



# St John



# Activity Report

## Ambulance Service

01 January – 31 March  
2021

**PRELIMINARY REPORT** 10 April 2021, Port Moresby





## Introduction

This document reports the activity of St John's ambulance service for the period of 01 January 2021 until 31 March 2021. Activities are described by their clinical, demography and geographical characteristics.

St John is the lead ambulance service in Papua New Guinea, serving a combined population of about 1.8 million people across National Capital District, Central and East New Britain Provinces.

We are focused on expanding operations to ensure that even more people across PNG can access an ambulance in time of need.

## Summary of the reporting period

St John attended a total of **3,090** incidents in first quarter 2021.

There was an increase of 621 cases between from first quarter 2020 (2,469) and 2021 (3,090).

This represents a 25% increase compared to the same period in the previous year.

St John employed over 161 full-time staff and approximately 62 contract and volunteer workers.

## Prehospital Care is essential to good health care

Ambulance services are essential to an effective emergency care system.

The Ambulance service is responsible for the provision of acute prehospital care for patients with illnesses and injuries and have a key role in providing quality health services to people, minimising the degree of injury and reducing fatalities<sup>2</sup>.

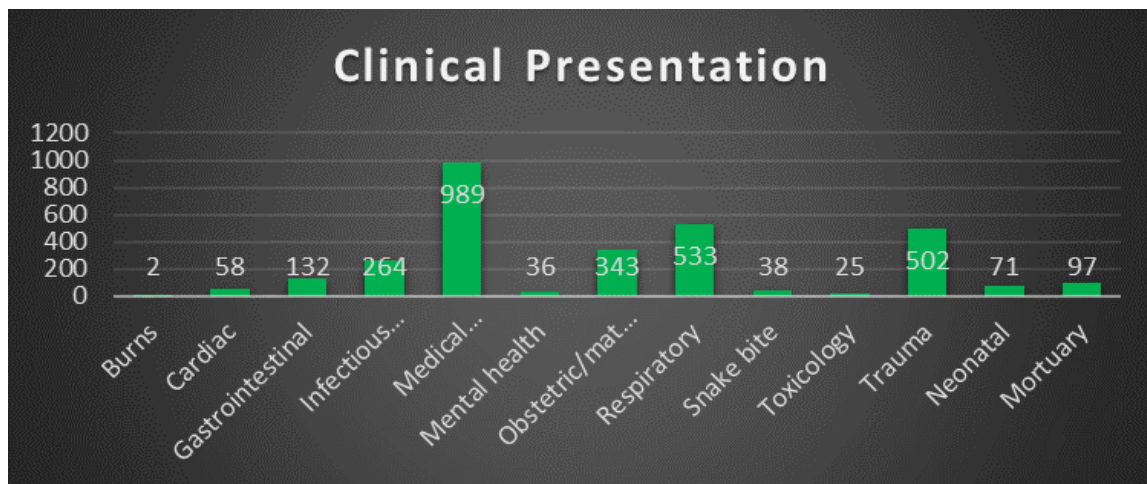
The response time of an ambulance service is a fundamental factor for prehospital care to be successful and therefore must be managed in order to increase the chances of survival<sup>3</sup>.

1. Nogueira LC Jr, Pinto LR, Silva PM. Reducing Emergency Medical Service response time via the reallocation of ambulance bases. *Health Care Manag Sci*. 2016 Mar;19(1):31-42. doi: 10.1007/s10729-014-9280-4.
2. 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.
3. 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

## Medical issues

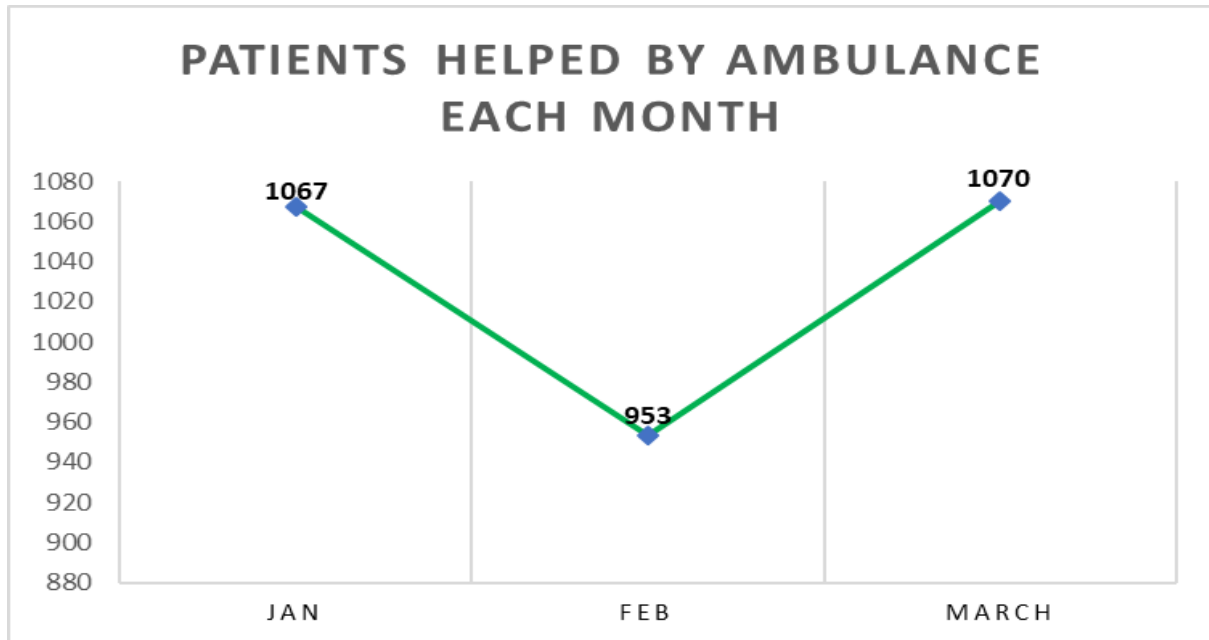
During the reporting period, St John attended to 3,090 cases. This is a 621 cases **increase** compared to same period last year.

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 2020 compared to the same period of the previous year.

Clinical Issue	Q1 2020	Jan-21	Feb-21	Mar-21	YTD Q1 2021	Variance
Burns	2	1	0	1	2	0
Cardiac	68	23	16	19	58	10-
Gastrointestinal	146	53	46	33	132	14-
Infectious disease	333	62	56	146	264	60-
Medical general (other)	558	394	335	260	989	431+
Mental health	4	7	20	9	36	32+
Obstetric/maternal	323	109	110	124	343	20+
Respiratory	500	130	141	262	533	33+
Snake bite	31	15	12	11	38	7+
Toxicology	13	8	12	5	25	12+
Trauma	387	196	163	143	502	115+
Neonatal	7	27	20	24	71	64+
Mortuary	97	42	22	33	97	0
<b>Total</b>	<b>2,469</b>				<b>3,090</b>	



This graph shows the total number of cases attended by ambulance each month.

