



# Peterborough County/City Paramedics

Paramedic Service Operational Key  
Performance Indicators

April 19, 2023

# Overview

The purpose of this report is to provide an overview of a suite of operational key performance indicators (O-KPIs) to be collected by Peterborough County/City Paramedics (PCCP) for the purpose of performance reporting to Peterborough Council and Peterborough Regional Liaison Committee.



# Recommendation

Receive the report for information only.





# Background

- Priority of PCCP to provide the best possible prehospital clinical care to the residents and visitors of Peterborough County and City and to do so in the most effective and efficient method possible
- PCCP administration performs annual analysis of paramedic service call volumes, response times and patient outcomes (where possible).
- Broadened the scope of performance measurement by introducing an expanded suite of operational key performance indicators (O-KPI) that look well beyond traditional (and legislated) response time performance.
- The intent is to provide the City, County and public a detailed view of the paramedic service operational efficiency and to provide benchmarking that will form the basis of ongoing evaluation and performance strategy.





# Background

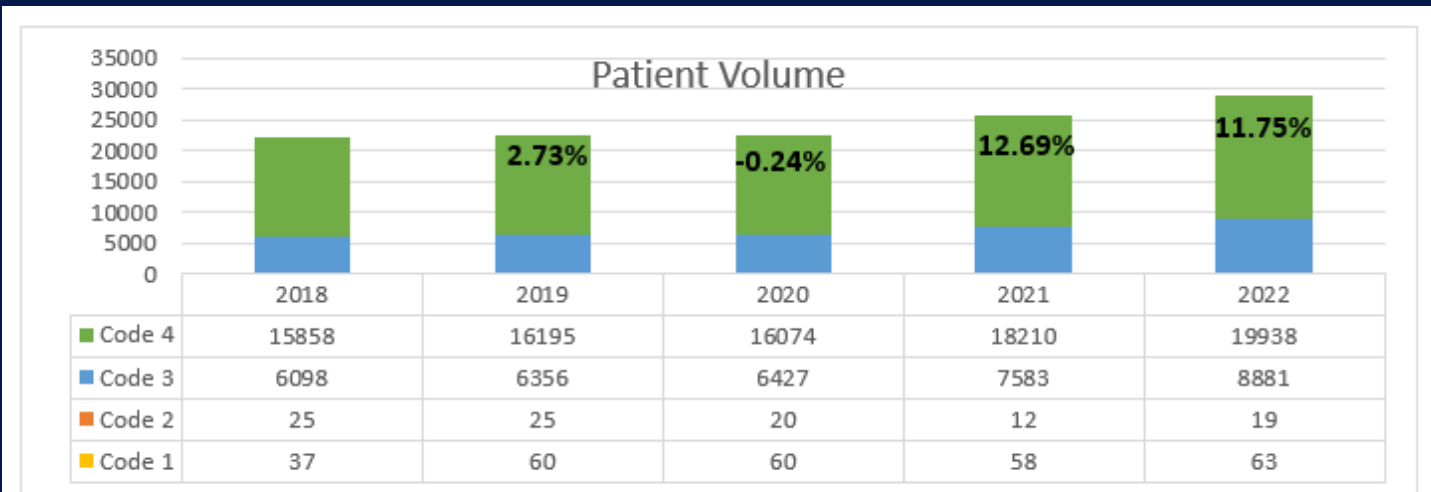
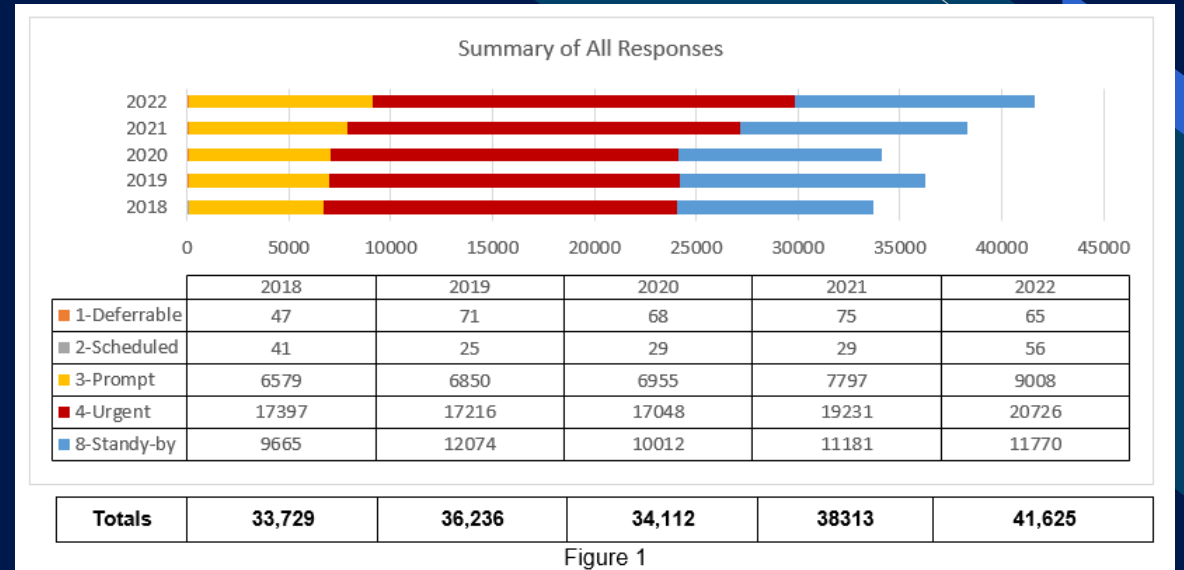
- Building on the Performance Measures Inventory created by the Paramedic Chiefs of Canada), PCCP has initiated data collection and analysis to inform reportable O-KPIs.
- These operational measures have been selected and prioritized based on universality, ease of defining and perceived funding value.
- The proposed measures will be collected and analyzed on an annual basis with year over year comparison and, where possible, performance will be evaluated against a selection of comparator Paramedic Services.
- Summary of O-KPI Measure will be reported to Council and Peterborough Regional Liaison Committee annually.

# Patient Call Volume/Vehicle Movement

In 2022, the number of Emergency/Urgent (Code 4 – Urgent/life threatening) calls dispatched was 20,726 – An increase of 7.8% over 2021 and Prompt (Code 3 – Prompt/Serious) calls was 9,008, an increase of 15.5%. **There was an overall increase of 8.6% for all responses including incident standby calls (Code 8).** The average year over year increase for the reporting period below is 6% (Figure 1)

An analysis of individual patient call volume is represented in Figure 2, which provides a more meaningful representation of actual demand for service. While deployment strategies over the past have reduced vehicle movement associated with service demand, the actual volume of patient responses continued to increase at an accelerating rate with a **11.75% increase in 2022.**

