



St John



Activity Report

Ambulance Service

01 July – 30 September
2021

Published 2 November 2021, Port Moresby



Introduction

This document reports the activity of the St John National Ambulance Services for the period of 01 July 2021 until 30 September 2021. Activities are described by their clinical, demographical and geographical characteristics in NCD, Central, East New Britain, Morobe and Simbu province.

St John is the primary ambulance service in Papua New Guinea, serving a combined population of about 3 million people across National Capital District, Central, Morobe, Simbu and East New Britain Provinces.

In partnership with the PNG Government, St John is expanding ambulance stations across PNG to ensure that more people can access an ambulance in time of need.

Summary of the reporting period

St John attended a total of 3,529 incidents during the report period.

There was an increase of 277 cases between quarter 3 2021 and quarter 2 2021.

This represents 9% increase compared to quarter 2 2021.

St John employed over 190 full-time staff and approximately 100 reservists, short-term contractors, and volunteers.

Background

Ambulance Services are responsible for the provision of acute prehospital medical care to patients with illnesses and injuries. Ambulance services have a key role in helping people obtain quality health care in an emergency, minimising the patient's degree of injury and reducing fatalities¹.

Response time is the time from when the ambulance service receives the call, to when the ambulance arrives at the patient. Response time is fundamental factor for prehospital care to be successful. Response time must be managed to increase the patients' chances of survival².

1. Aringhieri R, Carello G, Morale D. Supporting decision making to improve the performance of an Italian Emergency Medical Service. *Ann Oper Res.* 2016;236:131-48. doi: 10.1007/s10479-013-1487-0.

2. Lawner BJ, Hirshon JM, Comer AC, Nable JV, Kelly J, Alcorta RL, Pimentel L, Tupe CL, Vanhoy MA, Browne BJ. The impact of a freestanding ED on a regional emergency medical services system. *Am J Emerg Med.* 2016 Aug;34(8):1342-6. doi: 10.1016/j.ajem.2015.11.042

Ambulance service resource overview

Staff	Operator	Trainee	Call-taker	Dispatcher	RN	Duty Commander	Other	Total staff
111 Ambulance Control Centre	8	0	8	8	1	4		29
	Reservist	Trainee	Qualified	RN	HEO	Paramedic	MO	Total staff
NCD	22	13	20	1	2	1		59
Central	0	0	0	0	0	0	0	0
Lae	3	0	2	1	0	0	0	6
Kokopo	3	0	2	0	0	0	0	5
Kundiawa	3	0	1	0	0	0	0	4
Total	31	13	25	2	2	1	0	74

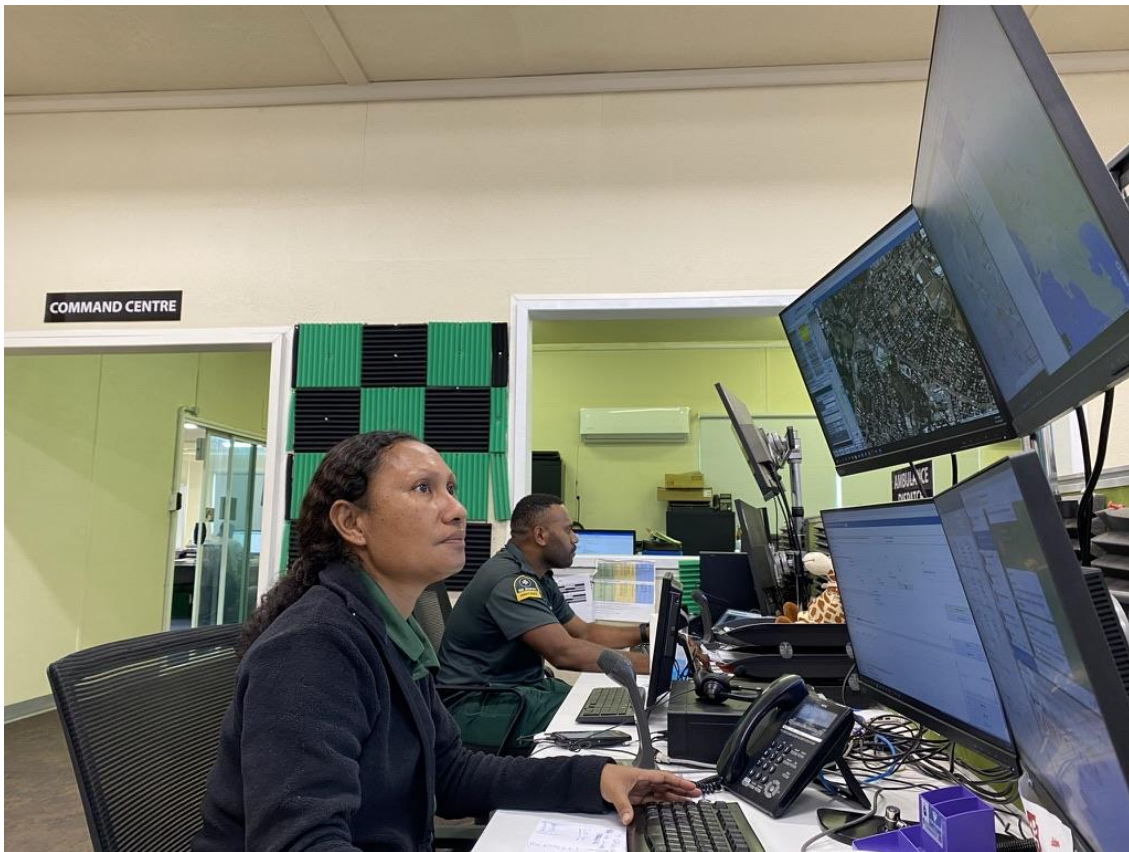
Ambulance Equipment	Stryker Stretcher	% serviced	Pager	HF Radio	UHF radio	Satellite radio	Monitor/defibrillator	AED
NCD			12	0	14	0	Life Pack 12 = 14 Zoll = 6	14
Central	0	0%	0	0	0	0	0	0
Lae	3 1 faulty 2 in use	0%	2 1 in use 1 faulty	0	0	0	1 life pack 12 in use 1 life pack 12 faulty 1 life pack 15 in use	0
Kokopo	2	0%	2 1 in use 1 faulty	0	0	0	1 life pack 12	0
Kundiawa	1	0%	2	0	0	0	1 life pack 12	0
Total			18	0	14	0	25	14

Ambulances	Land cruiser Ambulance	% serviced this period	Van Ambulance	% serviced this period
NCD	4	100%	16	100%
Central	1	100%		100%
Lae	1	100%	3	100%
Kokopo	1	100%	1	100%
Kundiawa	1	100%	2	100%
Total	8	100	22	100