## CEO's Analysis of clinical presentations variances

St John keeps the record of the types of clinical issues from which the ambulance was called for.

The most common cases attended by ambulance crews was medical general which makes up 27 percent of the total cases.

Respiratory cases were the second most common reason the ambulance was called.

Most of the patients with respiratory problems are children under 13 years old, and adults 60 years and above. Covid-19 accounted for 83 cases, but not all covid-19 patients were treated under respiratory category.

The third most common case attended to by ambulance is trauma cases.

Obstetric/maternal makes up 13 percent of total cases. This is the most common case attended by ambulance for females aged between 14 and 19.

## Case presentations by incident type

During the reporting period, 82% of incidents St John attended were classified as Emergency.

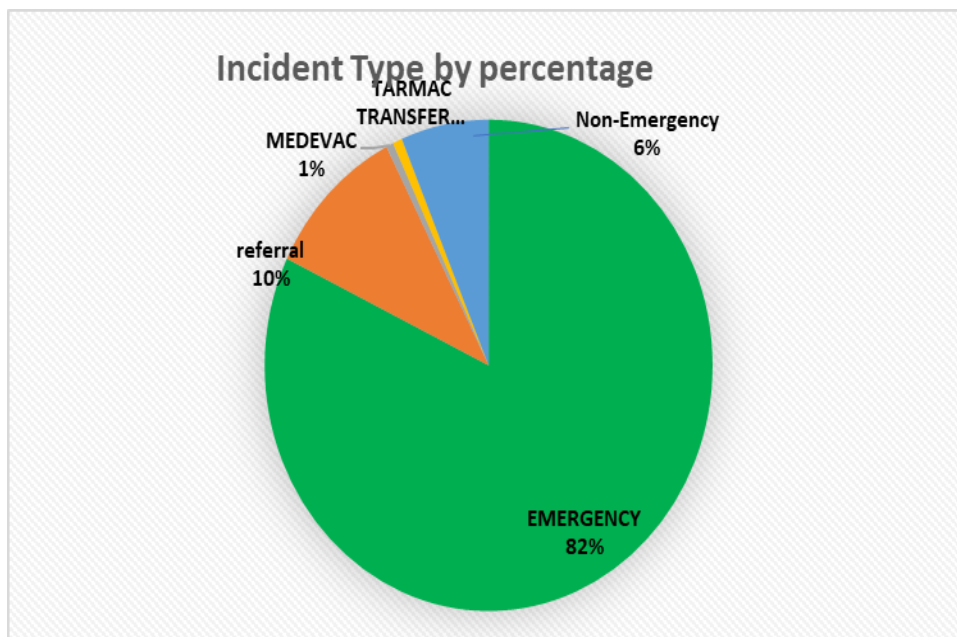
**'Emergency'** means a primary incident to which St John was requested through the 111 call centre to send an ambulance to the scene. In an emergency, the patient usually requires some form of treatment to be administered by ambulance officers.

**'Referral'** means a case where a health professional has booked transport of a patient, usually to-or-from a health facility.

Referrals accounted for 10% of the total number of cases St John attended.

The remaining 8% 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.

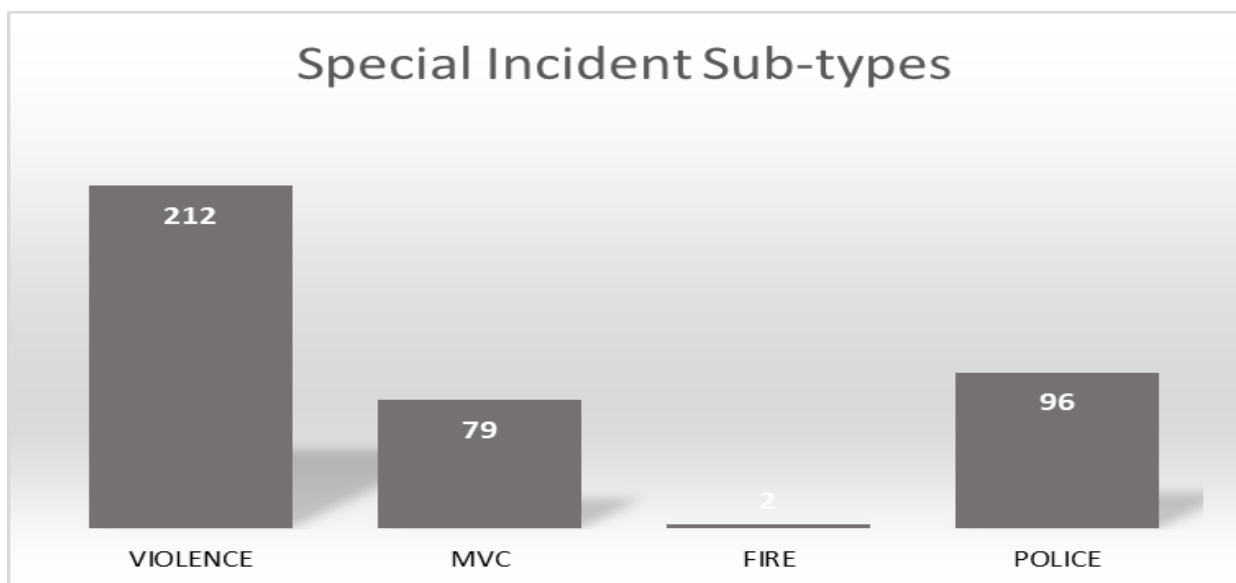


## Special incident sub-types

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.