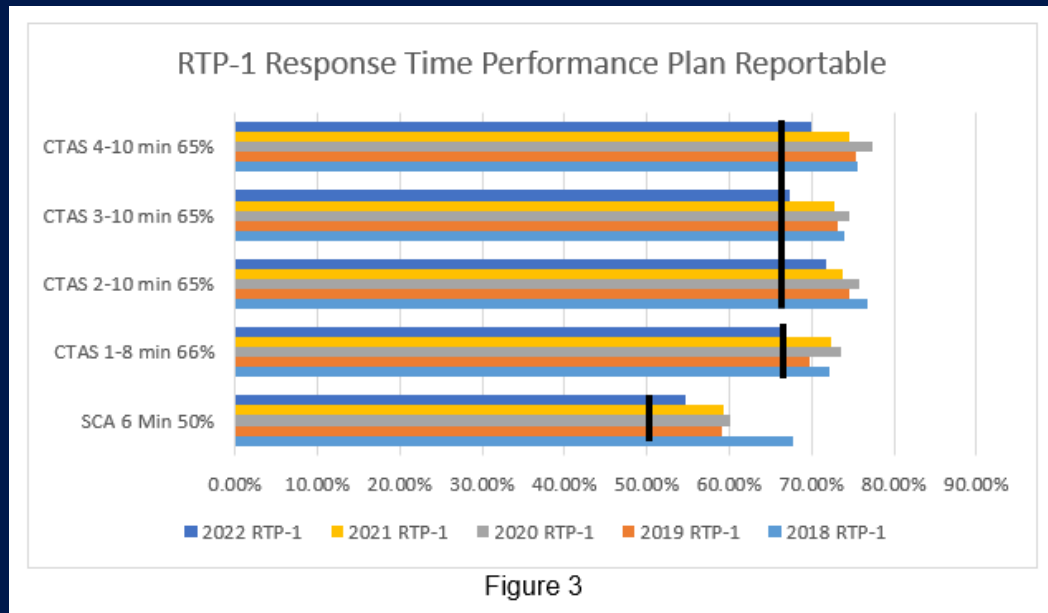
The upward trend dipped in 2020 due to the start of the COVID Pandemic with a **decrease of -0.24%.**






# Response Time Performance

- Response time performance is reviewed annually as mandated by Reg. 257 of the Ambulance Act.
- RTP-1 Performance continues to meet and exceed all targets for the combined area (County/City); with improvements over previous year
- RTP-2 provides an analysis of urban (City) response time performance against the mandated (service area wide). Performance in the urban setting has exceeded targets in all categories.
- RTP-3 provides an analysis of Suburban/Rural (County) response time performance against the mandated (service area wide). Comparison of Suburban/Rural response performance falls far short of the targets set for the service wide area as established by the RTPP. PCCP Administration is continuing to examine Suburban/Rural response times with a goal of establishing appropriate response time targets and methods to achieve and maintain service levels.

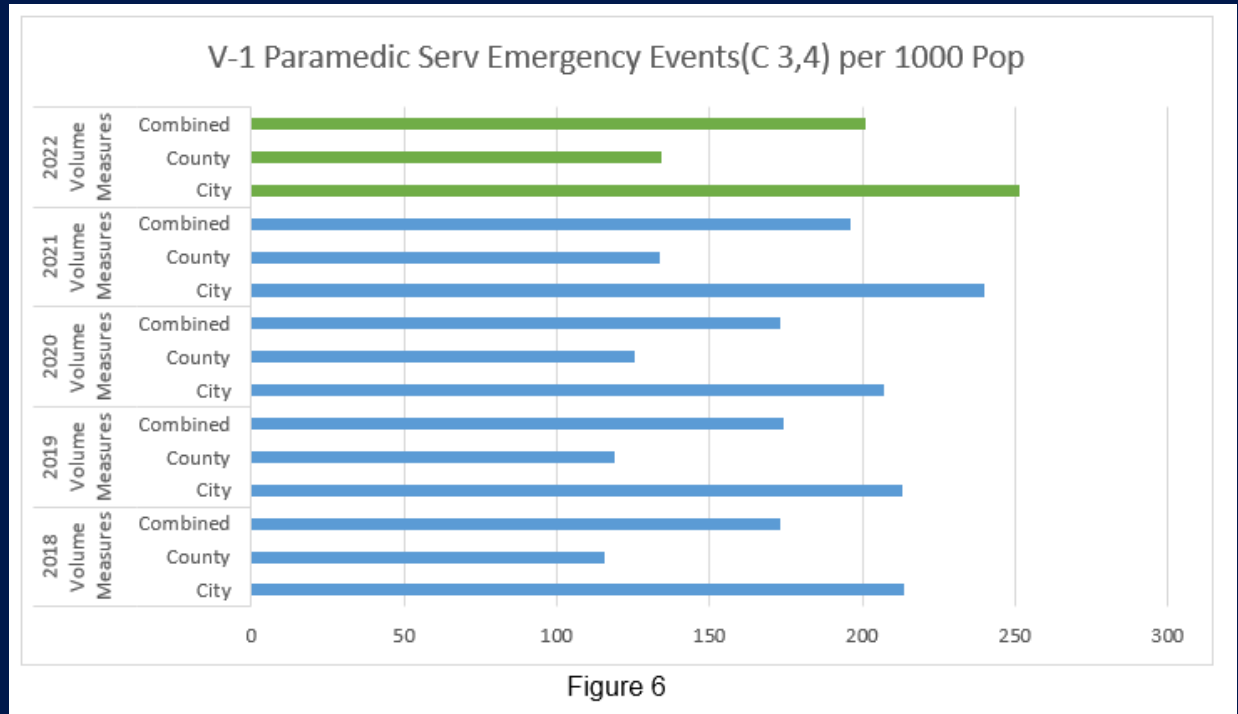



Ambulance Response Time Performance Plan (RTPP)		
	Sudden Cardiac Arrest (SCA) - 6 min	Life Threatening (CTAS 1) - 8 min
RTP- 1 Reportable	54.68%	66.36%
RTP-2 RTPP Urban	74.47%	85.57%
RTP-3 RTPP Suburban/ Rural	20.34%	26.32%
Percentile Response Time (Code 4) (Min:Sec)	Average (mm:ss)	
RTP-6 90th% Response Time Urban (City)	06:36	
RTP-7 90th% Response Time Suburban/Rural (County)	14:21	



# Call Volume Measures

Figures 6 below demonstrates the volume measures for emergency Code 3 and 4 calls (V1 - Figure 6) for City, County and Combined 2022 (highlighted in green) over 2021 to 2018. Emergency responses per capita remain significantly higher in the urban setting (252/1000 pop) as compared to the rural areas (134/1000 pop).





### Patient Carries (City/County Combined)



V-1 Paramedic Service Emergency Events (C-3,4) per 1000 Population	200.80
V-2 Paramedic Service Non-Emergency Events (C-1,2) per 1000 Population	0.81





# Utilization Measures

U-1 and U-2 are measures used to demonstrate the rates of resource utilization or conversely, rates of resource availability of emergency response for the community.