Training conducted this period

Ambulance training	Q1	Q2	Q3
NCD	Annual reaccreditation course. RAO course TAO course	Advanced airway management training	Intensive Ambulance Officer course. Health Emergency Support Team Training
Central	Nil	Nil	Nil
Lae	Nil	IPC training Basic CPR training Kit familiarisation	
Kokopo	Refresher Training	IPC training	
Kundiawa	Nil	Nil	Nil
NACC			GoodSam Training
ASTA courses			





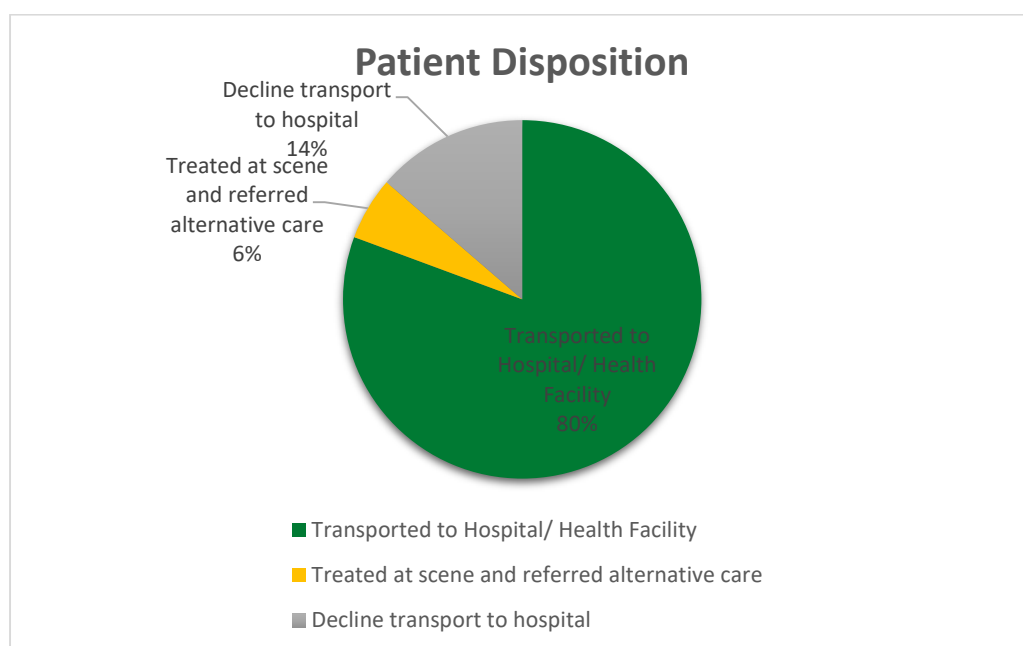
111 Ambulance Control Centre

The St John Control centre answered 203, 820 calls from July to September 2021.

Of the calls answered, 5,840 were created as cases in the Responder One computer-aided dispatch (CAD) system because they were deemed as cases requiring some form of health assistance, whether that was first aid advice, telemedical assistance from a health professional, or an ambulance or aircraft responding to the patient.

Patient disposition

A total of 3,529 cases were responded to by St John Ambulance. Of which, 2,846 were transported to a hospital or health facility, and 201 were treated at scene and referred alternative care and 482 declined transport to hospital.

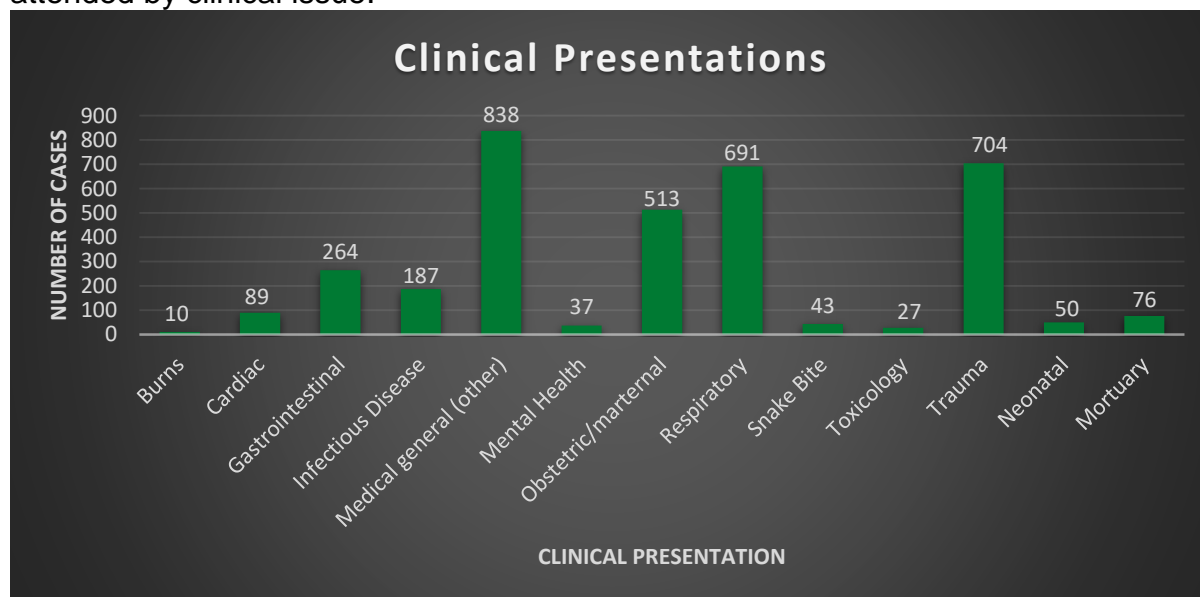


NCD		Morobe		Simbu		ENB	
Health Facility	Total cases	Health Facility	Total cases	Health Facility	Total cases	Health Facility	Total cases
2K Medical	2	Angau Hospital	84	Chuave Clinic	2	Butuwin Clinic	2
Gerehu Hospital	470	Buimo Clinic	1	Gogeme Clinic	1	Gelegele Clinic	1
Port Moresby General Hospital	1,963	Igam Clinic	1	Kundiawa Hospital	97	Kerevat Clinic	2
Paradise Private Hospital	17	Malahang Clinic	5	St Joseph Memorial Clinic	1	Napapar Clinic	2
Tokarara Clinic	1					Nonga Hospital	106
Pacific Adventist University Clinic	1					Paparatawa Clinic	2
Pacific International Hospital	22					Rabaul Clinic	2
						Vunapope Hospital	50
						Warangoi Clinic	11

Medical issues attended by ambulance service

During the reporting period, St John attended to 3,529 cases. This is 277 increase compared to quarter 2 2021.