Electoralates	MVC	Percentage	Police	Percentage	Violence	Percentage
Central Province	11	14%	3	3%	16	8%
East New Britain	7	1%	0	0%	6	3%
Moresby North East	22	28%	43	45%	93	44%
Moresby North West	28	35%	31	32%	5	27%
Moresby South	17	2%	19	2%	40	18%

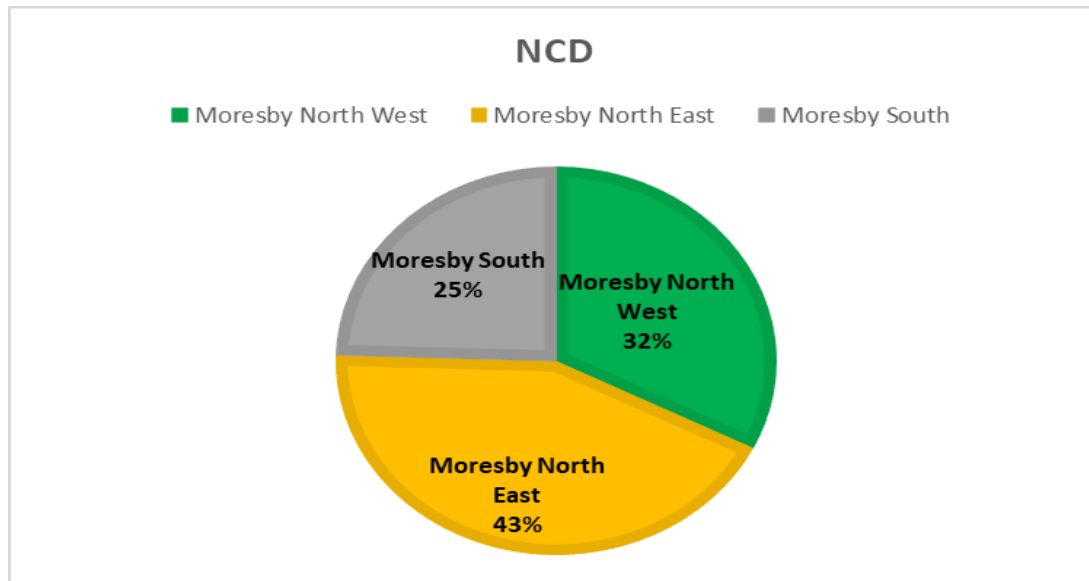
## Cases by Electorate –

St John operates 24-hour ambulance services in the National Capital District, Central and East New Britain provinces.

Our services in other provinces are currently limited to aeromedical response.

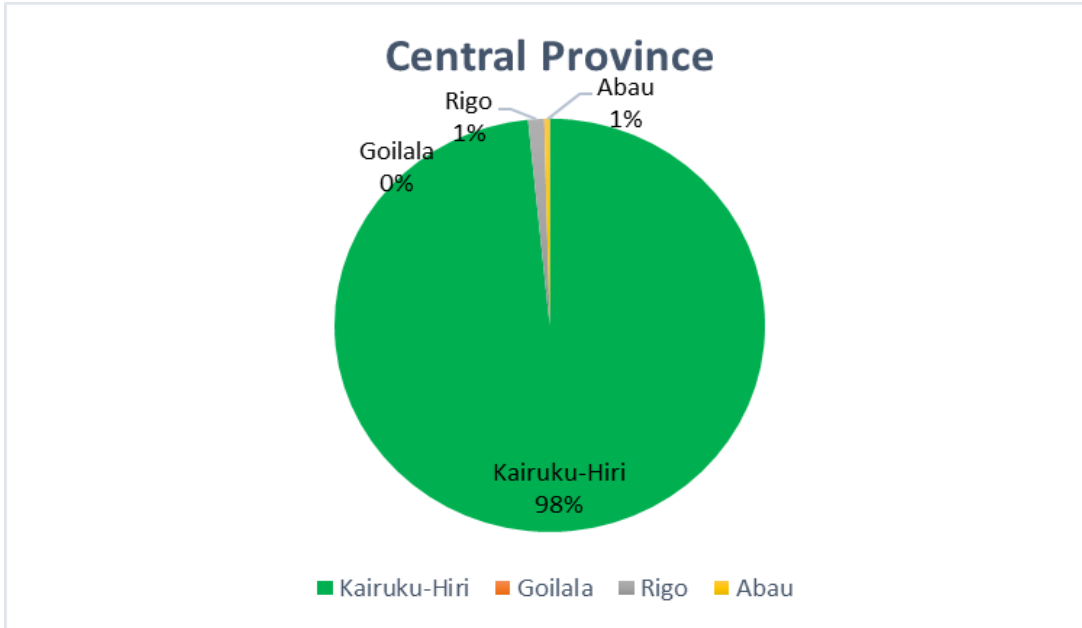
### NCD

ELECTORATE	Q1 2020	%	Q1 2021	%	Variance	Total YTD
Moresby North West	803	46	850	32	176-	850
Moresby North East	1026	36	1,130	43	327+	1,130
Moresby South	400	18	643	25	243+	643
<b>Total</b>	<b>2,229</b>	<b>100</b>	<b>2,623</b>	<b>100</b>	<b>394+</b>	<b>2,623</b>



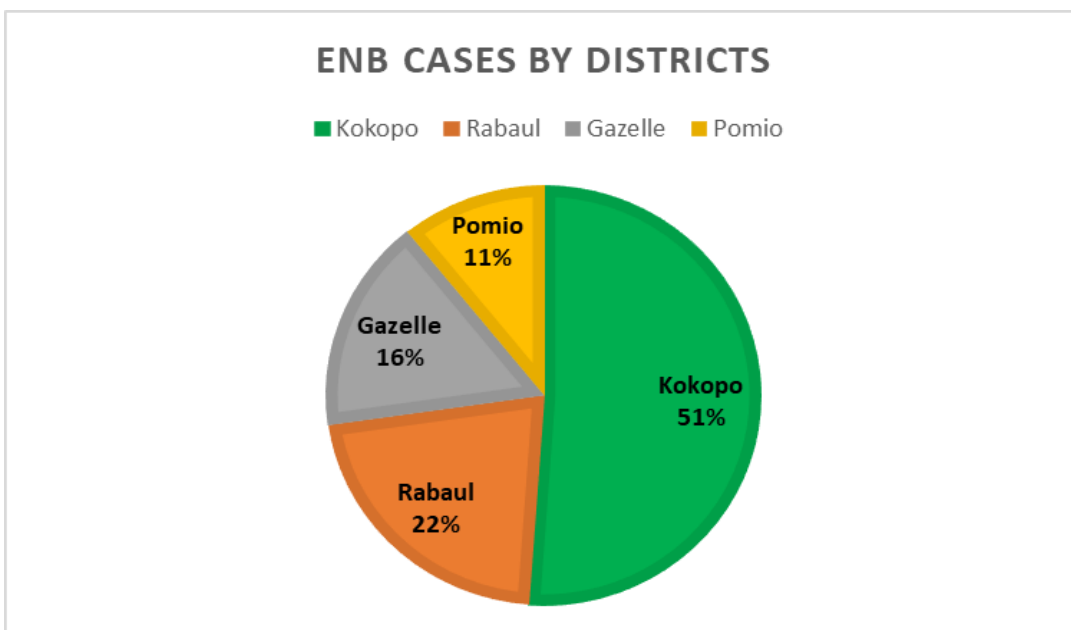
### Central

ELECTORATE	Q1 2020	%	Q1 2021	%	Variance	YTD
Kairuku-Hiri			244	98		244
Goilala			0	0		0
Rigo			3	1		
Abau			1	1		1
<b>Total</b>						<b>248</b>



### East New Britain

ELECTORATE	Q1 2020	%	Q1 2021	%	Variance	YTD
Kokopo	-	-	90	51	90+	90
Rabaul	-	-	38	22	38+	38
Gazelle	-	-	29	16	29+	29
Pomio	-	-	19	11	19+	19
<b>Total</b>	-	-	<b>176</b>	<b>100</b>		<b>176</b>





## CEO's Analysis

St John operates in NCD, Central Province and East New Britain in 2020.

