
DECEASED IN THE AMBULANCE	0	3	0	0	3	0.0%
HOSPITAL	0	0	289	0	289	0.0%
NO BEDS AVAILABLE	1	0	0	0	1	1.8%
NO NEED	2	0	0	0	2	3.6%
OPERATIONAL REASONS	10	0	0	0	10	18.2%
OTHER MEANS OF TRANSPORTATION	4	0	0	0	4	7.3%
REFERRAL REFUSED	3	0	0	0	3	5.5%
RENDEZ_VOUS	0	0	0	9	9	0.0%
TREATHING IN PHU	14	0	0	0	14	25.5%
Grand Total	55	10	289	9	363	100.0%
%	15.2%	2.8%	79.6%	2.5%	100.0%	

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 July 2022 data shows that out of the 55 missions undertaken, 15.2% of those missions were cancelled before or after the arrival of the NEMS ambulance team at the target. For a mission to be cancelled, there are diverse reasons, and these could be any of the following:

♦ **'Ambulance Changed'** - the data reveals that out of 4 missions aborted, **21 (38.2%)** of the aborted missions were due to 'ambulance changed'.

♦ '**No Beds Available'** - with **1 (1.8%).**

♦ **'Deceased'** – this mission outcome refers to the death before the arrival of the NEMS ambulance team. July 2022 data shows that a total of **10 (2.8%)** death were reported and breakdown to; **2** of the mission were cancelled because the patient died. The 5 missions cancelled was due to the fact that the patients passed away in the PHU, while the other 3 died in the ambulance while in transit.

♦ **'Operational reasons'** - this type of mission outcome has strong correlation with the ambulance technical problems. The table above shows that **10 (18.2%)** of the aborted missions occurred because of technical problems with the ambulances in the month of July compared to June with **30.6%** of aborted missions relating to 'operational reasons'.

♦ **'Other Means of transportation'** – refers to a situation where the patients or families of the patient decides to employ other medium of transportation after requesting for an ambulance. The July data shows that 4 (7.3%) 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. The data shows that 14 (25.5%) of such cases were recorded for the month under review

♦ **'Other reasons' includes'** no-need' of the ambulance (2) and Refused referral 3.

♦ **'Rendezvous'** 9 (2.5%).

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Chapter– 4 BEDS

4.0 National Hospital Bed capacity

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	42	54	58	95	76
Makeni Government Hospital	94	49	27	67	62	61
Mattru UBC Hospital	36	41	12	100	17	60
Connaught Government Hospital	167	8	0	0	24	6
Kailahun Government Hospital	38	54	37	57	42	56
Kambia Government Hospital	44	56	21	56	31	61
Kenema Government Hospital	118	51	41	56	96	54
Kabala Government Hospital	49	32	37	45	55	53
Koidu Government Hospital	75	70	40	64	56	83
Lungi Government Hospital	40	40	20	46	20	54
Moyamba Government Hospital	48	45	24	38	39	71
Ola During Children Hospital	0	0	0	0	174	47
Princess Christian Maternity Hospital	0	0	115	81	18	0
Port Loko Government Hospital	65	40	35	46	20	104
Pujehun Government Hospital	41	54	34	80	36	73
Tonkolilli Government Hospital	97	33	28	56	89	67
34M Military Hospital	82	90	22	51	40	88
King Harman Road Government Hospital	4	42	17	47	30	79
Rokupa Government Hospital	6	63	21	64	39	101
Lumley Government Hospital	12	0	10	0	4	0
Macauley Government Hospital	13	56	10	49	4	85
Emergency Memorial Hospital	47	38	0	0	20	39
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 sick children, while Princess Christian Maternity Hospital (PCMH), located adjacent ODCH with the purpose to support and address maternity related issues.

♦ The Special Care Baby Unit SCBU beds available at PCMH and ODCH are not counted in determining the bed capacity of the facility, which is the same for the other district or tertiary hospitals nationwide.

♦ These beds serve a different purpose from the others. Nationwide, all district and tertiary hospitals 2,831 useable beds.

♦ There are currently no referrals for admission to 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 required.

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

♦ All other facilities listed in the table above provide all the required services and has space for the various department listed in the table.

♦ **Adult Occupancy:** The data for the month under review indicates the adult bed capacity situation for the following health facilities. The data for July 2022 shows that no facility reported overcrowding. 34 Military hospital recorded 90% as the average bed occupancy status and that is the highest for Adults.

♦ **Maternity Occupancy**: the table shows that only one facility reported overcrowding which is Mattru UBC Hospital — 100%.

♦ **Paediatric Occupancy**: Port Loko Government Hospitals and Rokupa Government Hospital reported 104% and 101% respectively for their average bed capacity for July 2022, while all other facilities registered less than 100% indicating that they operated below full capacity.