  <b>Ambulance Availability</b>	
U-1 System Utilization Rate (UHU)	48.65%
U-2 Ambulance Resource Level Zero Rate Annual (Hours)	181:52
U-3 Cross Border Differential (Calls in other UTM - Calls by other UTM)	-729

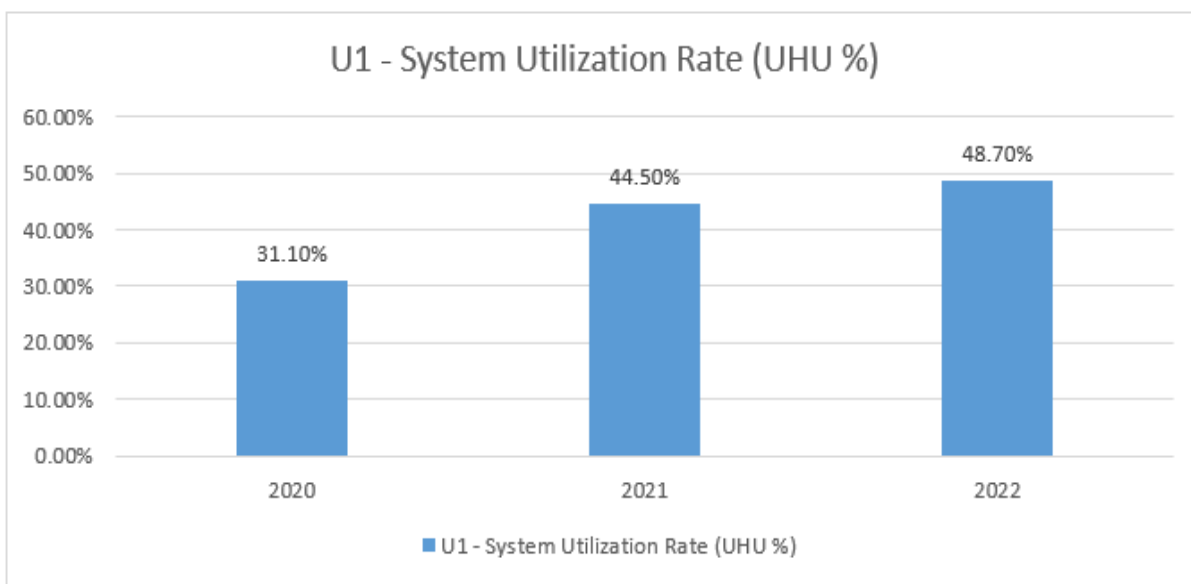


Figure 8

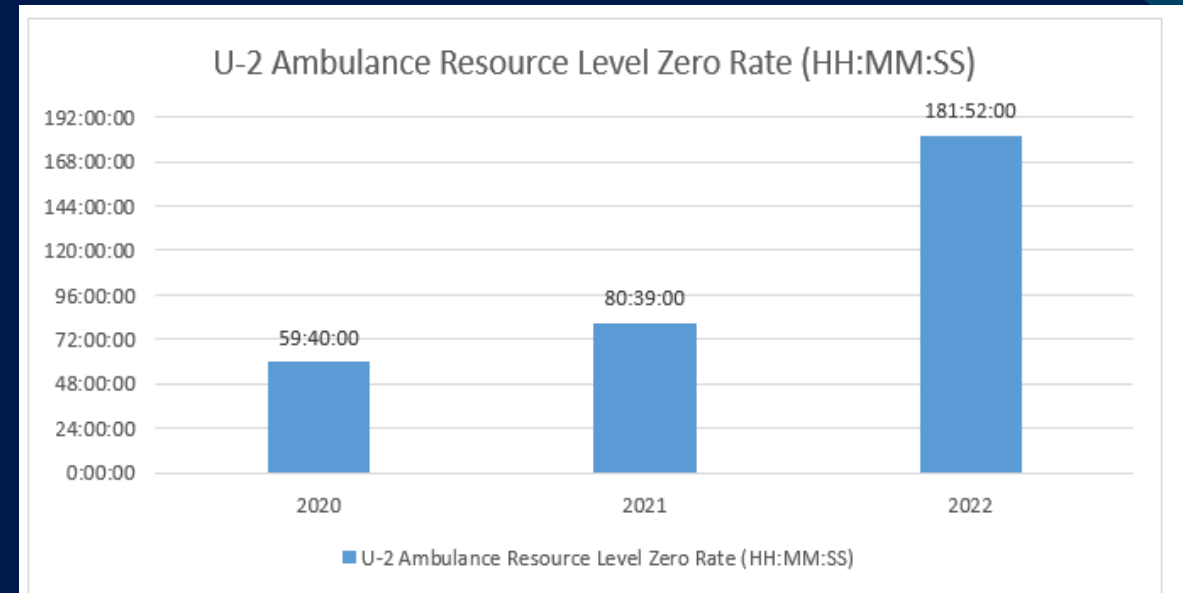


Figure 9



# System Design/Performance

Charted below are the System Design and Deployment Measures. The first category shows average at hospital time. The second category is Average Offload time. The last two categories are our 90<sup>th</sup> percentile at Hospital Time and 90<sup>th</sup> percentile Offload Time.

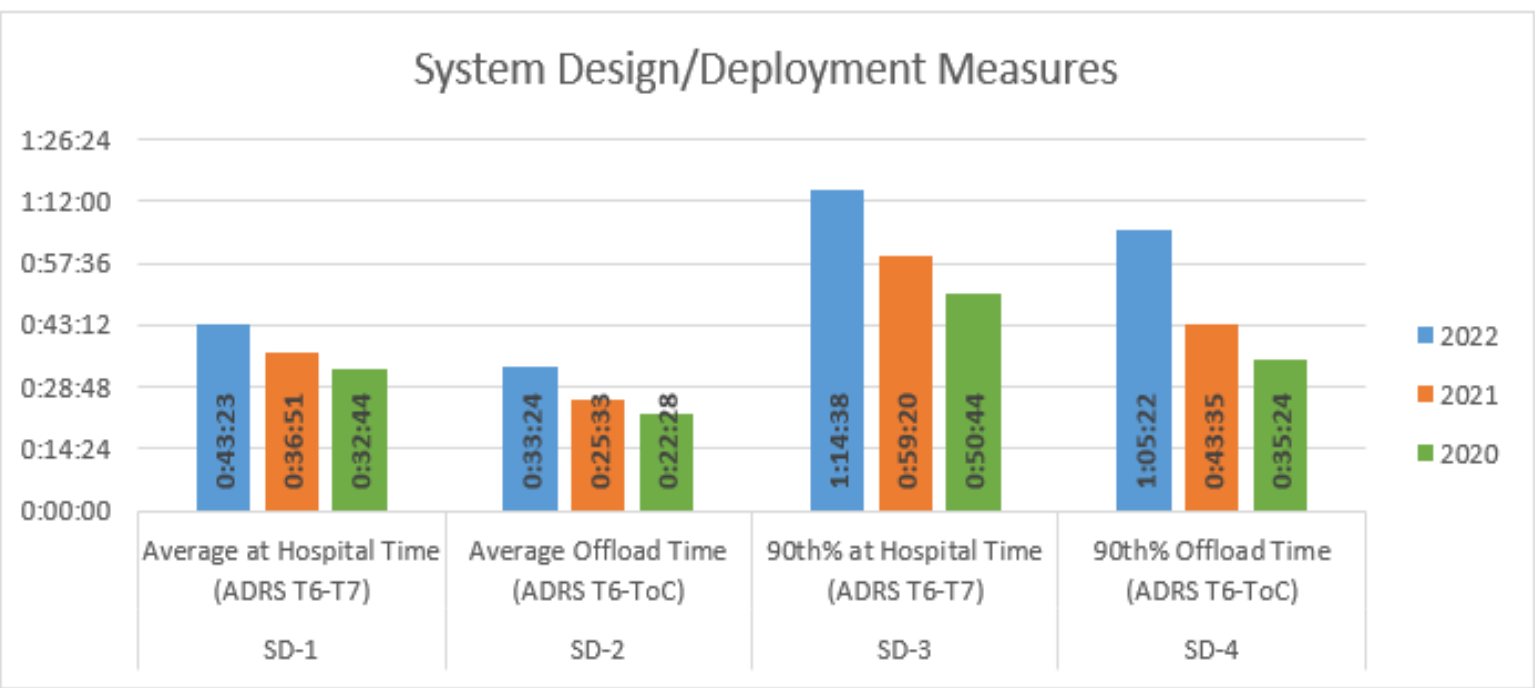
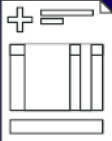