98 percent of the cases done in Central Province are from Kairuku-Hiri District.

The electorate in NCD with the highest number of incidents attended to is Moresby North East, Moresby North West with the second highest incidents and Moresby South with the least number of cases attended in 2020.

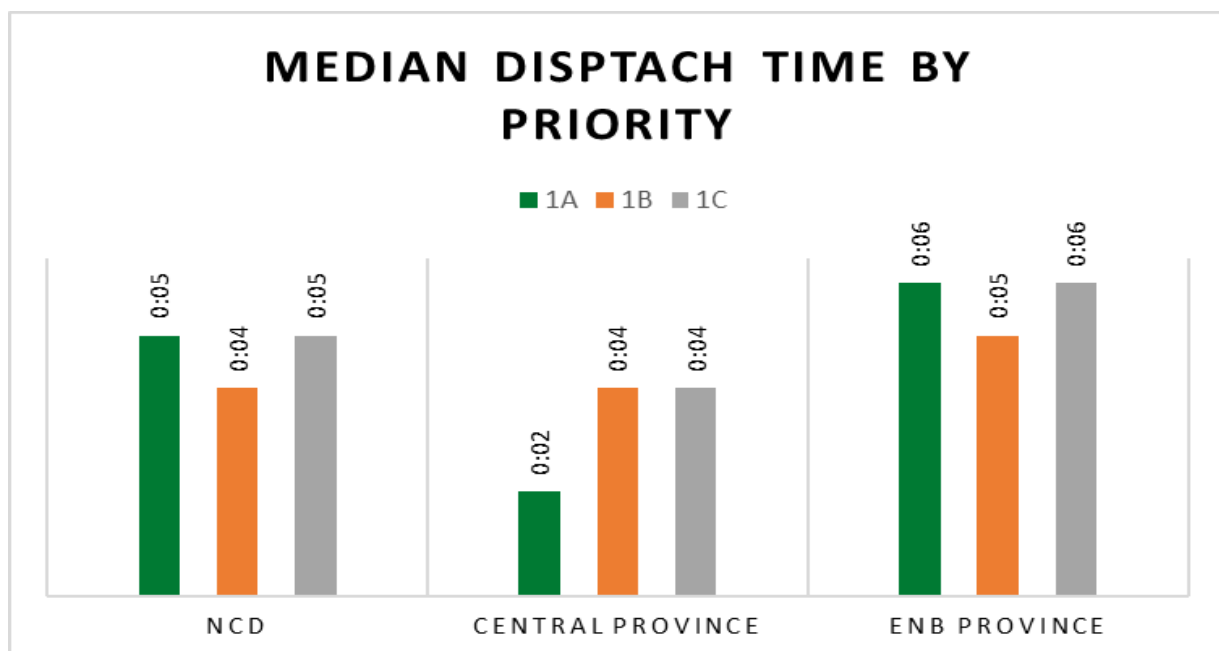
In May 2020, St John commenced service in East New Britain. The station is based in Kokopo District. This quarter, 51 percent of the incidents are from Kokopo district. Rabaul District makes up 22 percent. Gazelle and Pomio Districts make up 16 percent and 11 percent of the total cases respectively. Cases from Pomio are transported by sea ambulance. St John assists with land transport.

## Response Performance by Priority (Median)

The response time of an ambulance services is an elemental factor for prehospital care to be successful and, therefore, must be controlled to increase the patients' chances of survival. St John call-takers assess and triage all calls. A case is given priority by the severity of injury/illness, 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 an incident and the time the dispatcher tasks an ambulance to attend the case.

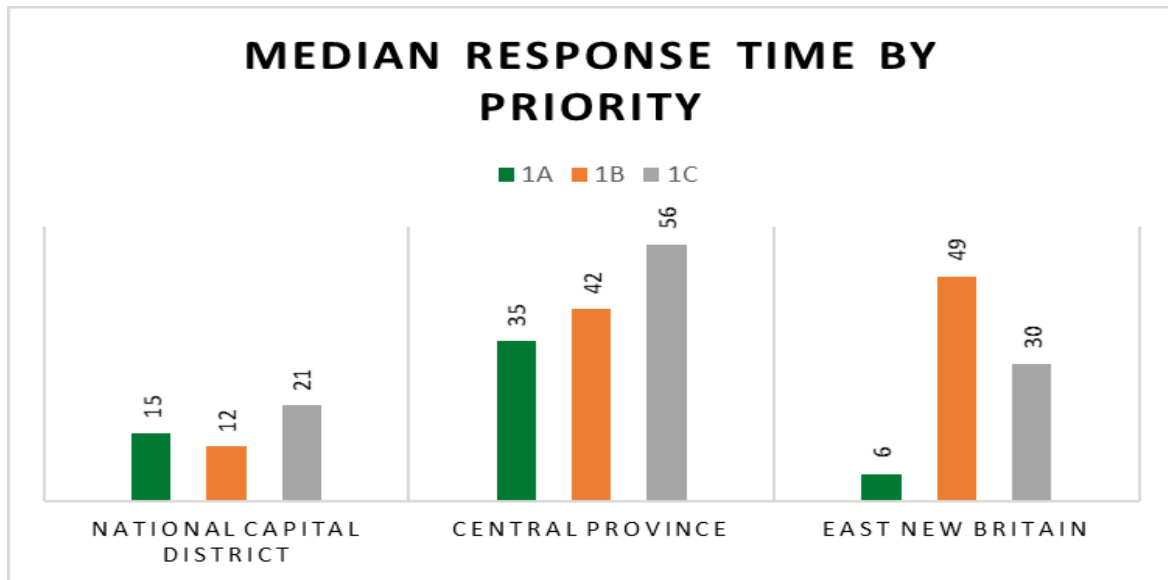
Dispatch Time	Target	National Capital District	Central Province	East New Britain
		Q1 2021	Q1 2021	Q1 2021
(seconds)				
1A	60	300	120	360
1B	90	240	240	300
1C	90	300	240	360
1P (COVID-19)	180	780		
2A	180	420	480	480
2B	180	540	780	300
2P (COVID-19)	180	-		
3		540		660
4		0		
5		0		
6		0		
7		0		





‘Response time’ is the time between when the call-taker first logs the call to when the ambulance arrives at the scene. According to the WHO, an ideal response time to a cardiac arrest (1A) is equivalent to less than 8 minutes<sup>1</sup>.