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4.1.Figure 15: National Percentage Bed Occupancy by Depart-
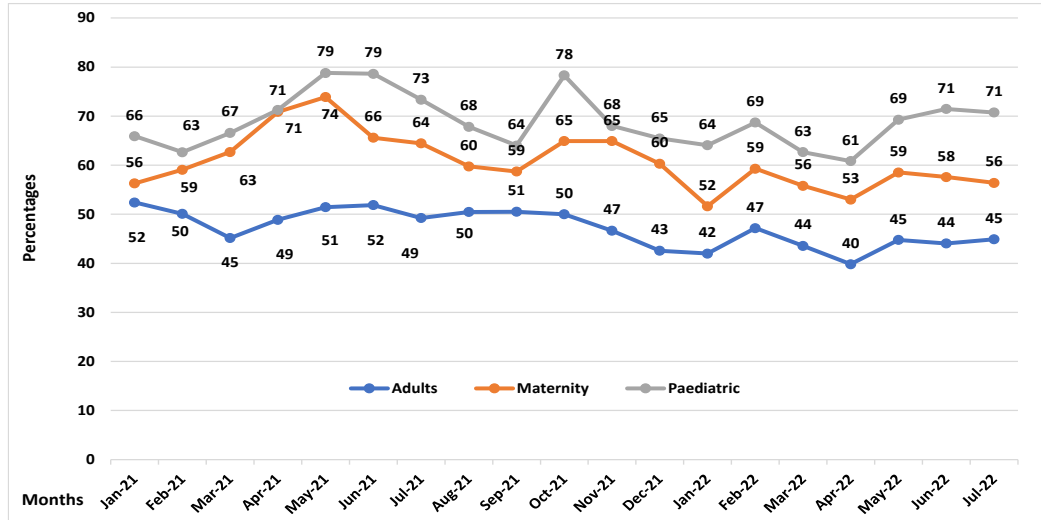
Figure 15 provides an average percentage bed occupancy by month. Health facilities have various subsectors that are merged to form the major listed departments on the line chart. Since the commencements of 2021, the average bed occupancy has been below 80% for the different departments and all the various health facilities. There is a slight decrease to 70.8% for the month of July.

Chapter– 5 Referrals

5.0.Table 7:

From the diagram labelled table 7 adjacent this narrative shows the total of 980 referrals were supported by NEMS. In that number 912 were classified as incoming referrals, while 68 represented the total outgoing referred patients supported.

In June, PCMH recorded the highest number of incoming referred patients, while Kono did not report any new referrals.

No:	Facility	Total Referrals	Incoming Referrals	Outgoing Referrals	NEMS Referrals
	National Referrals by District, July 2022				
	National Total	980	912	68	217
	Nationwide %	100	93	7	22
1	34M	27	13	14	0
2	Bo	29	23	6	29
3	Bombali	22	22	0	12
4	Bonthe	17	17	0	10
5	Connaught	46	44	2	7
6	Emergency	22	17	5	3
7	Kailahun	70	66	4	7
8	Kambia	29	28	1	24
9	Kenema	88	88	0	11
10	King Harman Road	19	18	1	0
11	Koinadugu	35	29	6	20
12	Kono	0	0	0	0
13	Lumley	21	9	12	0
14	Lungi	7	7	0	0
15	Macauley Street	10	4	6	0
16	Moyamba	46	45	1	5
17	ODCH	48	47	1	2
18	PCMH	137	137	0	41
19	Port Loko	58	57	1	2
20	Pujehun	115	115	0	30
21	Rokupa	10	10	0	10
22	Tonkolili	124	116	8	4

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

Number of Incoming Referrals by patients' outcome, July 2022										
Admission ongoing	Death	Death on arrival	Discharge against medical advice	Discharged	Onward referral	Patient did not arrive	Rejected referral	Unable to admit	Death in Ambulance	Total
348	32	1	7	505	9	0	0	5	0	907
38	4	0	1	56	1	0	0	1	0	100
13	0	0	0	0	0	0	0	0	0	13
9	0	0	0	14	0	0	0	0	0	23
14	0	1	0	7	0	0	0	0	0	22
5	0	0	0	12	0	0	0	0	0	17
12	0	0	0	28	4	0	0	0	0	44
12	0	0	0	2	0	0	0	3	0	17
21	5	0	0	39	1	0	0	0	0	66
14	1	0	0	13	0	0	0	0	0	28
17	1	0	4	66	0	0	0	0	0	88
6	6	0	0	6	0	0	0	0	0	18
0	1	0	0	27	1	0	0	0	0	29
0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	1	3	0	0	2	0	6
0	0	0	1	6	0	0	0	0	0	7
0	0	0	0	4	0	0	0	0	0	4
41	1	0	0	2	0	0	0	0	0	44
22	2	0	1	22	0	0	0	0	0	47
71	0	0	0	66	0	0	0	0	0	137
46	1	0	0	10	0	0	0	0	0	57
33	12	0	1	68	0	0	0	0	0	114
0	0	0	0	10	0	0	0	0	0	10
12	2	0	0	102	0	0	0	0	0	116

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 (505), while out of the 5 were unable to admit, 32 of those were reported dead. 348 of the total patients were reported to still be in the various facilities receiving care.