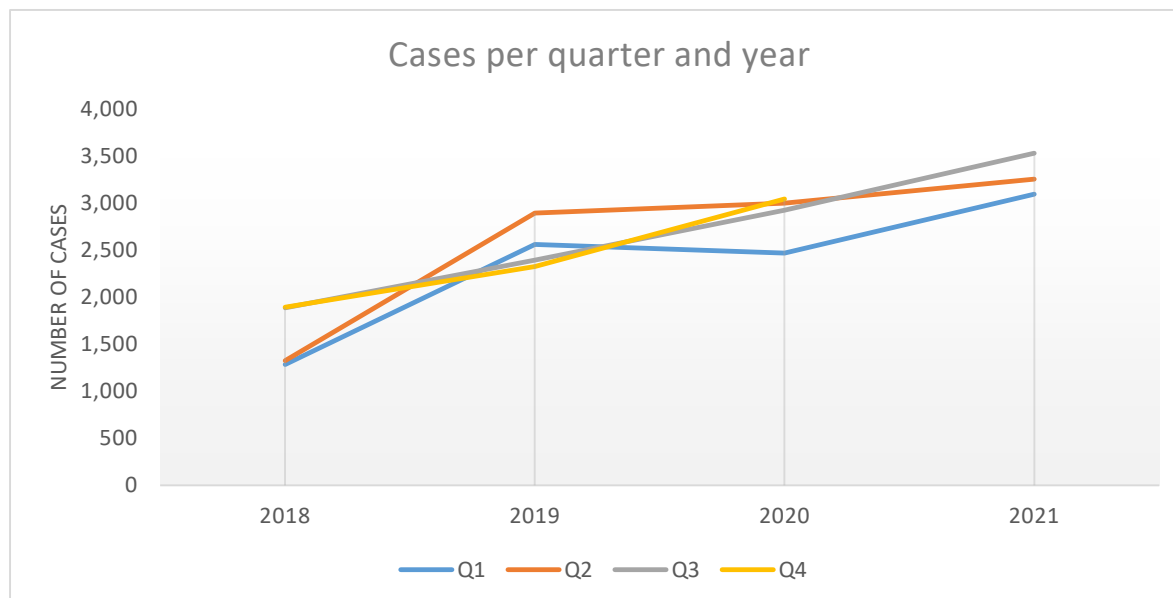
The graph below shows the type of clinical issue and the total number of cases attended by clinical issue.



The table below shows the number of cases and the type of clinical issues attended to in quarter 3 2021 compared to quarter 2 2021.

Clinical Presentations	Q3 2021	%	Q2 2021	%	Δ %
Burns	10	≤1	13	≤1	23-
Cardiac	89	3	93	3	4-
Gastrointestinal	264	7	243	7	9+
Respiratory	691	20	517	16	34+
Infectious disease	187	5	437	13	57-
Trauma	704	20	564	17	25+
Mental health	37	1	33	1	12+
Snake bite	43	1	53	2	19-
Mortuary	76	2	39	1	95+
Obstetric/maternal	513	15	527	16	3-
Toxicology	27	1	34	1	21-
Neonatal	50	1	68	2	26-
Medical general (other)	838	24	631	19	33+
Total	3,529	100	3,252	100	

Significant increase in cases since 2017



CEO's Analysis of clinical presentations variances

St John is observing an exponential growth in cases requiring assistance from St John each quarter. This growth has been consistent since 2017.

The current workload indicates an absolute need to staff and operate more ambulances in NCD, Lae, Kokopo and Kundiawa.

By way of background, to operate a single ambulance 24hrs requires a 9.0 FTE ambulance officers who work in shifts of two. The additional officer covers routine and unplanned leave of others on the crew.

Case presentations by incident type

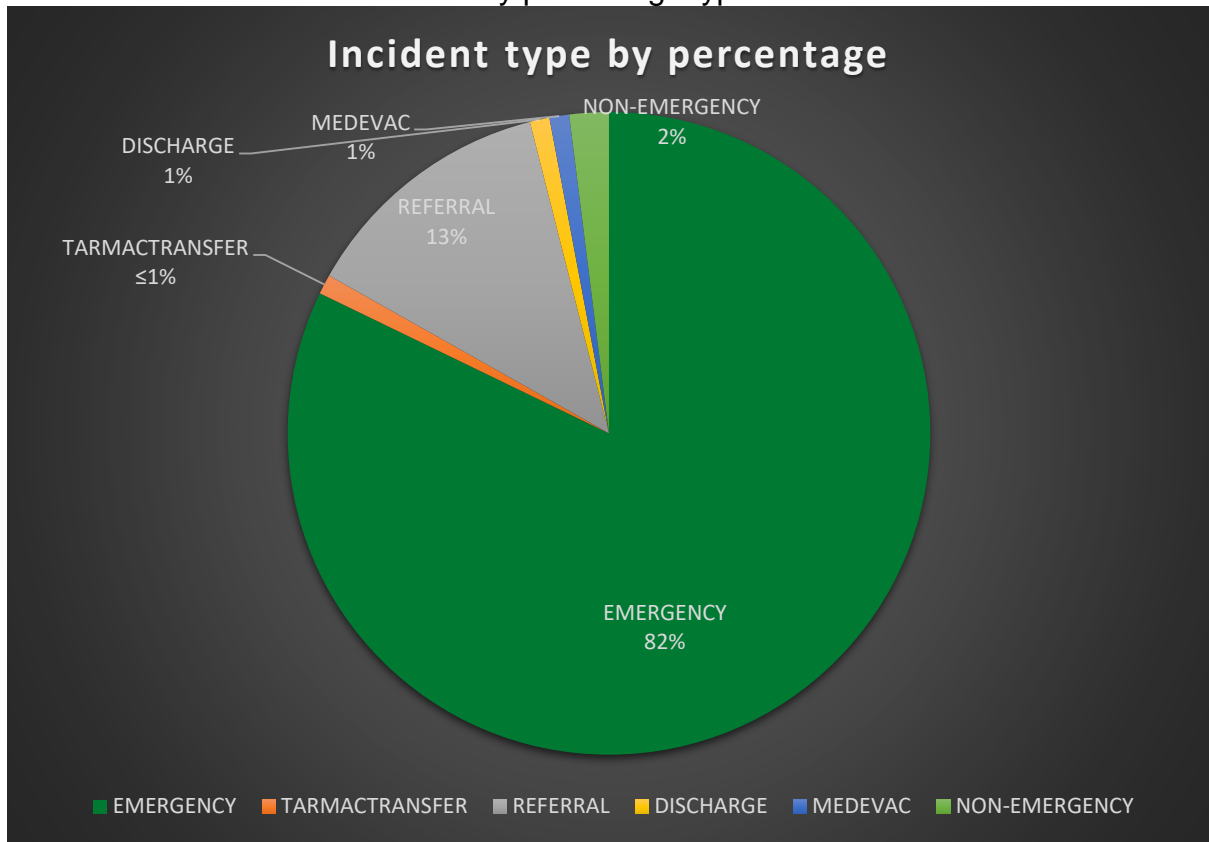
During the report period, 83% of cases St John attended were classified as Emergency.