Graph showing the median response time per case priority for all provinces combined.



This table shows the response time per case priority by Province

Response Time	Target	National Capital District	Central Province	East New Britain
		Q1 2021	Q1 2021	Q1 2021
(minutes)				
1A	10	15	35	6
1B	15	12	42	49
1C	15	21	56	30
1P (COVID-19)	15	31		
2A	30	25	66	55
2B	60	28	78	30
2P (COVID-19)	60			
3	90	37	64	52
4	120	36		51
5	120	50		
6	180	-		
7	720	27		

## CEO's Comments

Ambulances are required to quickly but most importantly safely response to incidents. The road condition, distances and traffic are factors that affect response time.

St John can reduce (improve) response time by focussing on reducing dispatch time by ensuring effective process in the dispatch centre (111 control centre).

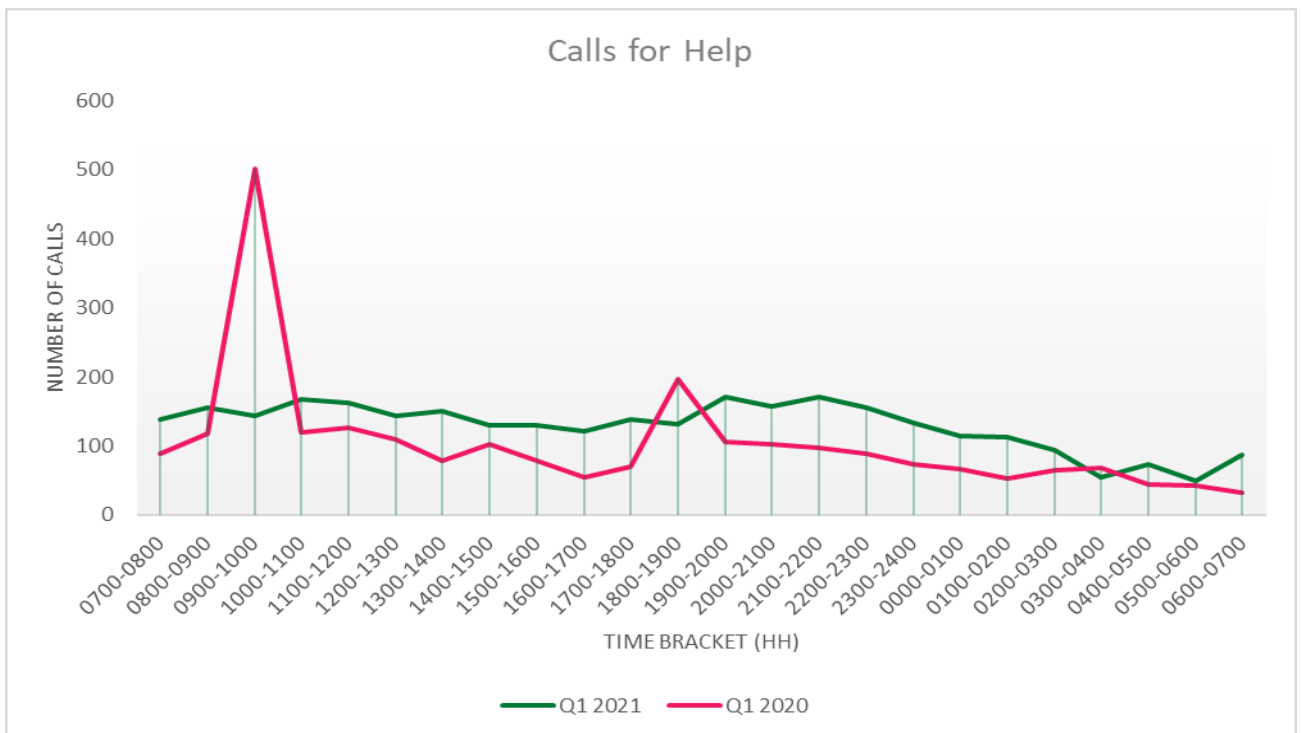
## Response code definitions

Response Code	Problem	Degree of urgency	Lights & Sirens	Recommended number of ambulances to send	Target Time to patient location from time of call (median)
<b>1A</b>	Immediately life-threatening problem <i>e.g., cardiac arrest, ineffective breathing</i>	<b>Immediate</b> Highest priority response. Closes ambulances to respond.	Yes	Minimum 3, preferably 4.	Within 10 minutes (ideally less than 8 minutes)
<b>1B</b>	Potentially life-threatening problem <i>e.g., unconscious</i>	<b>Immediate</b> High priority	Yes	1 – 2	Within 15 minutes
<b>1C</b>	Possible life-threatening emergency <i>e.g., breathing problem or chest injury, or serious bleeding</i>	<b>Priority</b>	Yes	1 - 2	Within 15 minutes
<b>2A</b>	Unlikely threat to life. <i>e.g. abdominal pain</i>	<b>Urgent</b>	No	1	Within 30 minutes
<b>2B</b>	No threat to life <i>e.g. unwell for days, limb injury</i>	Mobilise when sufficient resources available	No	1	Within 60 minutes
<b>3</b>	medical response requested by a doctor or nurse. often referral case	Within requested timeframe	No	1	Usually within 90 minutes
<b>4 – 9</b>	Non-emergency	Routine transport	No	1	

## Peak call periods

For this period, the highest number of calls for help were received between 21:00 and 22:00 hours with a total of 171 calls. This is inconsistent with the previous year.