5.2. Table 9: Number of Incoming Hospital Referrals supported by Cate-

Facility	Lactating	Non-FHCI	Pregnant	Under 5	EVD Survivor	Yes - other	Total
34M	0	13	0	0	0	0	13
Bo	0	2	19	2	0	0	23
Bombali	0	4	7	10	0	1	22
Bonthe	0	2	13	2	0	0	17
Connaught	5	23	0	15	0	1	44
Emergency	0	7	0	10	0	0	17
Kailahun	1	14	17	34	0	0	66
Kambia	5	2	15	6	0	0	28
Kenema	4	11	51	22	0	0	88
King Harman Road	0	0	0	18	0	0	18
Koinadugu	0	0	26	3	0	0	29
Kono	0	0	0	0	0	0	0
Lumley	1	4	2	2	0	0	9
Lungi	0	0	7	0	0	0	7
Macauley Street	0	0	0	4	0	0	4
Moyamba	0	7	24	14	0	0	45
ODCH	0	8	0	39	0	0	47
PCMH	5	0	132	0	0	0	137
Port Loko	2	5	29	21	0	0	57
Pujehun	0	0	45	70	0	0	115
Rokupa	0	0	9	1	0	0	10
Tonkolili	1	1	78	36	0	0	116
Total	24	103	474	309	0	2	912

Table 9 explains the categories of incoming referred patients at the various health facilities nationwide for the month of July. EVD survivors have dropped significantly and continued to be zero. The various facilities supported a total 912 incoming referred patients.

All active hospitals have recorded for pregnant women, with the exception of 34 Military, KHRGH, ODCH, Lungi Hospital, Kono, Macauley and Emergency, that do not have records for the month of July that related to pregnant women.

5.3.Table 10: Outcome of Referred Patients by Free Health Care Catego-

	Number of Incoming Referred Patients by Outcome and FHCI										
FHC	**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**
Lactating	8	0	0	0	15	0	0	0	1	0	24
Non-FHCI	56	0	1	2	39	0	0	0	2	0	100
Pregnant	165	4	0	3	298	2	0	0	1	0	473
Under 5	119	28	0	2	152	6	0	0	1	0	308
EVD Survivor	0	0	0	0	0	0	0	0	0	0	0
Yes - other	0	0	0	0	1	1	0	0	0	0	2
Total	**348**	**32**	**1**	**7**	**505**	**9**	**0**	**0**	**5**	**0**	**907**

The July2022 data shows that, a significant portion of both pregnant, under 5 and Non-FHCI cases were discharged, while another proportion are still at the various health facility by the time this report is produced. Under 5 continues to report the highest number of death.

5.4.Table 11: Referral by Health Facilities (Hospitals)

REFERRAL HOSPITAL	Apr-22	May-22	Jun-22	Jul-22
Tertiary Facility Total	97	21	73	58
Connaught Hospital	24	3	16	9
Ola During Children's Hospital	9	3	-	3
Princess Christian Maternity Hospital	64	15	57	46
Regional and District Hospital Total	226	111	191	179
Bo Government Hospital	22	16	22	23
Bonthe Government Hospital	-	-	-	1
Kabala Government Hospital	24	15	27	20
Kailahun Government Hospital	12	-	9	7
Kambia Government Hospital	34	4	20	25
Kenema Government Hospital	36	1	27	12
Koidu Government Hospital	30	36	28	22
Lungi Government Hospital	2	5	2	-
Magburaka Government Hospital	8	4	2	8
Makeni Government Hospital	11	3	16	13
Moyamba Government Hospital	14	3	11	7
Port Loko Government Hospital	5	14	4	4
Pujehun Government Hospital	25	10	22	37
Segbwema Government Hospital	3	-	1	0
Other Government Facility	28	6	18	15
Kingharman Road Government Hospital	3	-	4	-
Other Government facilities (i.e.Lumley)	1	-	1	-
Rokupa Government Hospital	20	3	11	12
34 MILITARY HOSPITAL	4	3	2	3
Private/NGO facility Total	36	21	43	34
Emergency	8	3	4	1
Kamakwie	3	1	-	7
Masanga	1	2	-	4
Mattru UBC Hospital	6	9	26	13
MSF Hospital – Kenema	3	1	1	4
LIFE CARE HOSPITAL	2	-	-	1
YELE	4	2	4	2
CHOITHRAM MEMORIAL HOSPITAL	3	1	2	1
CHINESE HOSPITAL	5	1	6	-
LION HEART HOSPITAL YELEH	1	-	-	-
AT HOME	-	1	-	1
COVID-19 CTC/CCC/ISOLATION	-	-	-	-
RENDEZ_VOUS	6	1	9	9