'Emergency' means a primary incident to which St John was requested through the 111 call centre to send an ambulance to the scene. In an emergency, the patient usually requires some form of treatment to be administered by ambulance officers.

'Referral' means a case where a health professional has booked transport of a patient usually to-or-from a health facility. Referrals accounted for 13% of the total number of cases St John attended.

The remaining 4% includes medical evacuations (medevac), tarmac or discharge transfers and non-emergency calls, such as the transportation of the deceased and other non-life-threatening cases.

The chart below illustrates cases by percentage type.

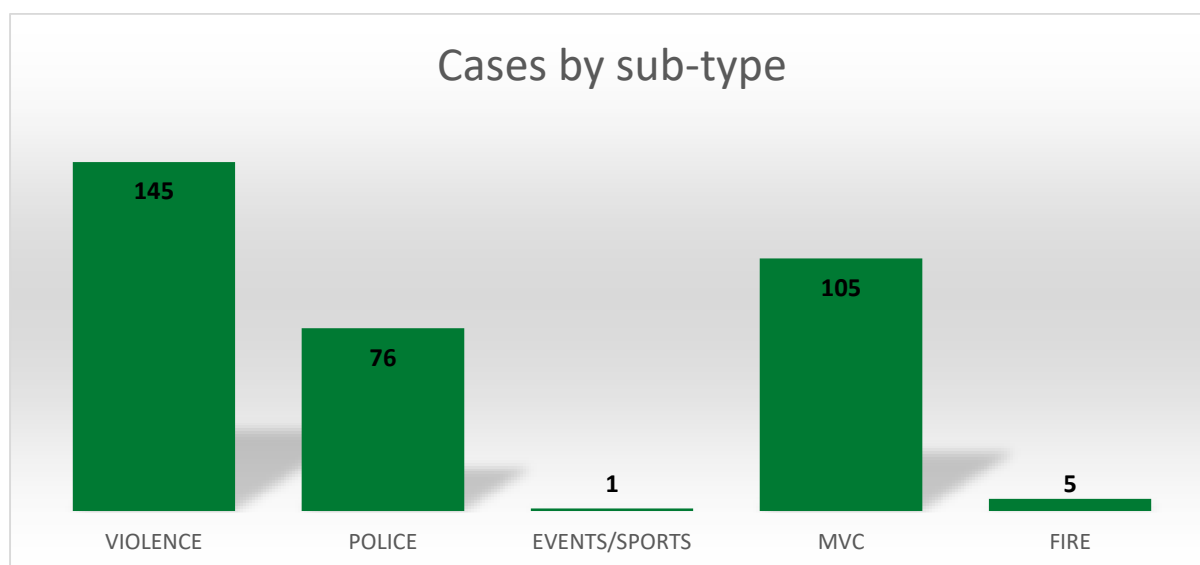


Special incident sub-types

Certain types of cases are of reporting significance to special interest organisations, such as law enforcement, Motor Vehicle Insurance Limited or UN agencies.

The five main special incident categories reported are violence, motor vehicle collisions (MVC), fire, police and events (e.g. sport/ other).

This graph shows the number of cases by incident sub-type.



Electorate	Violence	%	MVC	%	Police	%	Sports Injury	%	Fire	%
Moresby North East	38	26	29	28	30	39	0	0	4	80
Moresby North West	35	24	25	24	36	47	1	100	0	0
Moresby South	30	20	4	4	9	12	0	0	0	0
Central	20	14	38	36	1	1	0	0	0	0
Kokopo	9	6	1	1	0	0	0	0	0	0
Lae	6	4	7	7	0	0	0	0	1	20
Simbu	9	6	1	1	0	0	0	0	0	0

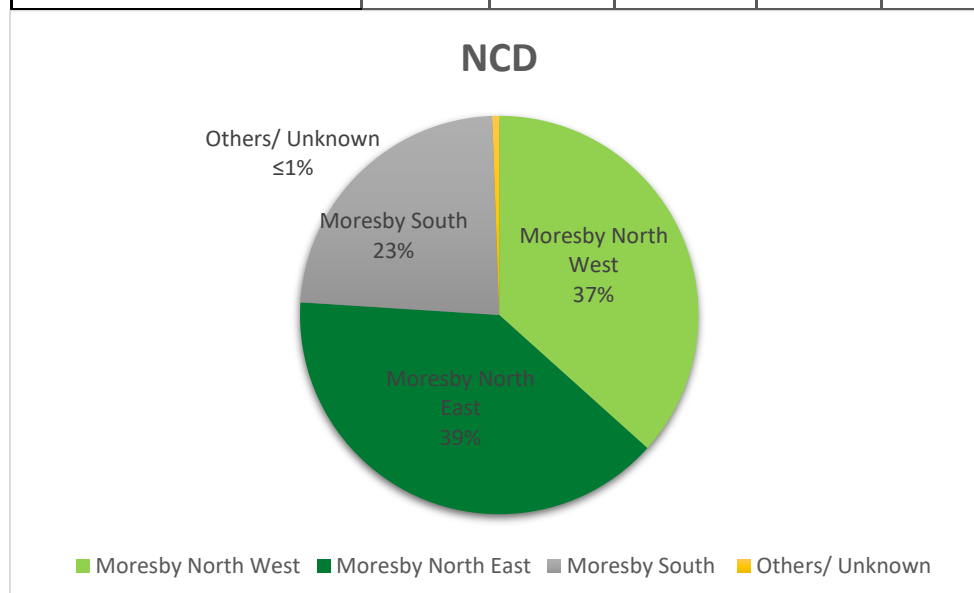
Cases by Electorate –

St John operates full ambulance service in the National Capital District, Central and East New Britain provinces.

Our services in other provinces are currently limited to air ambulance response.