Figure 10



### Deployment Statistics (Hr:Min:Sec)

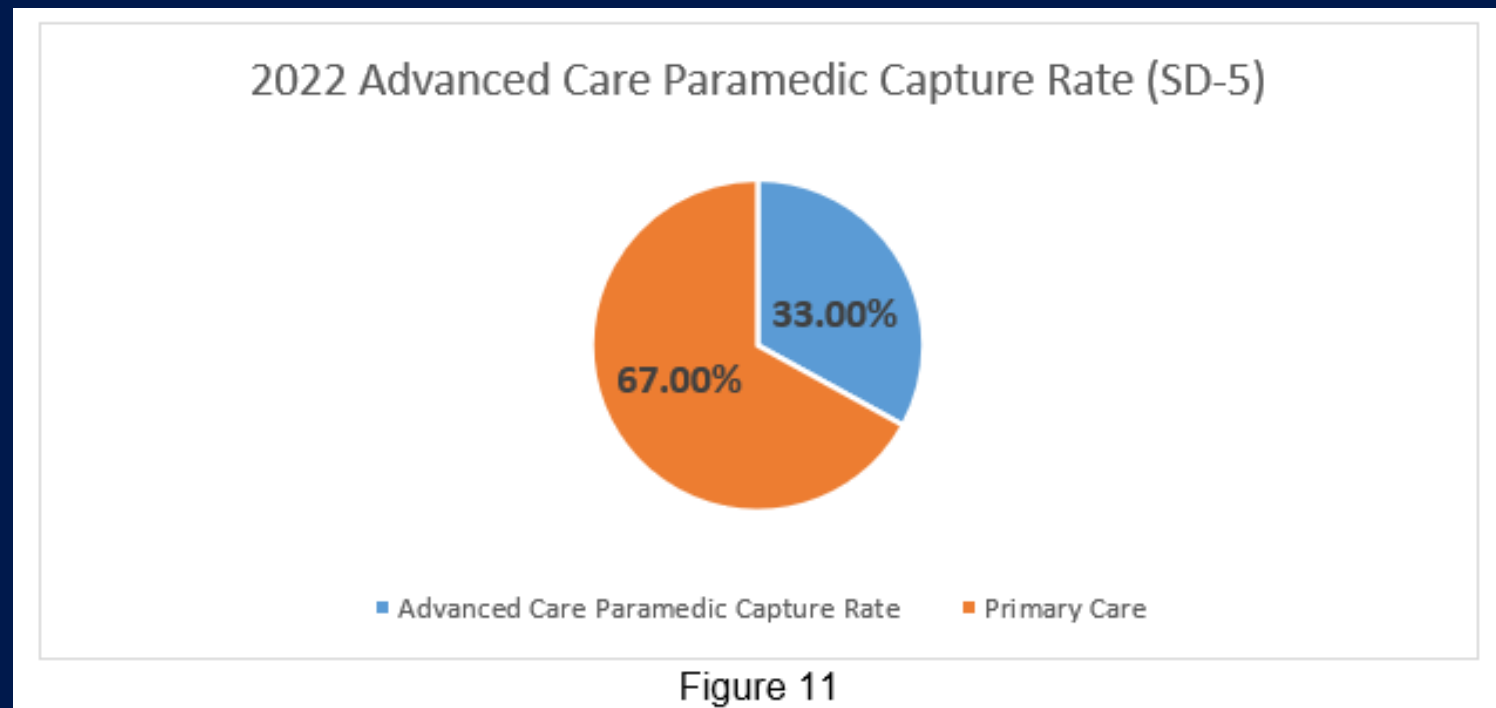
SD-1 Average at Hospital Time	0:43:23
SD-2 Average Offload Time	0:33:24
SD-3 90th% at Hospital Time	1:14:38
SD-4 90th% Offload Time	1:05:22
SD-5 Advanced Care Paramedic Capture Rate	33%

### System Design Deployment Measures



# System Design/Performance

Figure 11 depicts the percentage of staff who are Advanced Care Paramedic (ACP) versus Primary Care Paramedic (PCP). In 2022, we have not seen a rise in ACP staff over 2021 however, in 2022 several staff have begun the ACP College program to be completed in 2023.





# Finance/Funding Measures

Figure 12 compares data for 2022 over 2021 and 2020 for Operating Cost per Capita, Operating Cost per Event and Operating Cost per Unit Hour. As demonstrated, despite increased call volumes and inflation, 2022 costs did not significantly change over the 2021 and 2020 rates.