Table 11 shows the NEMS general monthly referrals to the main hospitals for the month of July. The table compares the data between April, May, June and July 2022. You can see that for the month under review (July), the other facilities accounts for the least recipient of referrals (15) as follows:

♦ King Harman Road (0), Lumley (0), Rokupa (12) and 34 Military (3) compared to June with a total receipt of 18. This indicates a significant decrease in the following months.

♦ The Regional and District Hospitals received 179 for July, a drop from the previous month. This indicates a decrement in the number of patients referred to the Regional and District Hospitals.

♦ Furthermore, the table adjacent to this narratives displays the number of patients referred to COVID-19 Treatment Centres and Isolation Units, with a drop to 0 on the number of confirmed cases for both April, May, June and July 2022.

♦ There is a stagnation on Rendezvous.

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5.5.1 Figure 17: Number of Referred Patients by Arrival

The graph labelled **figure 17** provides a detailed analysis on patients' arrival method at the various hospital where referral coordinators are attached. The July 2022 data demonstrates that the most common means of arrival at hospital is through the utilization of other means.

Number of Incoming Referred Patients Supported by Means of Arrival, Oct 2017 to July 2022

5.2. Table 12: Arrival Methods of the Referrals by Hospital
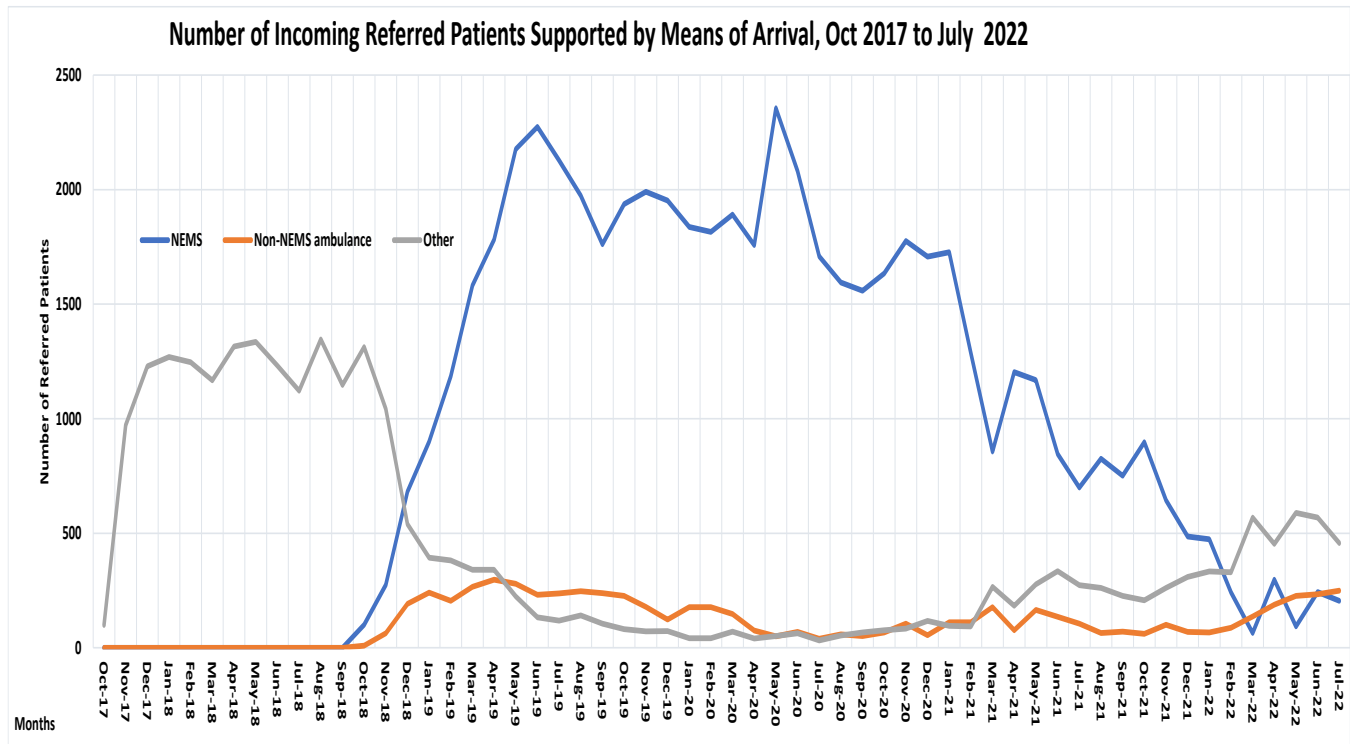
- NEMS Ambulances — 37.7%
- NON-NEMS Ambulances — 16.6%
- Other — 45.6%
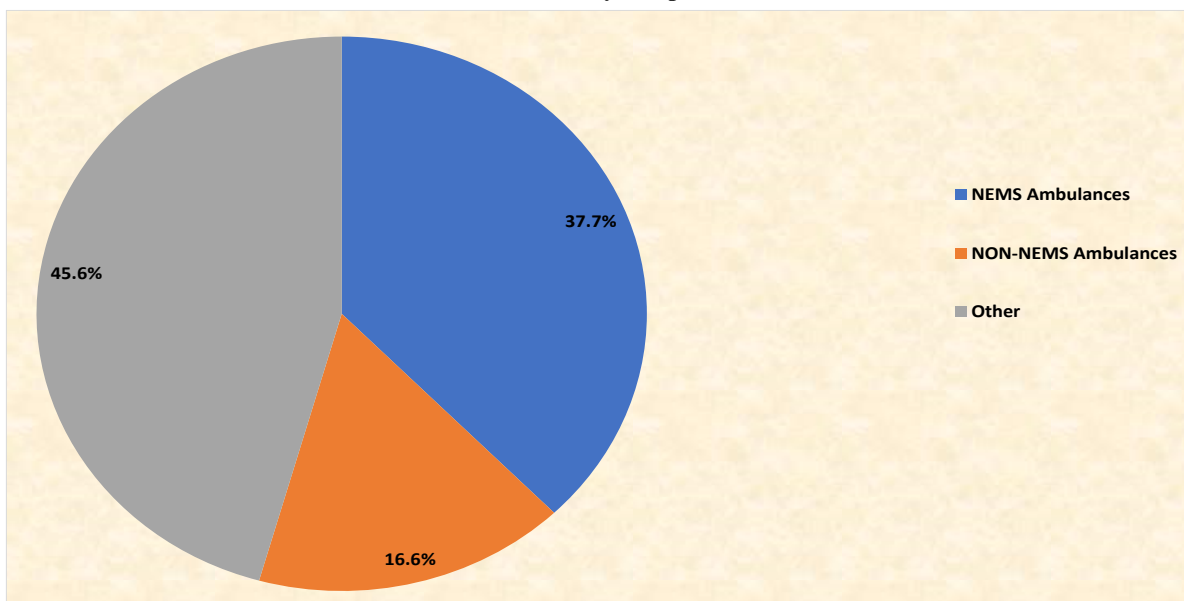