During the reporting period, the busiest time for St John Ambulance was between 10:00 and 11:00 hours during the day and 21:00 and 22:00 hours during the night. (Daytime period: 06:00 to 18:00); Night-time period: 18:01 to 05:59)

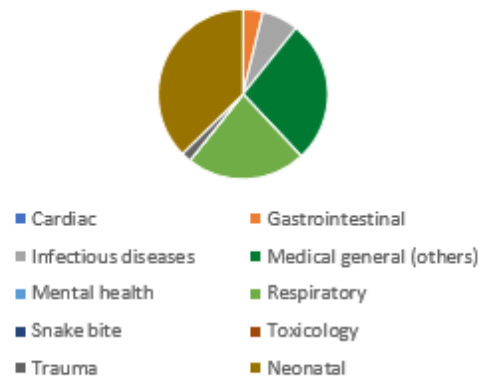


## Patients by condition and age group

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

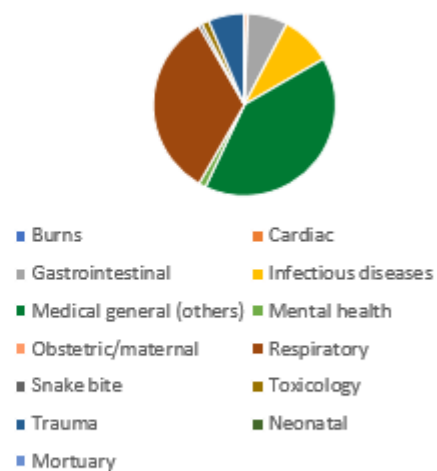
0 ≤11 months old	
Clinical Presentation	Q1 2021 (%)
Burns	0
Cardiac	0
Gastrointestinal	4
Infectious diseases	7
Medical general (others)	27
Mental health	0
Obstetric/maternal	0
Respiratory	23
Snake bite	0
Toxicology	0
Trauma	2
Neonatal	37
Mortuary	0

0≤11 Months old



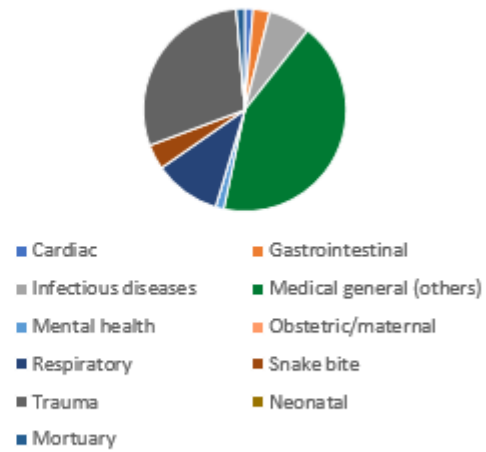
≥1 ≤5 years old	
Clinical Presentation	Q1 2021 (%)
Burns	0
Cardiac	1
Gastrointestinal	7
Infectious diseases	9
Medical general (others)	41
Mental health	1
Obstetric/maternal	0
Respiratory	33
Snake bite	1
Toxicology	1
Trauma	6
Neonatal	0
Mortuary	0

≥1 ≤5 years old



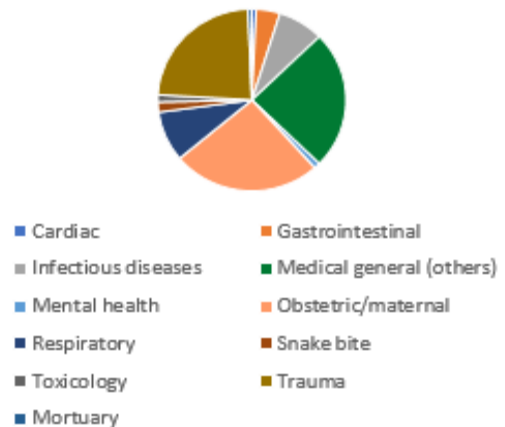
≥6 ≤13 years old	
Clinical Presentaion	Q1 2021 (%)
Burns	0
Cardiac	1
Gastrointestinal	3
Infectious diseases	7
Medical general (others)	43
Mental health	1
Obstetric/maternal	0
Respiratory	11
Snake bite	4
Toxicology	0
Trauma	29
Neonatal	0
Mortuary	1

≥6 ≤13 years old



≥14 ≤30 years old	
Clinical Presentation	Q1 2021 (%)
Burns	0
Cardiac	1
Gastrointestinal	4
Infectious diseases	8
Medical general (others)	25
Mental health	1
Obstetric/maternal	26
Respiratory	9
Snake bite	2
Toxicology	1
Trauma	23
Neonatal	0
Mortuary	1

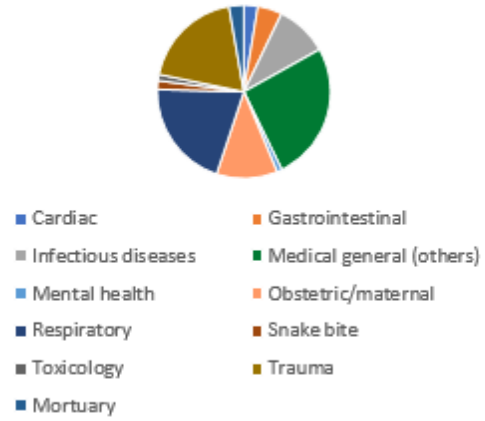
≥14 ≤30 years old





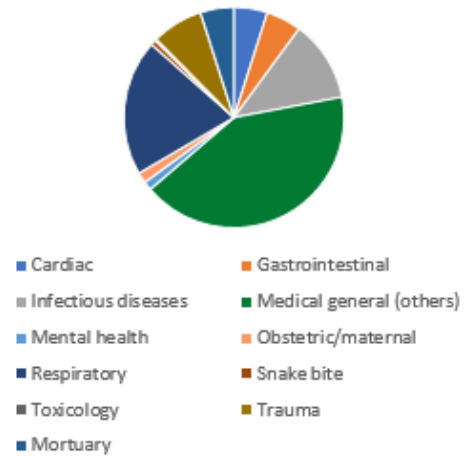
≥31 ≤45	
Clinical Presentation	Q1 2021 (%)
Burns	0
Cardiac	3
Gastrointestinal	5
Infectious diseases	10
Medical general (others)	26
Mental health	1
Obstetric/maternal	11
Respiratory	20
Snake bite	2
Toxicology	1
Trauma	19
Neonatal	0
Mortuary	3

≥31≤45 years old



≥46 ≤59	
Clinical Presentation	Q1 2021 (%)
Burns	0
Cardiac	5
Gastrointestinal	5
Infectious diseases	12
Medical general (others)	42
Mental health	1
Obstetric/maternal	2
Respiratory	20
Snake bite	1
Toxicology	0
Trauma	7
Neonatal	0
Mortuary	5