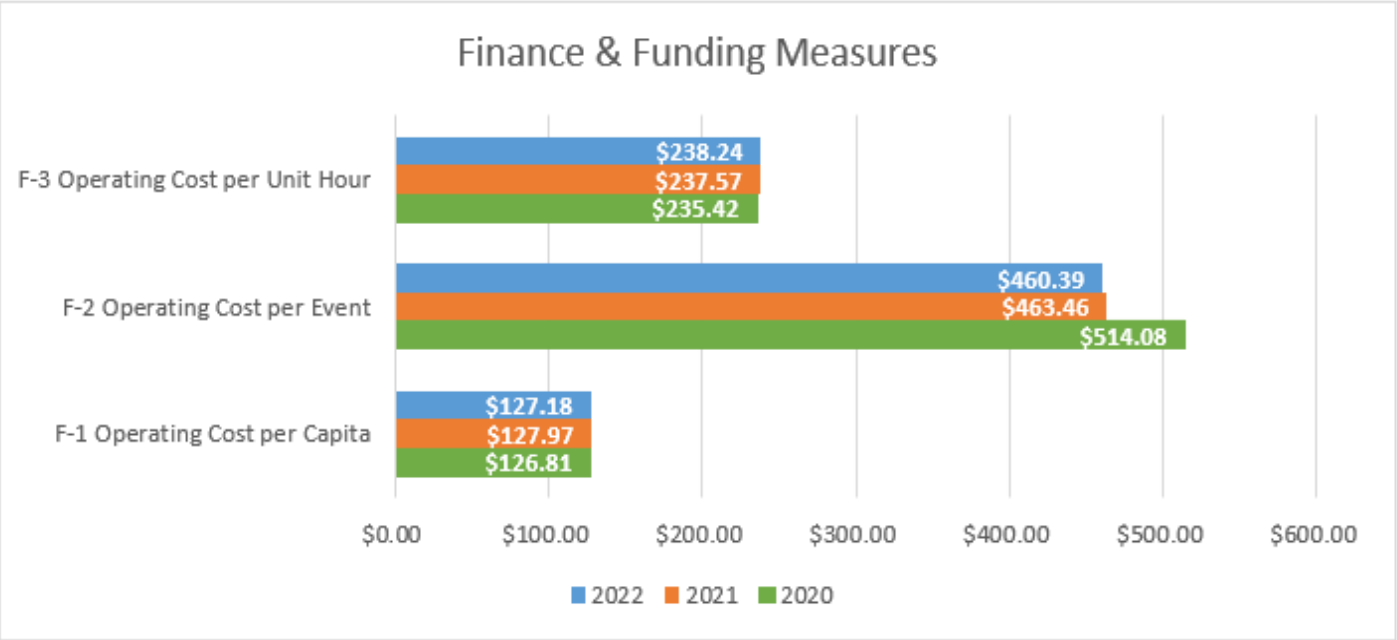



Figure 12




Costs	
F-1 Operating Cost per Capita	\$127.18
F-2 Operating Cost per Event	\$460.39
F-3 Operating Cost per Unit Hour	\$238.24

# Fleet Measures

Figure 13 below depicts cost per kilometer for both Fleet Maintenance and Fleet Operating (non-capital) Costs. Total fleet operating costs increased by \$0.03 per kilometer in 2022 over 2021.

Figure 14 below, demonstrates a rate of vehicle collisions on an upward trend per 100,000kms. In 2021, rates indicate a reduction of collisions from 0.99 to 0.92 instances per 100,000 kms, where 2022 saw a slight increase to 1.09 instances per 100,000 kms.



Fleet Measures	
FL-1 Fleet Maintenance Cost per Kilometer (Cents/Km)	\$0.21
FL-2 Vehicle Collisions per 100,000 Kilometers	1.09
FL-3 Fleet Operating Cost per Kilometer (Cents/Km)	\$0.60