The pie chart labelled figure 12 above, exemplifies the methods of arrival provided by NEMS, Non-NEMS ambulances and other means to the various health facilities nationwide for the month of July 2022. The data as displayed in the pie chart above shows **37.7%** of the total number of referred cases received by the respective hospitals were transported by NEMS, while 45.6% of the total referred cases were transported by other means and 16.6% of the total number of referred cases that used Non-NEMS ambulances of transportation as displayed on the pie chart above.

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Table 12: Arrival Methods of the Referrals by Hospital

REFERRAL FACILITIES	NEMS Ambulances	NON-NEMS Ambulances	Other
Tertiary Facility	**21.4%**	**33.4%**	**45.2%**
34 Military Hospital	0.0%	61.5%	38.5%
Connaught Hospital	15.9%	56.8%	27.3%
Kingharman Road Govt. Hospital	0.0%	100.0%	0.0%
Lumley Govt. Hospital	0.0%	11.1%	88.9%
Ola During Children's Hospital	4.3%	0.0%	95.7%
Princess Christian Maternity Hospital	29.9%	4.4%	65.7%
Rokupa Govt. Hospital	100.0%	0.0%	0.0%
Private/NGO facility Total	**58.8%**	**0.0%**	**41.2%**
Matru UBC Hospital	58.8%	0.0%	41.2%
Regional/District Hospital	**33.0%**	**16.5%**	**50.6%**
Kabala Govt. Hospital	55.2%	0.0%	44.8%
Bo Govt. Hospital	100.0%	0.0%	0.0%
Kailahun Govt. Hospital	10.6%	0.0%	89.4%
Kambia Govt. Hospital	85.7%	0.0%	14.3%
Kenema Govt. Hospital	12.5%	62.5%	25.0%
Koidu Govt. Hospital	-	-	-
Lungi Govt. Hospital	0.0%	0.0%	100.0%
Magburaka Govt. Hospital	3.4%	96.6%	0.0%
Makeni Govt. Hospital	54.5%	9.1%	36.4%
Moyamba Govt. Hospital	11.1%	11.1%	77.8%
Port Loko Govt. Hospital	3.5%	1.8%	94.7%
Pujehun Govt. Hospital	26.1%	0.0%	73.9%
Grand Total	**37.7%**	**16.6%**	**45.6%**