NCD

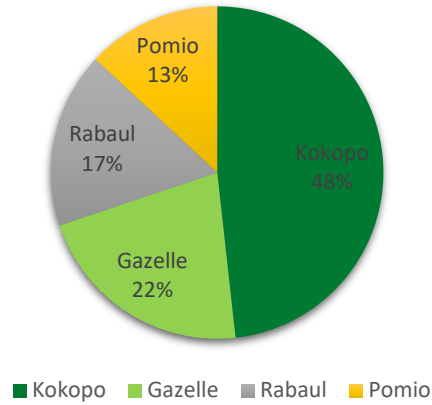
ELECTORATE	Q3 2021	%	Q2 2021	%	Variance
Moresby North West	987	37	985	38	2+
Moresby North East	1060	40	1109	43	49-
Moresby South	631	23	503	19	128+
Others	15	≤1	6	≤1	9+



East New Britain

ELECTORATE	Q3 2021	%	Q2 2021	%	Variance
Kokopo	96	48	104	47	8-
Gazelle	43	22	50	22	7-
Rabaul	34	17	49	23	15+
Pomio	26	13	19	9	7+

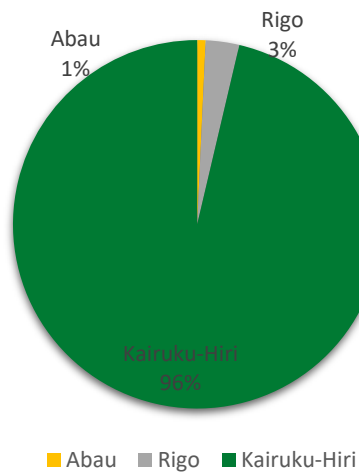
East New Britain Province



Central Province

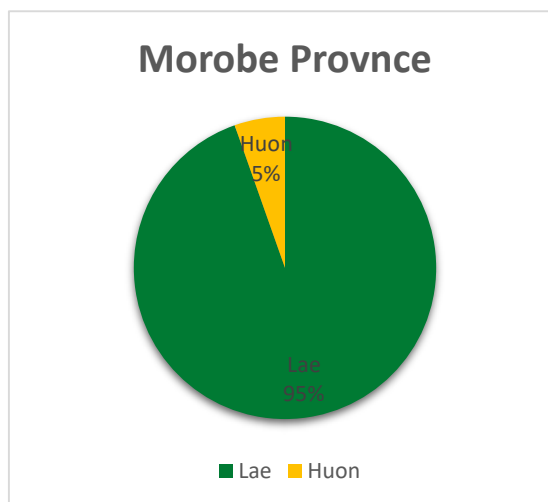
ELECTORATE	Q3 2021	%	Q2 2021	%	Variance
Abau	3	1	4	1	1-
Rigo	12	3	10	3	2+
Goilala	0	0	0	0	0
Kairuku-Hiri	393	96	361	96	32+

Central Province



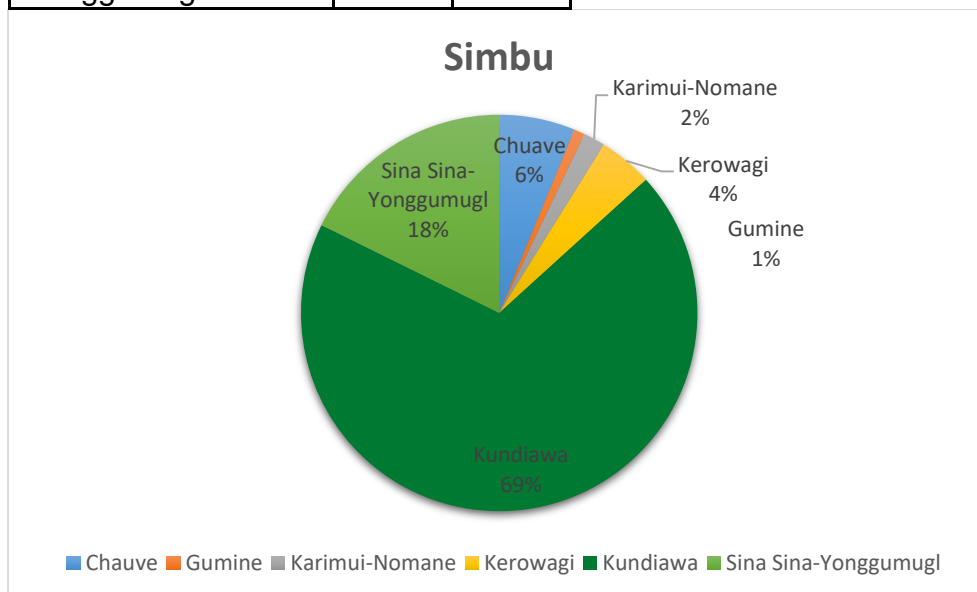
Morobe

ELECTORATE	Q3 2021	%
Lae	105	95
Bulolo	0	0
Finschhafen	0	0
Huon	6	5
Kabwum	0	0
Markham	0	0
Menyamaya	0	0
Nawae	0	0
Tewae-Siassi	0	0



Simbu

ELECTORATE	Q3 2021	%
Chuave	7	6
Gumine	1	1
Karimui-Nomane	2	2
Kerowagi	5	4
Kundiawa	78	69
Sina Sina-Yonggumugl	20	18



Response Performance by Priority (Median)

The response time of Emergency Ambulance Services (EAS) is an elemental factor for prehospital care to be successful and, therefore, must be controlled to increase the chances of survival³. Calls are assessed and triaged, with priority given in order of severity and acuteness of illness/injury, with priority 1A being the highest, and priority 8 being the lowest.

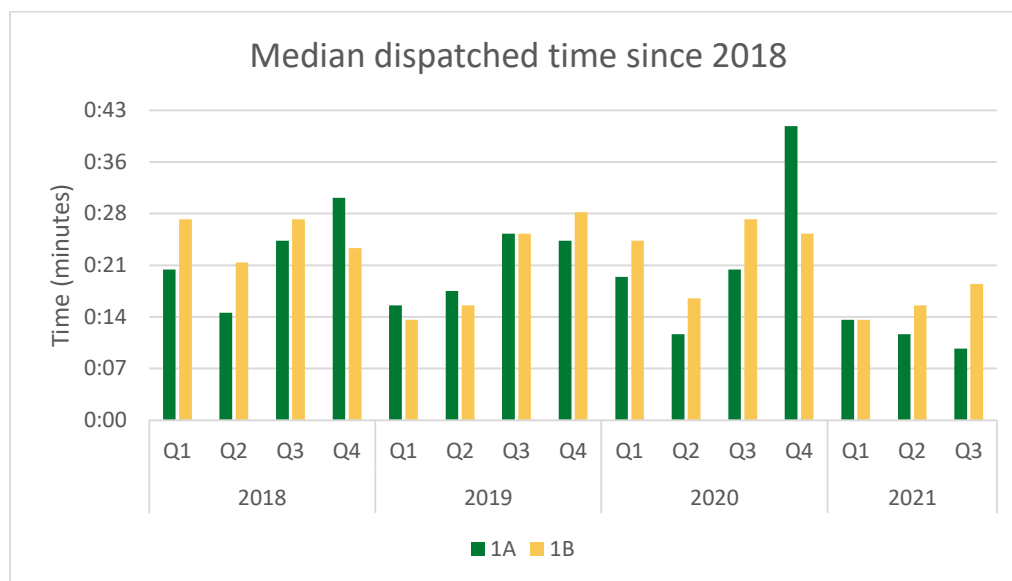
'Dispatch time' is defined as the time between when the call-taker first receives the call about a case and the dispatcher tasks an ambulance crew to attend the case by sending a message to crew (usually by radio or pager).