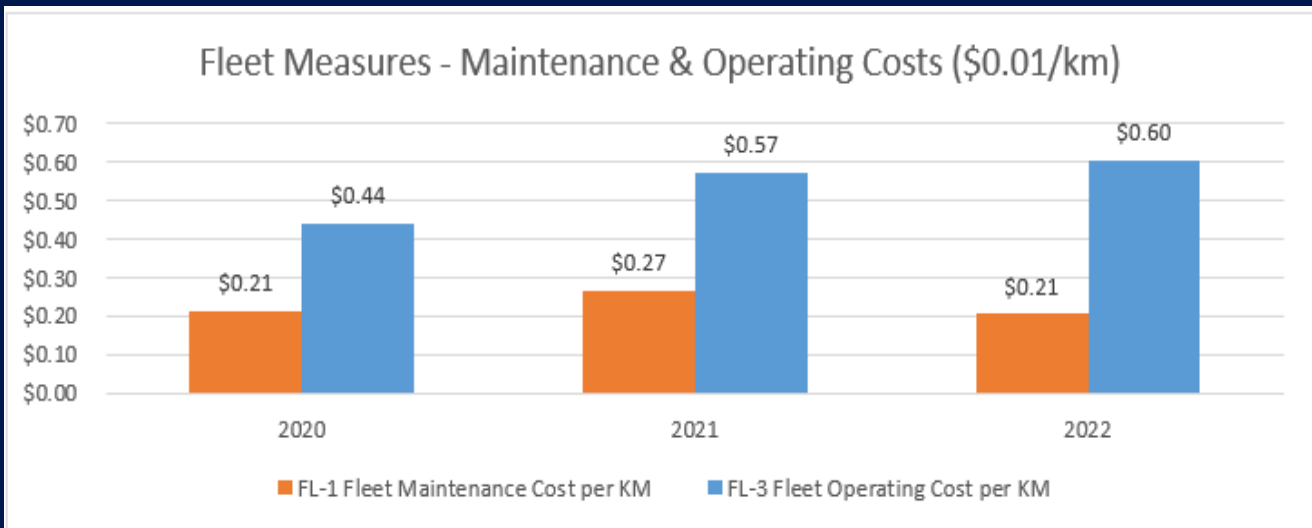


Figure 13

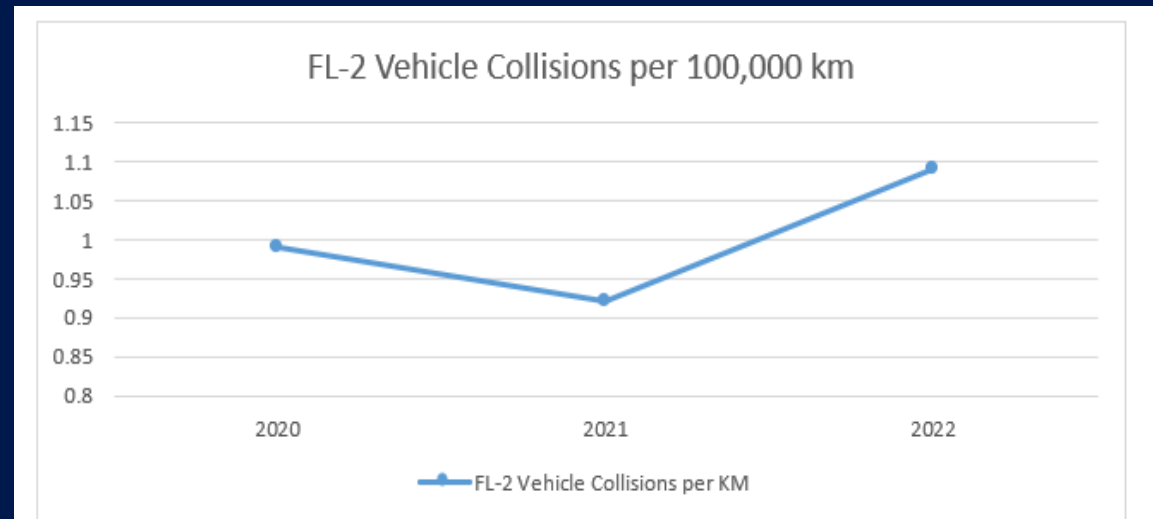


Figure 14

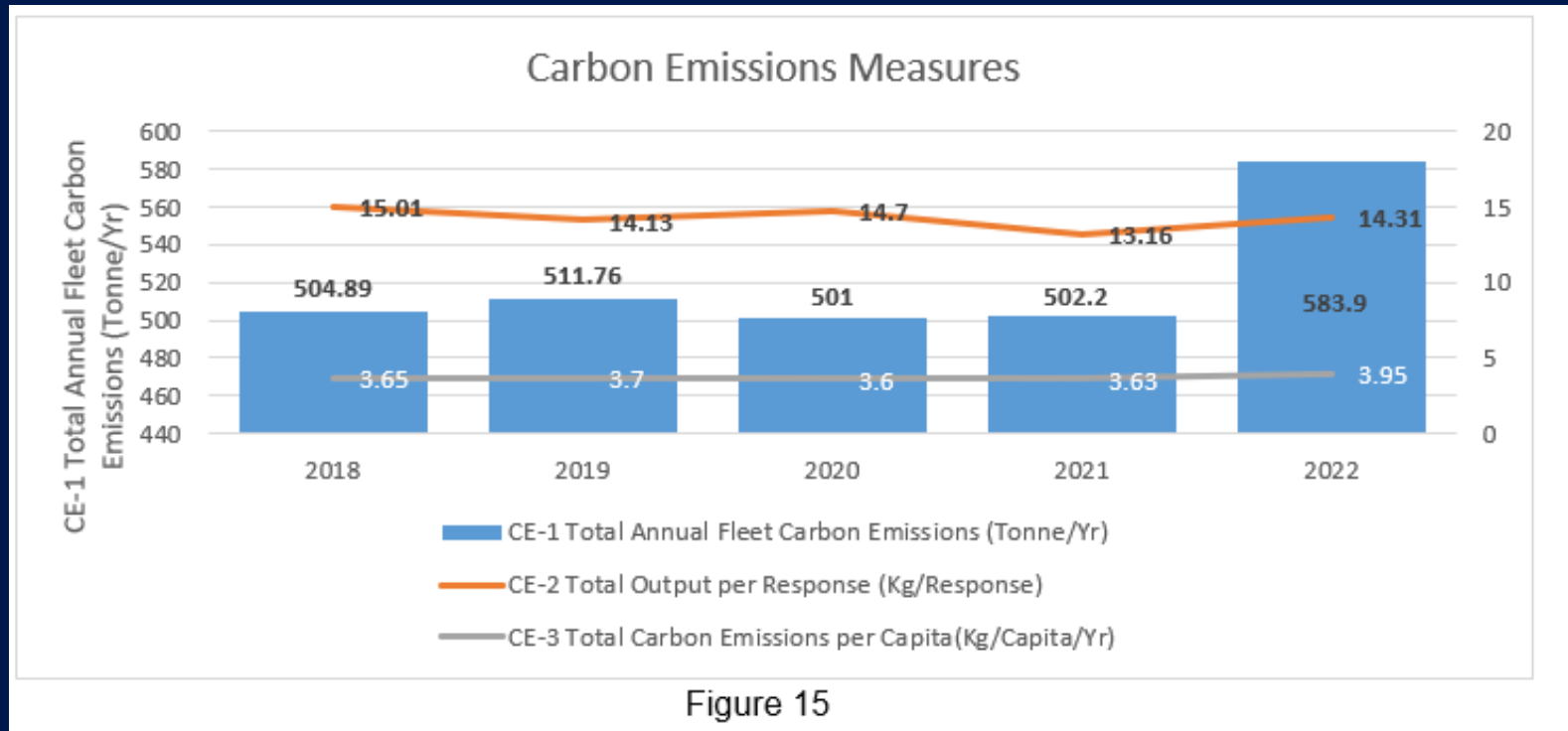


# Carbon Emissions Measures

Total Annual Fleet Carbon Emissions and total Carbon Emissions per Capita measures saw a slight decrease in 2022 over 2021 with the Total Output per Response increased by 81.7 Tonnes in 2022 over 2021 due to larger vehicles and more kilometers travelled in 2022.

## Carbon Emissions Measures (CO<sub>2</sub>to/e)

CE-1 Total Annual Fleet Carbon Emissions (tonne)	583.90
CE-2 Total Output per Response (Kg)	14.31
CE-3 Total Carbon Emissions per Capita (Kg)	3.95



# Satisfaction Measures

In figure 16 below, PCCP saw an increase in commendations in 2022 over 2021 with a decrease in complaints received per 1000 responses. In addition, a significant improvement was realized in the time for Complaint Investigations.

S4-S7 are new KPI's that have been added to measure patient satisfaction levels, therefore data only available for 2022 forward, as displayed in figure 17 below.

Satisfaction Measures	
S-1 Complaints Received per 1,000 responses	0.22
S-2 Commendations Received per 1,000 responses	1.02
S-3 Time for Complaint Investigation	8.22 days
S-4 Overall Satisfaction - Net Satisfied	88%