≥46≤59 years old





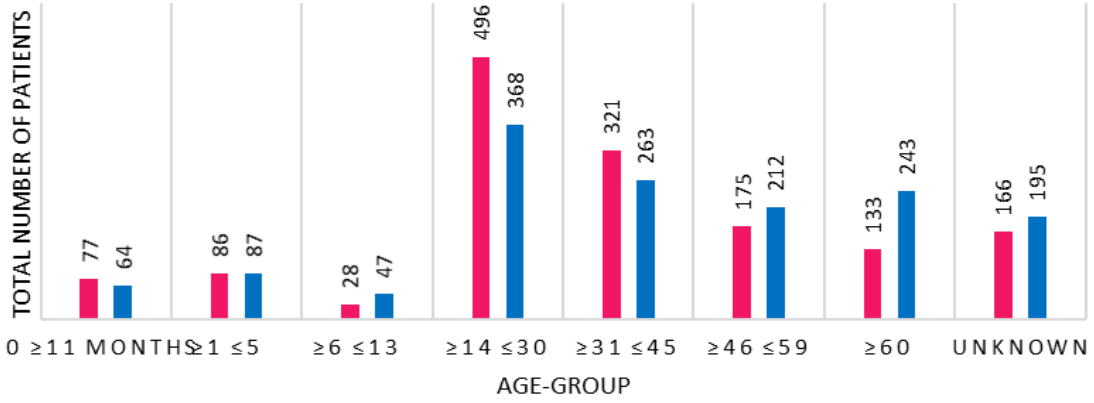
# St John

≥60	
Clinical Presentation	Q1 2021 (%)
Burns	0
Cardiac	3
Gastrointestinal	5
Infectious diseases	8
Medical general (others)	44
Mental health	2
Obstetric/maternal	0
Respiratory	27
Snake bite	1
Toxicology	0
Trauma	4
Neonatal	0
Mortuary	6



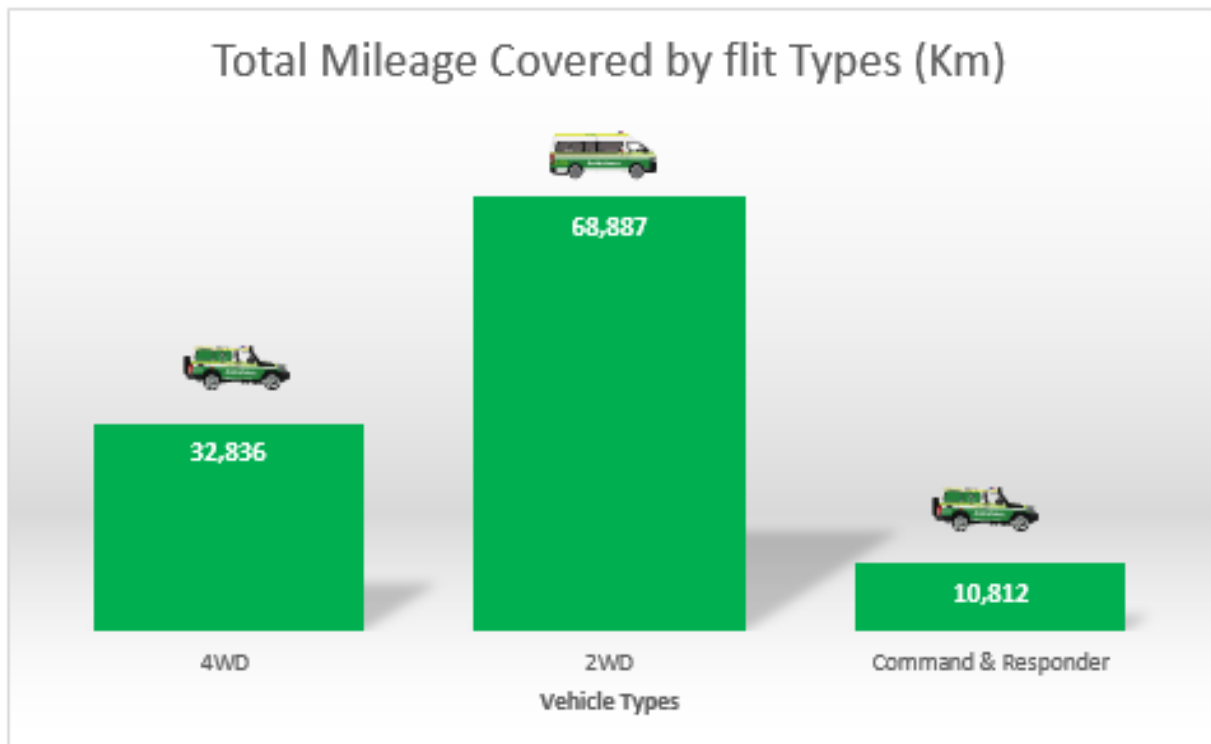
## PATIENTS BY GENDER

■ FEMALE ■ MALE



## Kilometres travelled

The total kilometres travelled by each class of operation vehicle in first quarter is 112,535 kilometres.



## Air Ambulance

### Missions

St John travelled fewer missions than anticipated in 2021, this is likely due to COVID-19 seeing fewer business and tourist activities taking place. Overall, St John did see a marginal increase in the number of cases. This is likely due to greater awareness and utilisation of the St John Air Medical Service.

### Q1 2021 Region Split

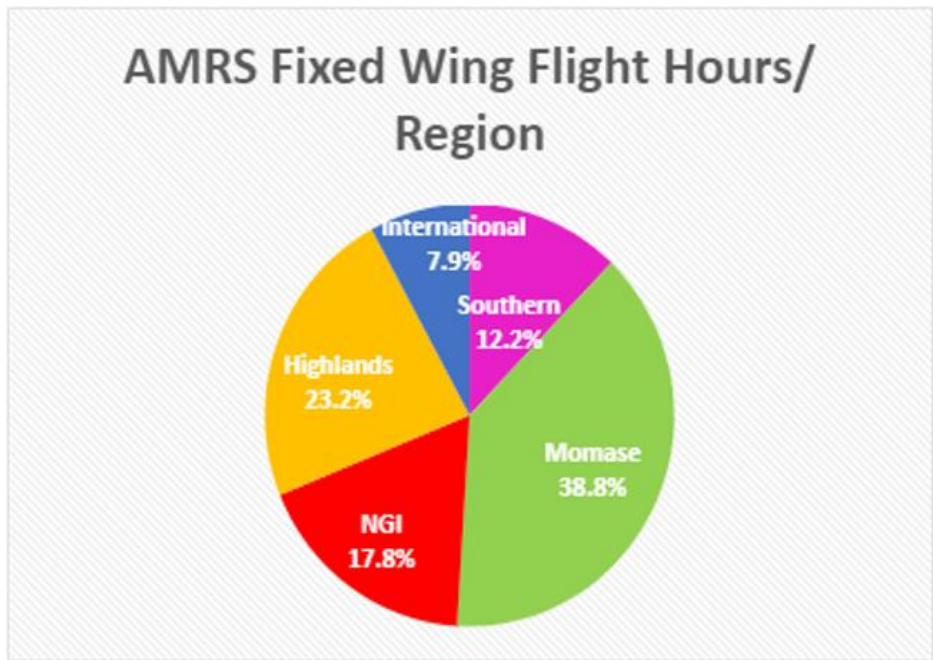
	Total Missions	Flight Hours	Average
<b>Q1 2021</b>			
<b>FIXED WING</b>			
Southern	2	4.3	2.15
Momase	5	13.7	2.74
NGI	2	6.3	3.15
Highlands	4	8.2	2.05
International	1	2.8	2.8
<b>TOTAL FW</b>	<b>14</b>	<b>35.3</b>	<b>2.52</b>
<b>HELO</b>			
Southern	1	2	2
Momase	7	8	1.14
NGI	0	0	0
Highlands	0	0	0
International	0	0	0