The tabular representation labelled **table-12** provides a simplified display of patients' arrival methods at the secondary and tertiary hospital nationwide for the month of July 2022. For tertiary hospitals, there has been an increase on the percentage of arrival method supported by Non-NEMS ambulance and other means. It is only Rokupa Hospital that reported 100% NEMS arrival method. It is essential to note that King Harman Road Government Hospital reported 100% of Non-NEMS referrals.

58.8% of the Missions to Mattru used NEMS ambulance to transport patients to their facility, while the remaining 41.2% used other means.

For Regional/District hospital, it is only Bo that used 100% NEMS ambulances for the month of July 2022, while the others health facilities reported receiving less than 90% of NEMS referrals.

5.2. Table 13: Time Taken to Triage

Time Taken to Triage	BO	BOMBALI	BONTHE	FALABA	KAILAHUN	KAMBIA	KENEMA	KARENE	KOINADUGU	KONO	MOYAMBA	PORT LOKO	PUJEHUN	TONKOLILI	WESTERN AREA RURAL	WESTERN AREA URBAN	Grand Total July 2022	Percentage July 2022	Grand Total June 2022	Percentage June 2022
00:00:00 to 00:05:00	4	13	3	4	2	7	9	2	10	6	8	9	11	5	17	17	127	31.2%	140	29.1%
00:05:01 to 00:10:00	11	9	7	3	6	17	8	3	7	16	6	2	16	2	21	12	146	35.9%	201	41.8%
00:10:01 to 00:15:00	6	4	1	0	2	3	1	1	3	7	1	2	8	1	8	7	55	13.5%	59	12.3%
00:15:01 to 00:20:00	2	0	2	2	2	1	3	0	1	1	1	0	2	2	3	2	24	5.9%	20	4.2%
00:20:00 to 00:30:59	2	0	2	0	0	2	1	0	2	0	1	1	3	1	2	0	17	4.2%	20	4.2%
00:31:00 to 01:59:59	4	0	4	0	1	1	0	1	3	2	2	0	1	0	3	3	25	6.1%	29	6.0%
02:00:00 to 02:59:59	1	0	0	0	0	0	0	1	0	1	0	0	2	1	0	0	6	1.5%	4	0.8%
03:00:00 to 03:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	3	0.6%
04:00:00 to 04:59:59	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.2%	1	0.2%
05:00:00 to 05:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	1	0.2%
06:00:00 to 06:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0	0.0%
07:00:00 to 07:59:59	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.2%	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%	2	0.4%
09:00:00 to 09:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0	0.0%
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%	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%	1	0.2%
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%	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%	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%	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%	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%	0	0.0%
17:00:00 to 17:59:59	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1.0%	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%	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%	0	0.0%
20:00:00 to 20:59:59	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.2%	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%	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%	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%	0	0.0%
Grand Total/District	34	26	19	9	13	31	22	8	27	33	19	14	45	12	54	41	407	100.0%	481	100.0%

The table above delineates the time taken by Call Centre to triage a patient when a call is received. In July 2022, call centre took less than 15 minutes to triage **80.6%** of the total Calls received, while in June 2022, it took less than 15 minutes to triage **83.2%** of the total calls supported, with a difference of **3.4%** increment. The calls data shows that 19.4% of the total calls received that took more than 15-minute, which could be due to inevitable challenges in the allocation of an ambulance to undertake a specific mission in July. In comparison with June , which showed a total of **16.8%** of the Calls supported took more than 15 minutes to triage a patient and make a decision to send an ambulance.

5.2.1. 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 July 2022	Percentage July 2022	Grand Total June 2022	Percentage June 2022
00:00:00 to 00:30:59	15	10	13	2	3	12	4	5	7	11	10	1	18	4	41	20	176	60.3%	181	56.4%
00:31:00 to 01:59:59	8	5	6	2	2	12	1	7	7	10	4	5	17	5	7	0	98	33.6%	121	37.7%
02:00:00 to 02:59:59	0	0	0	4	0	0	0	1	1	1	2	0	1	0	0	0	10	3.4%	10	3.1%
03:00:00 to 03:59:59	0	0	0	0	0	0	0	1	1	3	0	1	0	0	0	0	6	2.1%	4	1.2%
04:00:00 to 04:59:59	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.3%	2	0.6%
05:00:00 to 05:59:59	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3%	0	0.0%
06:00:00 to 06:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0	0.0%
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%	2	0.6%
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%	0	0.0%
09:00:00 to 09:59:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	0	0.0%
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%	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%	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%	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%	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%	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%	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%	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%	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%	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%	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%	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%	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%	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%	1	0.3%
Grand Total/District	23	15	19	9	5	24	5	14	16	25	16	7	37	9	48	20	292	100.0%	321	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), a health facility or private homes is shown in the table above. In July 2022, **97.3%** of the missions undertaken took less than 3-hour to reach the targeted PHU, while in June 2022, **97.2%** of the total missions supported by NEMS took less than 3-hour to get to the particular health facility that requested for an ambulance. The data further shows that **2.7%** of the missions in July 2022 took more than 2-hours to locate the respective PHUs.