Figure 16

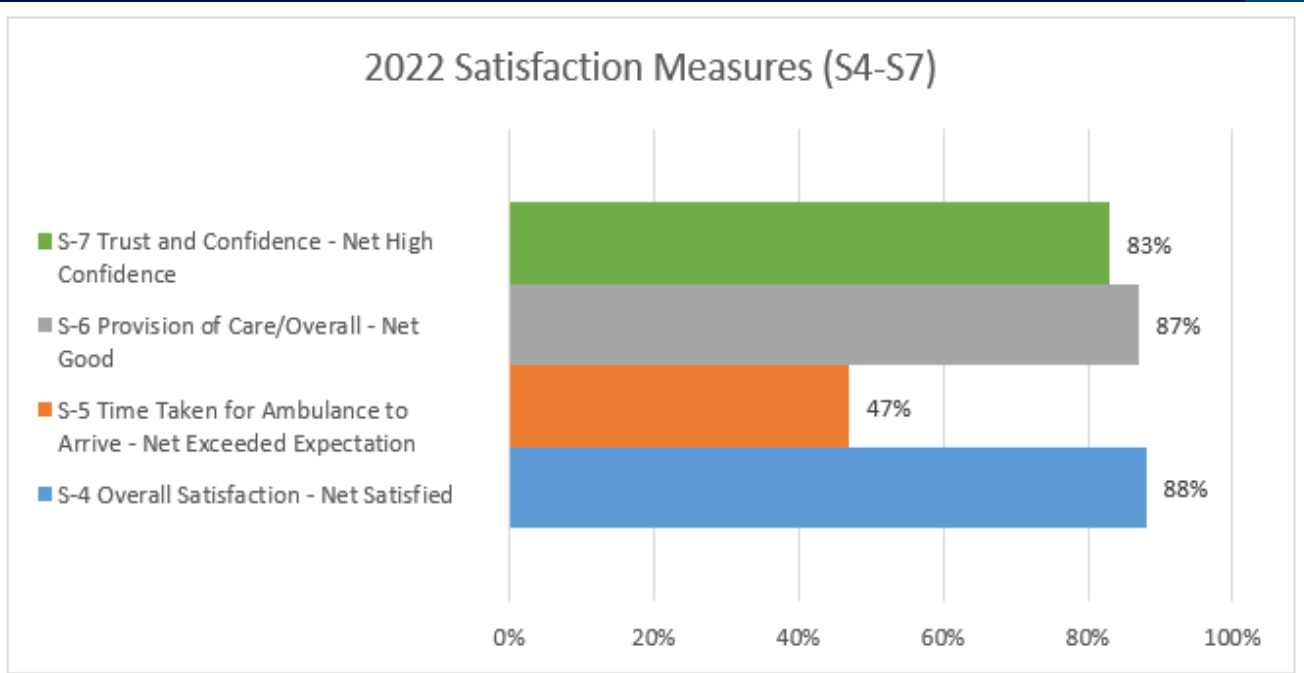
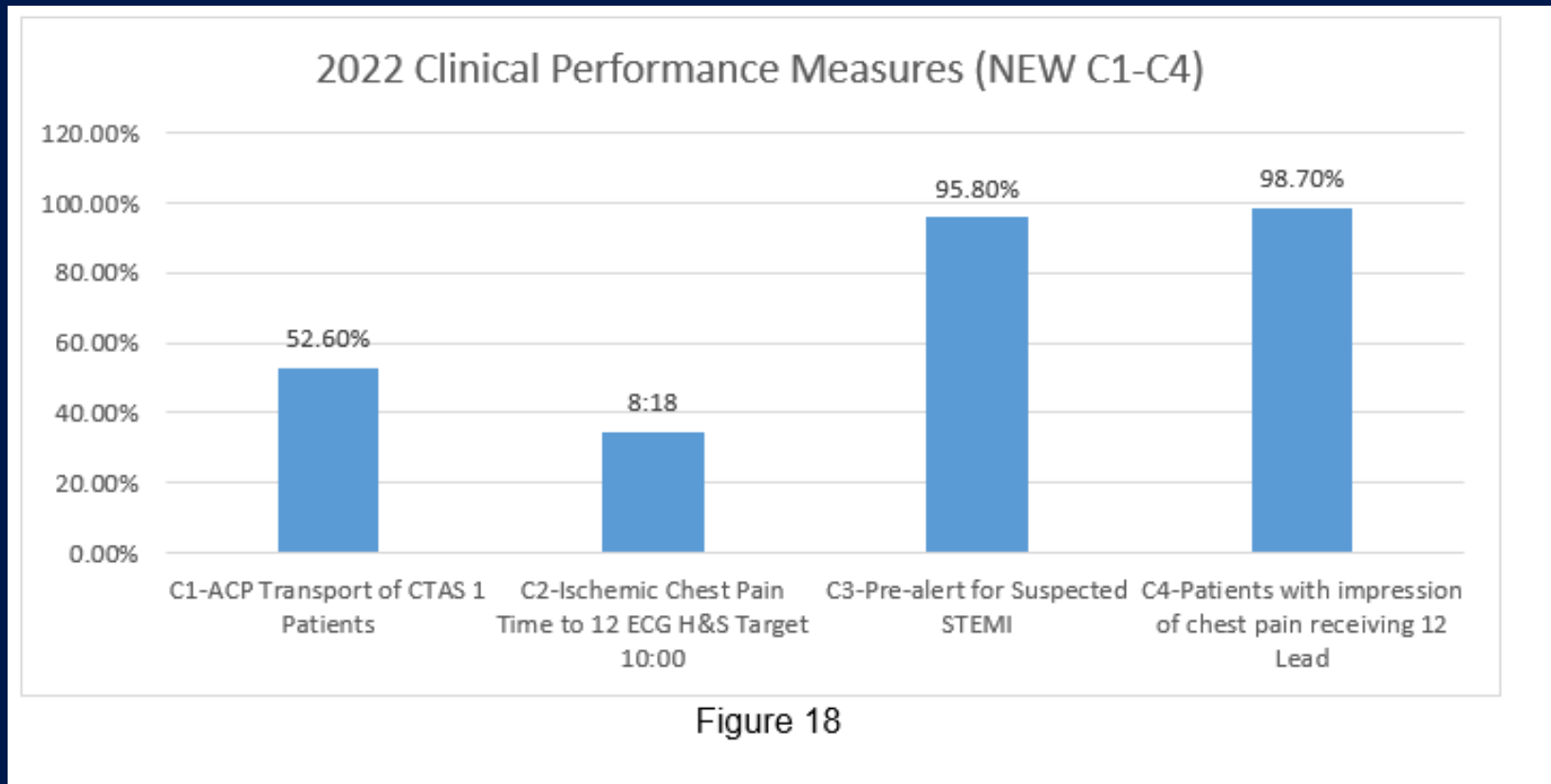


Figure 17


# Clinical Performance Measures

Figure 18 demonstrates new KPI Measurements for clinical performance measurements 1 through 4, which evaluates call responses to varying patient needs.



# Occupational Health & Safety

Figures 19 & 20 demonstrate OHS 1 through 4, which evaluates injury rates and resultant lost time claims. Frequency Rate for Injury and Lost Time remains low, however lost time hours per claim is mainly associated with mental health injuries.

 <b>Injuries/Lost Time</b>	
OHS-1 Injury Frequency Rate (per 1000 staff hours)	0.3
OHS-2 Lost Time Injury Frequency Rate (per 1000 staff hours)	0.17
OHS-3 Average Lost Time Rate (Hours/Lost Time Claim)	701.7