TOTAL HELO	8	10	1.25
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## Flight Hours

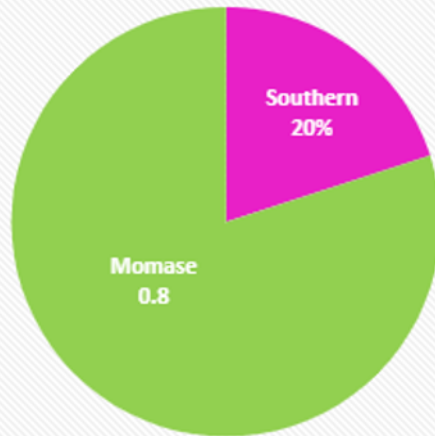
The total hours flown by air to provide care this period is shown below.





# St John

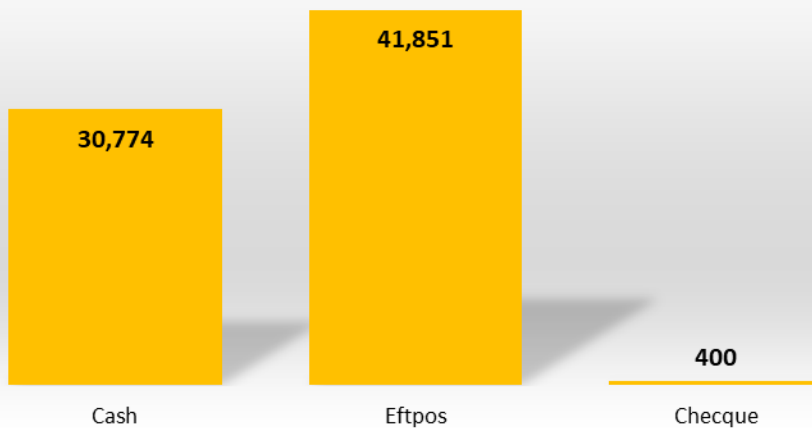
## AMRS Helo Flight Hours/ Region



## Ambulance Service Fees

In 2020, we have raised PGK **73,025** in ambulance fees. The graph below shows the forms of payment and the amount for each form of payment. K11,040 of these payments were for Covid-19 swabs.

## Q1 2021 Ambulance Service





# St John

Form of payment	Jan	Feb	Mar	Q1 2021
Cash	15,827	7,855	7,092	30,774
Eftpos	16,081	9,260	16,510	41,851
Cheque	400	0	0	400
Total (PGK)	32,308	17,115	23,602	73,025



# St John

Billing Category	Total Cases	Total Amount Paid	Total Clients Paid	Total Clients Owed	Total Amount Owed
UE1	842	10,332	251	205	7,279
UE4	210	800	18	91	4770
RT8	11	1300	6	2	400
RT9	7	1000	4	3	625
RT10	14	2075	9	5	1025
RT12	273	4780	88	121	8300
D1	83	26860	63	12	3460
EM2	35	4240	13	25	9435
D2	8	800	1	0	0
AA1	5	0	3	1	1850
NC1	7	0	0	6	7700
NC2	3	0	0	1	850
DPC1	1	0	0	0	0



## ANNEXE A – Key Performance Targets

### Ambulance Service

Name	Target	Q1 2021	Q1 2020
<b>Minimum ambulance crewing</b>	Minimum of five ambulances are staffed 95% at all time.	Yes	
<b>Response time (NCD) 1A</b>	An ambulance arrives on scene within 11 minutes from time of call for 1A cases	15 minutes	11 minutes
<b>Response time (NCD) 1B, 1C</b>	An ambulance arrives on scene within 15 minutes from time of call for 1B & 1C cases	12 minutes	23 minutes
<b>Response time (Regional Professional)</b>	An ambulance arrives on scene within 15 minutes from time of call for 1A & 1B cases	21 minutes	32
<b>Response time (Regional Lite)</b>	An ambulance arrives on scene within 30 minutes from time of call for 1A & 1B cases	-	-
<b>Patient Satisfaction score (annual)</b>	90% of patients report being satisfied or highly satisfied with the care provided to them in Southern Region	-	-



## 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	Q1 2020	Q1 2021
<b>Dispatch time</b>	The median time for an ambulance to be dispatched to a 1A case within 90 seconds of call received	5 minutes	5 minutes
<b>Staff succession planning and cross-training</b>	Four (4) additional staff are cross trained as dispatchers and call takers	-	Work in progress



# St John

## Clinical & Operation Support Group (COSG) KPIs

Name	Target	Q1 2020	Q1 2021
<b>Clinical case review</b>	75% of case sheets reviewed and positive and constructive feedback given on 20% of cases.		Achieved
<b>Skills maintenance records</b>	All operational staff will have a skills maintenance record by September 2020		Achieved
<b>Electronic Patient Care Records</b>	90% of cases completed on the ePCR system by 30 December 2020.		Work in progress
<b>Officer Training</b>	20 NCD Trainee Ambulance Officers, 20 NCD Reservist Ambulance Officers and 40 Affiliate First Responders will be trained by December 2020.		Work in progress



**St John**



## About St John

St John is at the frontline of medical response providing ambulance and air medical services in Papua New Guinea. Our specialty is prehospital and medical response. We are empowering communities with health education and first response capabilities. We are also aiding safer hospital care by training nurses and doctors in emergency medical resuscitation.

St John's most ambitious project is building a national prehospital care system to save lives and give people reliable access to healthcare across the country.

St John is a charitable statutory corporation, part-funded by the PNG government, partners and its own commercial fundraising.

**For more information about this report contact [enquiries@stjohn.org.pg](mailto:enquiries@stjohn.org.pg)  
[www.stjohn.org.pg](http://www.stjohn.org.pg)**

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