Dispatch Priority	Target	National Capital District		Central Province		East New Britain		Morobe	
		Q3 2021	Q2 2021	Q3 2021	Q2 2021	Q3 2021	Q2 2021	Q3 2021	Q2 2021
(seconds)									
1A	60	60	120	240	-	-	660	-	-
1B	90	180	180	180	360	180	180	180	300
1C	90	240	300	240	480	480	540	360	420
2A	180	240	180	240	480	480	480	240	360
2B	180	300	180	300	900	240	960	360	360
3	1200	720	720	420	1320	540	720	240	300
4	-	180	1020	-	-	-	660	-	3600
5	-	180	60	-	-	-	-	-	-
6	-	-	360	-	60	-	-	-	360
7	-	240	420	360	480	-	-	-	-



‘Response time’ is defined as the time between notification of an occurrence and the ambulance arrival at the scene.
According to the WHO, an ideal response time is equivalent to less than 8 minutes¹.

Graph showing the median response time per case priority.

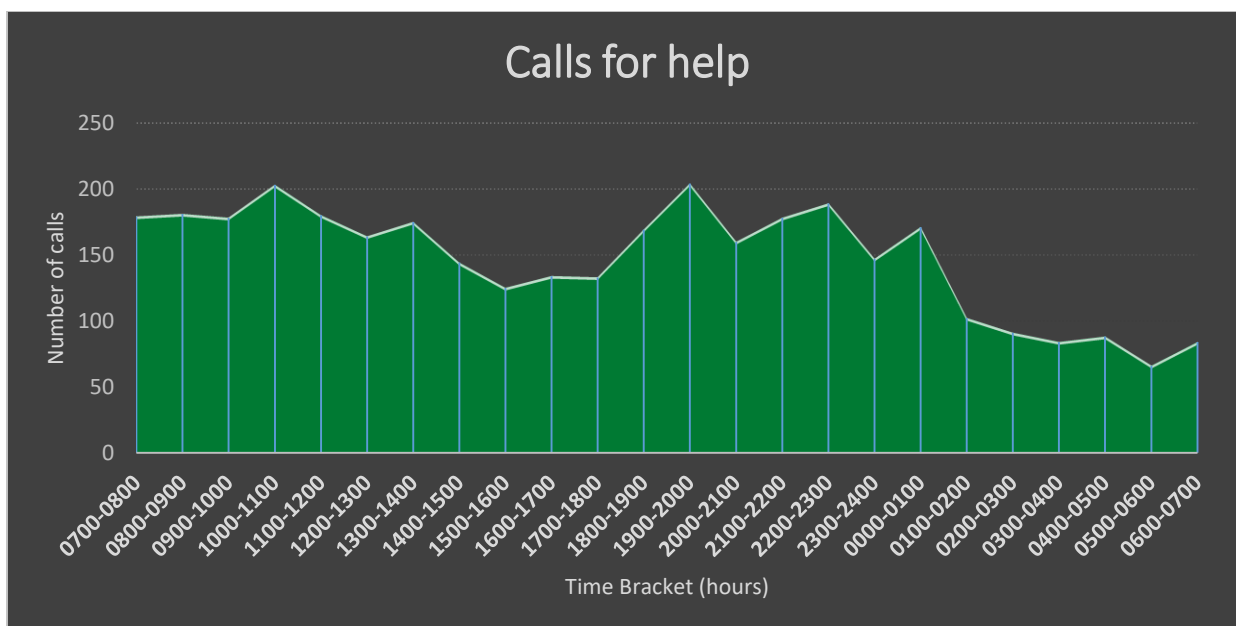


Response Time	Target	National Capital District		Central Province		East New Britain		Morobe	
		Q3 2021	Q2 2021	Q3 2021	Q2 2021	Q3 2021	Q2 2021	Q3 2021	Q2 2021
		(minutes)							
1A	10	10	12	65	-	-	32	-	-
1B	15	16	14	36	46	31	40	21	22
1C	15	20	22	53	54	48	34	30	30
1P (COVID-19)	15	30	5	25	-	-	-	-	-
2A	30	22	26	50	56	55	53	25	25
2B	60	26	27	56	75	46	52	14	19
2P (COVID-19)	60	26	48	-	-	47	117	-	-
3	90	26	36	95	127	51	73	23	38
4	120	35	43	-	-	-	46	-	145
5	180	13	14	-	-	-	-	-	-
6	180	64	62	-	30	-	-	-	18
7	720	17	27	61	61	-	-	-	-

Peak call periods

We keep track of the times in which calls for help are received.

For this period, the highest number of calls for help were received between 19:00 and 20:00 hours with a total of 204 calls. This is inconsistent with the previous



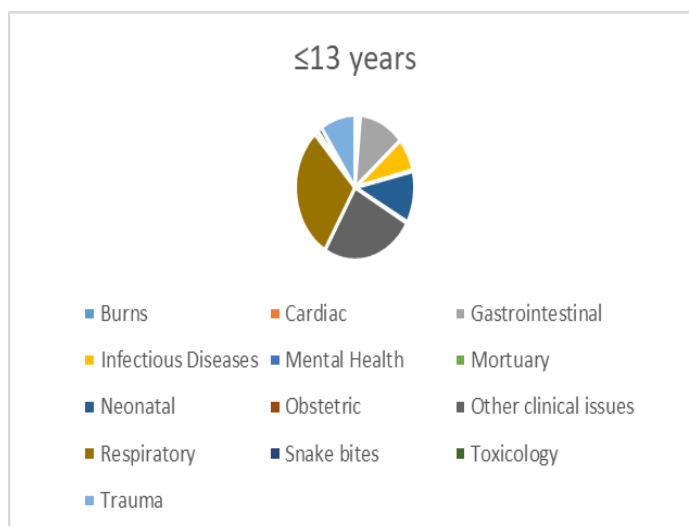
During the reporting period, the busiest time for St John Ambulance was between [10:00 and 11:00] hours during the day and [19:00 and 20:00] hours during the night. (Daytime period: 06:00 to 18:00); Night-time period: 18:01 to 05:59)



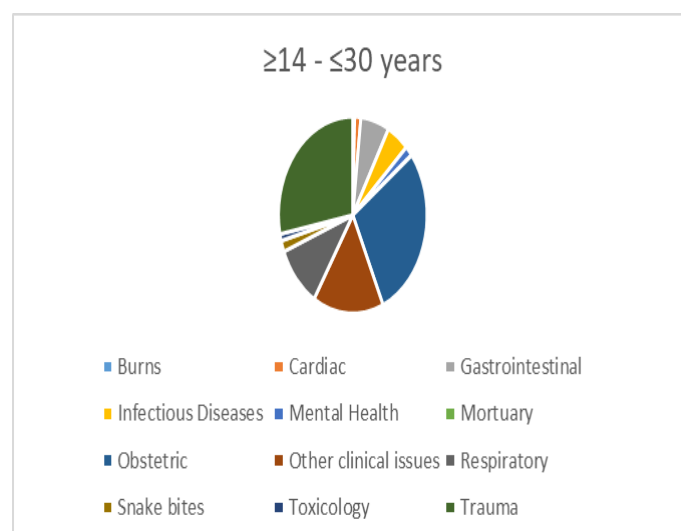
Patients by condition and age group

St John attends to people of all gender and ages. The table below shows cases as a percentage by age group.