5.2.2.Table 14: Time Taken to Reach the Hospital

Time Taken to Reach the Hospital	BO	BOMBALI	BONTHE	KAILAHUN	KAMBIA	KENEMA	KOINADUGU	KARENE	KONO	MOYAMBA	PORT LOKO	PUJEHUN	TONKOLILI	WESTERN AREA RURAL	WESTERN AREA URBAN	Grand Total July 2022	Percentage July 2022	Grand Total June 2022	Percentage June 2022
00:00:00 to 00:30:59	9	1	4	1	11	3	3	2	6	4	0	7	0	11	8	70	25.3%	77	23.9%
00:31:00 to 01:59:59	10	11	12	7	11	11	5	3	9	9	5	21	7	36	12	169	61.0%	194	60.2%
02:00:00 to 02:59:59	1	1	0	0	0	2	3	0	4	3	0	2	2	0	1	19	6.9%	33	10.2%
03:00:00 to 03:59:59	2	1	1	0	2	0	1	0	0	0	0	0	0	0	0	7	2.5%	9	2.8%
04:00:00 to 04:59:59	1	0	0	0	0	0	3	0	0	0	0	1	0	0	0	5	1.8%	4	1.2%
05:00:00 to 05:59:59	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	3	1.1%	1	0.3%
06:00:00 to 06:59:59	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4%	0	0.0%
07:00:00 to 07:59:59	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.4%	1	0.3%
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%	1	0.3%
09:00:00 to 09:59:59	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.4%	1	0.3%
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	0.0%
11:00:00 to 11:59:59	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.4%	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	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%	1	0.3%
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	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	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	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	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	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	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	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	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	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	0.0%
	26	14	17	8	24	16	16	5	20	16	5	33	9	47	21	277	100.0%	322	100.0%

Immediately after the collecting the patient from the PHU, the NEMS ambulance team then travel with the patients to a specific or selected 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 in June 2022, **93.1%** of the missions supported took less than 3 hours to reach the required health facilities, while in May, we saw a total of **94.3%** of the number of missions supported by NEMS within 3-hour to reach their various health facilities, which decreased by **1.2%** to the previous month.

Missions by Ambulances: **Figure 19: Km Travelled by District**
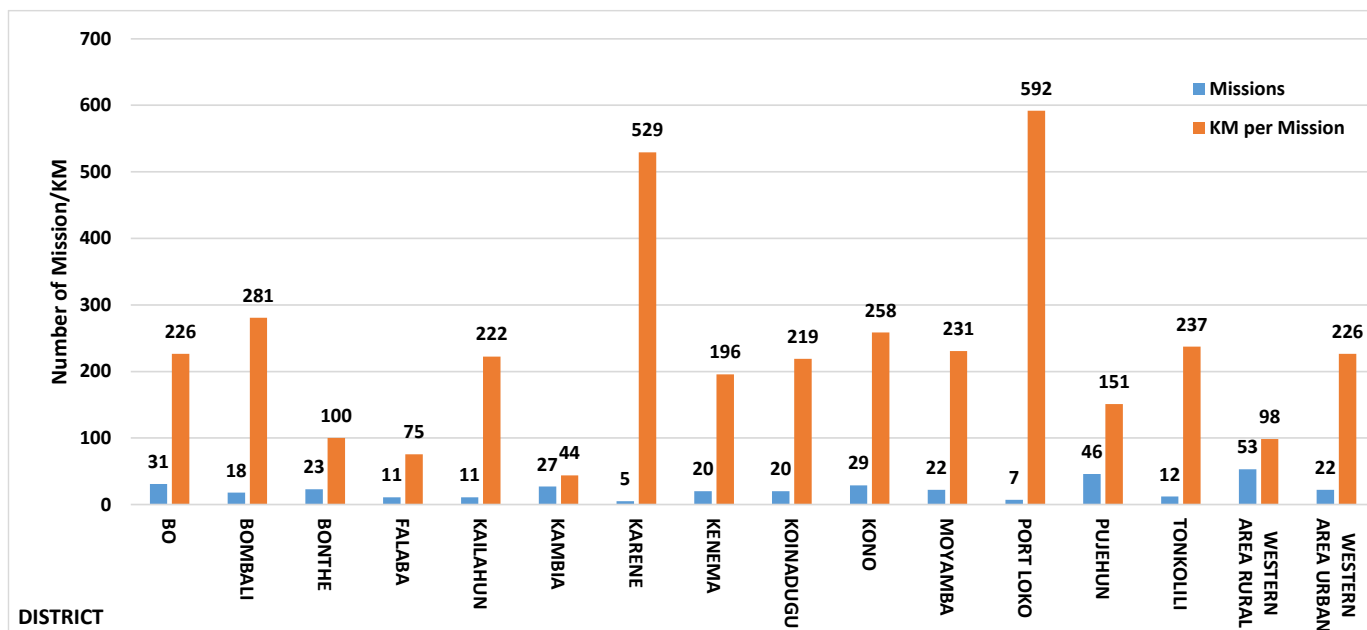