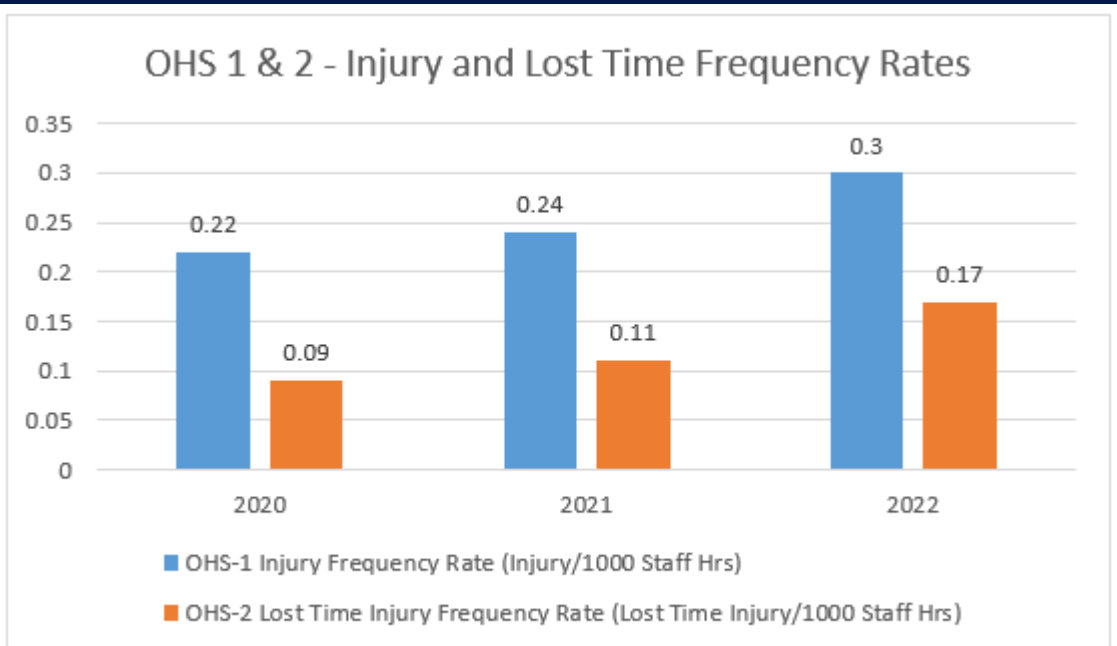


Figure 19

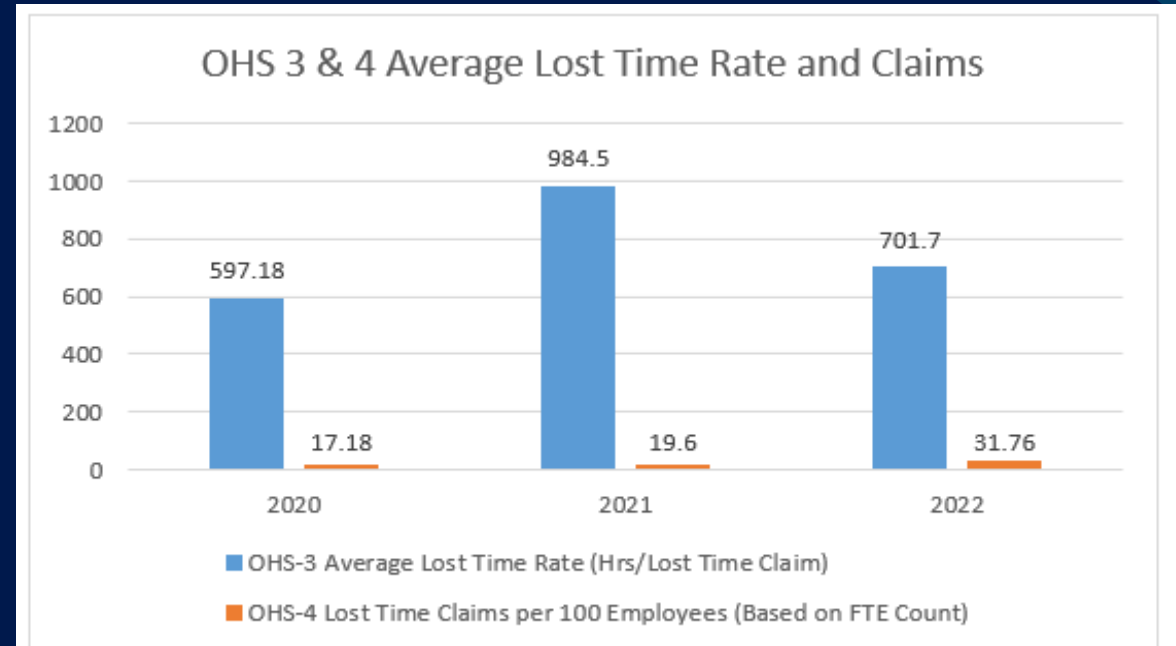


Figure 20



# Human Resources Measures

Service levels enhancements in 2022 resulted in improved levels of service as demonstrated in HR-1 &2. Due to lack of clarity in 2019 provincial funding and COVID-19 pandemic in 2020 through 2022, PCCP amended work plans to reduce expenses, which resulted in a reduction of Paramedic Continued Education hours, which returned to normal levels partway through 2021.

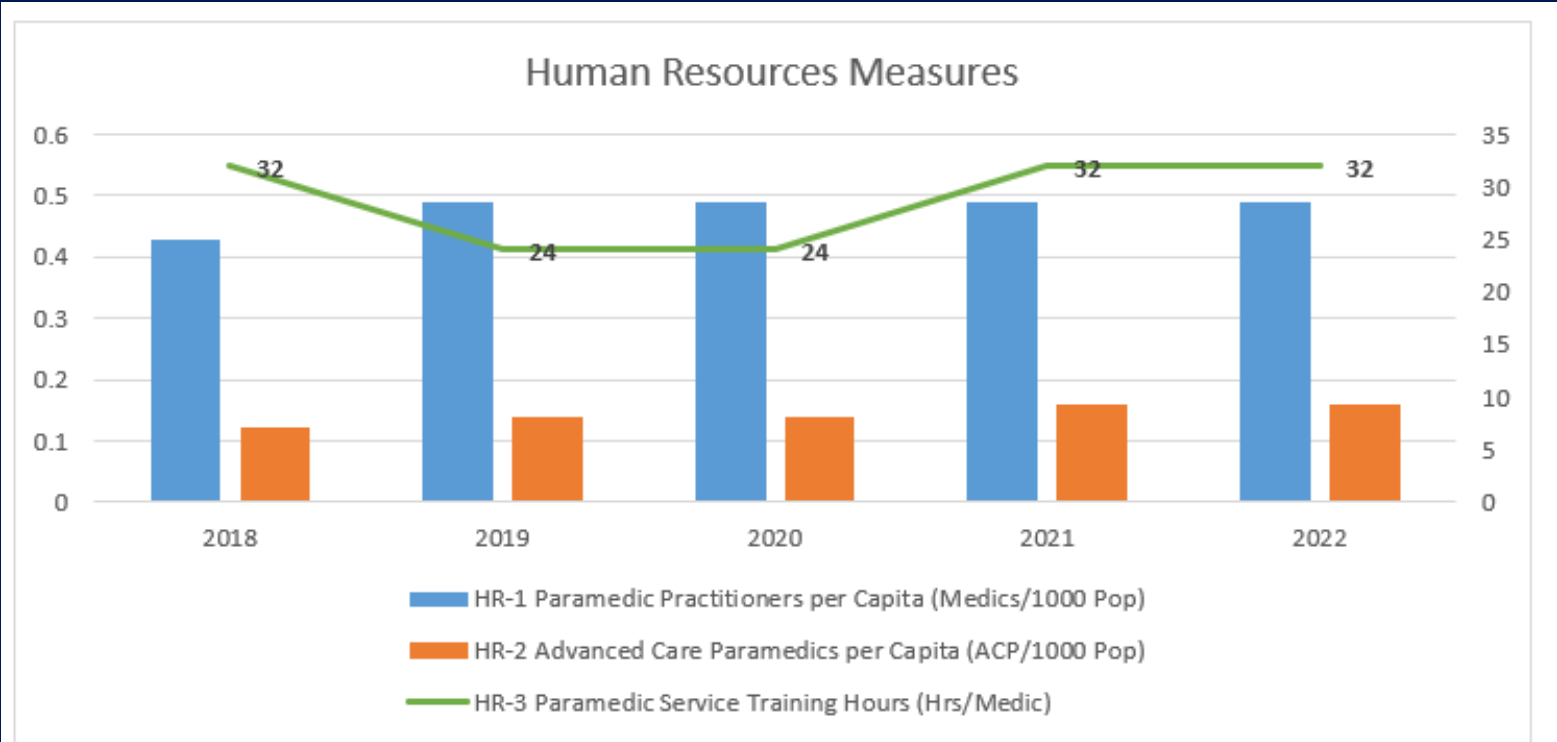



Figure 21



### Staffing/Population

HR-1 Paramedic Practitioners per Capita (per 1000 Population)	0.49
HR-2 Advanced Care Paramedics per Capita (per 1000 Population)	0.16
HR-3 Paramedic Service Training Hours	32





# Summary

- Departmental efficiency and efficacy measures and performance evaluation exceeding mandated requirements
- Contributes to corporate goals (Carbon Emission, Injury Prevention, etc)
- Data within report will be utilized to continue strategies to find operational efficiencies.



# Thank You.



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