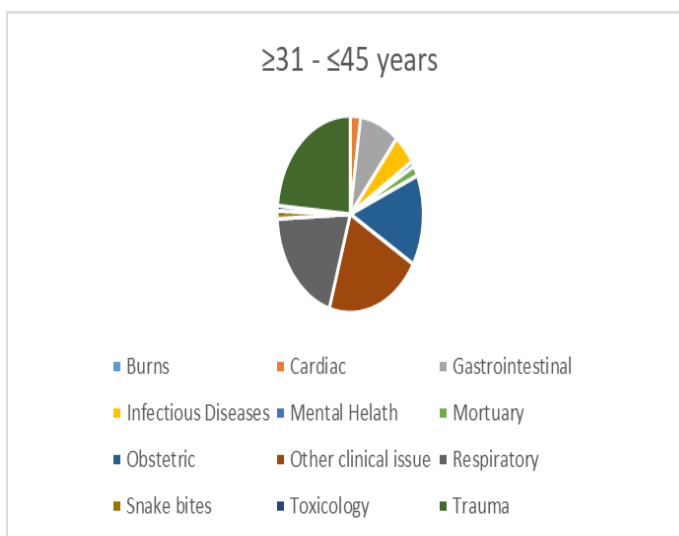
≤13 years	Q3 2021	Q2 2021
Clinical presentation		
Burns	1%	1%
Cardiac	≤1%	1%
Gastrointestinal	12%	9%
Infectious Diseases	7%	19%
Mental Health	≤1%	≤1%
Mortuary	0%	≤1%
Neonatal	12%	15%
Obstetric	≤1%	≤1%
Other clinical issues	25%	19%
Respiratory	30%	23%
Snake bites	1%	2%
Toxicology	1%	2%
Trauma	10%	9%



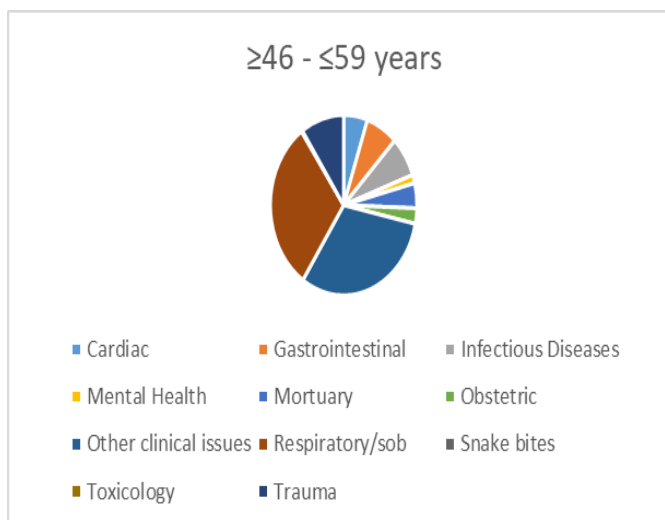
Age ≥14 - ≤30	Q3 2021	Q2 2021
Clinical presentation		
Burns	≤1%	≤1%
Cardiac	1%	2%
Gastrointestinal	6%	6%
Infectious Diseases	5%	9%
Mental Health	2%	1%
Mortuary	≤1%	≤1%
Obstetric	29%	31%
Other clinical issues	15%	14%
Respiratory	10%	9%
Snake bites	2%	2%
Toxicology	1%	1%
Trauma	28%	25%



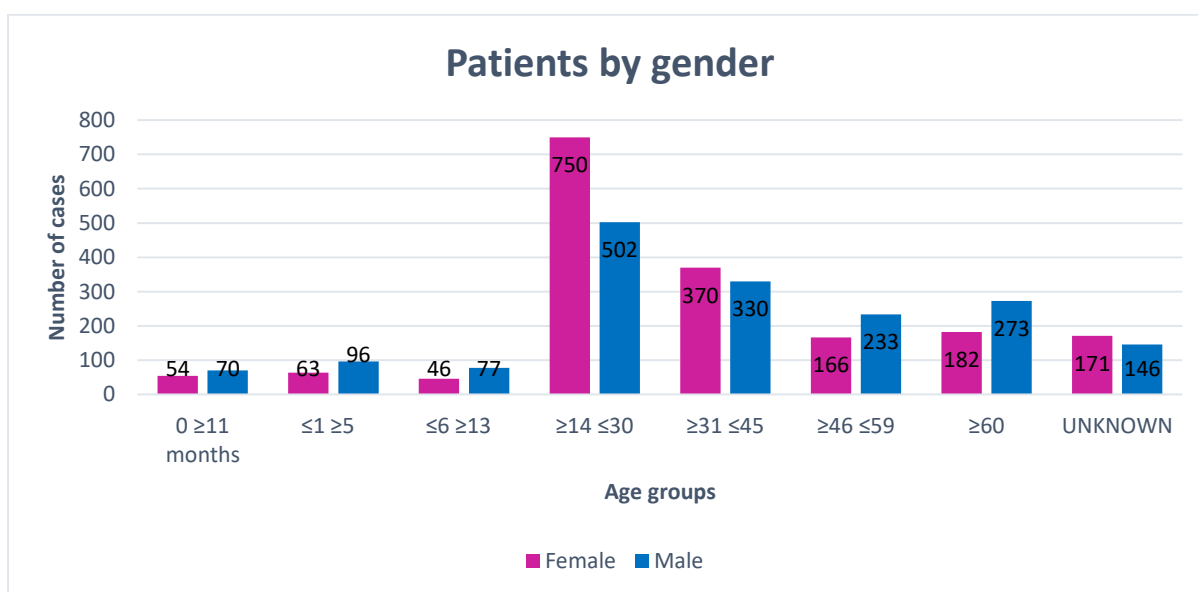
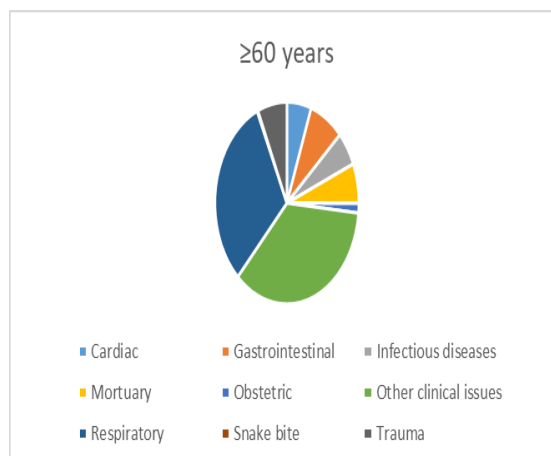
Age ≥31 - ≤45	Q3 2021	Q2 2021
Clinical presentation		
Burns	0%	≤1%
Cardiac	2%	2%
Gastrointestinal	9%	10%
Infectious Diseases	5%	15%
Mental Health	1%	1%
Mortuary	2%	1%
Obstetric	15%	18%
Other clinical issue	21%	16%
Respiratory	20%	17%
Snake bites	1%	1%
Toxicology	1%	1%
Trauma	24%	18%