Figure 19: Km Travelled by District
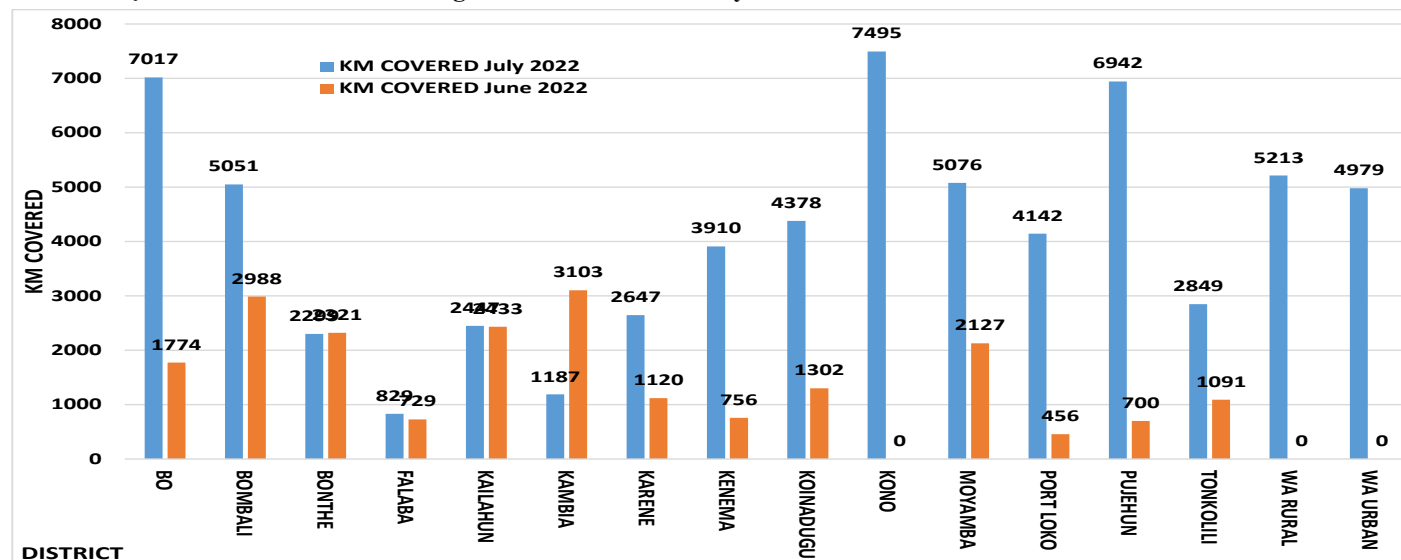
The District Ambulance Supervisors (DAS) provides a Monthly Kilometre Reports showed that, In July 2022 data, a cumulative **66,461** km was travelled, when put in contrast with the June 2022—**20,900** Km indicating a significant rise by **45,561** km in the kilometres travelled by NEMS ambulances for the month under review.

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 July and June 2022.

Assessment of the district data showed that, there was a general rise in the July 2022 figure compared to the June 2022 figure for every districts in Sierra Leone.

**MINISTRY OF HEALTH
AND SANITATION**

*49 J Spur rd, Freetown,
Sierra Leone*

NEMS

National Emergency
Medical Service

Figure 20: Average Km/Mission

The Bar chart labelled figure 20 compares the average KM covered for a mission by district for July 2022. For the month under review, the district with the highest average KM per mission is Port Loko with 7 missions, while the ambulances covered a significant 592 Kilometre per mission (km/mission). The other districts that experienced significant increases include Karene by (529) km/mission, Bombali by 281 km/mission and Kono by 258 km/mission. It is essential to understand that, other district NEMS ambulances transported the missions recorded by Falaba and Karene. 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).