Age ≥46 - ≤59	Q3 2021	Q2 2021
Clinical presentation		
Cardiac	5%	5%
Gastrointestinal	7%	8%
Infectious Diseases	7%	16%
Mental Health	2%	1%
Mortuary	5%	1%
Obstetric	3%	2%
Other clinical issues	31%	32%
Respiratory/sob	31%	21%
Snake bites	≤1%	1%
Toxicology	0%	≤1%
Trauma	10%	12%



Age ≥60	Q3 2021	Q2 2021
Clinical presentation		
Cardiac	5%	5%
Gastrointestinal	8%	8%
Infectious diseases	5%	16%
Mortuary	6%	
Obstetric	2%	
Other clinical issues	35%	33%
Respiratory	31%	29%
Snake bite	≤1%	
Trauma	30%	4%



The graph showing number of casualties per gender and age group.

Females aged between 14 – 30 years old account for the highest user of ambulance services in the areas of St John's operations during this period

Clinical presentation	Q3 2021	%	Q2 2021	%	Variance
Obstetric/maternal	750	42	711	43	39+
	-	-	-	-	

**St John**

Ambulance

Activity	NCD	Central	ENB	Morobe	Simbu	YTD total
	Q3 2021	Q3 2021	Q3 2021	Q3 2021	Q3 2021	Q3 2021
Assist with delivery of baby (baby delivered in care of ambulance officers)	15	5	3	2	0	25
CPR given by SJA	29	1	0	0	0	30
Patient is defibrillated by SJA	29	0	0	0	0	10
Patient administered salbutamol by SJA	269	12	14	0	0	295
Patient administered O2 by SJA	328	41	32	Nil record	1	402
Patient administered simple analgesia (paracetamol, ibuprofen)	256	60	4	7	2	329
Patient administered advanced analgesia (fentanyl, morphine, ketamine)	36	20	0	0	0	56
Number of medicines administered	1110	198	37	7	3	1355
Patient has pelvic splint applied	4	2	0	0	0	6
Patient has arterial tourniquet applied	0	1	0	0	0	1
A BVM is used on an adult	3	0	0	0	0	3
A BVM is used on a child	1	1	0	0	0	2
A BVM is used on a neonate	0	0	0	0	0	0
A basic airway is used (OPA / NPA)	6	0	0	0	0	6
An LMA is used	0	0	0	0	0	0
An ETT is used	0	0	0	0	0	0
An IV cannula is placed	22	4	2	0	0	28
RSI is performed by a SJA doctor or paramedic	0	0	0	0	0	0
A patient is transported on a ventilator	0	0	0	0	0	0
A patient is transported with an ETT in situ between health facilities	0	0	0	0	0	0

ANNEXE A – Key Performance Targets

Ambulance Service

Name	Target	Q3 2021	Q2 2021
Minimum ambulance crewing	Minimum of five ambulances are staffed 95% at all time.	6 ambulance attending to cases with total of 56 field officers. Due to increase cases of Covid-19 we have 8 Firefighters assist in attending to cases.	5 ambulance
Response time (NCD) 1A	An ambulance arrives on scene within 11 minutes from time of call for 1A cases	Median response time for this period was 10 minutes. Additional staff with 6 ambulance unit responding to emergency cases thus reduce the response time from 12 minutes to 10 minutes.	Median response time for this quarter was 12 minutes. As there were only 5 ambulance attending to cases.
Response time (NCD) 1B, 1C	An ambulance arrives on scene within 15 minutes from time of call for 1B & 1C cases	1B = 16 minutes 1C = 20 minutes	1B = 14 minutes 1C = 22 minutes
Response time (Regional Professional)	An ambulance arrives on scene within 15 minutes from time of call for 1A & 1B cases	Attending to emergency cases after-hours in Simbu, ENB and Lae	Attending to emergency cases after-hours in ENB province.
Response time (Regional Lite)	An ambulance arrives on scene within 30 minutes from time of call for 1A & 1B cases	Simbu 1A = Nil 1B = 0:47 minutes Lae 1A = Nil 1B = 0:21 minutes ENB 1A = Nil 1B = 31 minutes	ENB 1A = 32 minutes 1B = 40 minutes

National Ambulance Coordination Centre (111)

The National Ambulance Coordination Centre (NAAC) is the hub for the 111-emergency call centre and ambulance dispatching systems. It facilitates communication with and coordination of the ambulance service across NCD, Central and East New Britain provinces and the tracking of the Air Ambulance missions.

The NACC also provides clinical advice to communities and health workers in other provinces. The NACC enables interagency cooperation with other emergency service providers during times of mass casualty or complex incidents such as earthquakes.

Name	Target	Q3 2021	Q2 2021
Dispatch time	The median time for an ambulance to be dispatched to a 1A case within 90 seconds of call received	1A dispatched time = 60 seconds	1A dispatched time = 120 seconds
Staff succession planning and cross-training	Four (4) additional staff are cross trained as dispatchers and call takers	Training in progress for Call takers and Dispatchers.	Work in progress

Clinical & Operation Support Group (COSG) KPIs

Name	Target	Q3 2021	Q2 2021
Clinical case review	75% of case sheets reviewed and positive and constructive feedback given on 20% of cases.	On going	Ongoing
Skills maintenance records	All operational staff will have a skills maintenance record by September 2020	Completed skills training for Q3	Completed skills training for Q3
Electronic Patient Care Records	90% of cases completed on the ePCR system by 30 December 2020.	In progress- on track	In progress – on track





St John
Ambulance

For more information about this report contact enquiries@stjohn.org.pg
www.stjohn.org.pg

St John is a statutory organisation and charity operating in accordance with the *St John Council Incorporation Act of 1976*.

