



Administrative Report

Office of the Chief, Essex-Windsor EMS

To: Warden Tom Bain and Members of County Council

**From: Bruce Krauter
Chief, Essex-Windsor Emergency Medical Services**

Date: August 15, 2018

Subject: Essex Windsor EMS Six Month Experience Report

Report #: 2018-0815-EMS-R008-BK

Purpose

To provide Essex County Council with background and information on ambulance call response experience and activity across the Essex-Windsor region for the first six (6) months of 2018.

Discussion

Call response data is reviewed utilizing the Interdev Technologies iMedic electronic Patient Care Record (ePCR) analytics platform. The ePCR is the document that records all relevant patient care, response and transportation data for all EMS responses.

Applying these tools, in conjunction with County of Essex GIS Services, the performance of EWEMS is measured, reviewed and adjusted continually.

Call Volume

The following chart indicates, for the first half of 2018, the trend of transported patients by triage acuity, or severity of illness/injury in comparison to the first six month data of the last five (5) years:

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Q1/Q2 Year	CTAS 1	CTAS 2	CTAS 3	CTAS 4	CTAS 5	Total
2014	337	3,949	12,479	2,996	2,331	22,092
2015	376	3,814	13,100	3,079	2,448	22,817
2016	423	4,358	12,886	3,401	2,741	23,809
2017	407	4,121	13,595	3,004	2,612	23,739
2018	335	4,174	12,911	2,811	1,816	22,047

In review of the call volume data, the 2018 Q1/Q2 total transport call volumes have, decreased 0.2% compared to the 2014 experience. It is important to note that the CTAS 1, 2 and 3 (emergent and urgent) patient transports have increased a combined 4% over the same 4-year period. Conversely, CTAS 4 and 5 (non-urgent) patient transports have decreased by 13% from 2014 to 2018. It must be noted that this cohort of transports have been on a steady incline from 2014 through to 2017. In 2018, the shift in call volumes can be linked, in part, to the various alternative care and preventative measures introduced by EWEMS in the later part of 2016, now fully implemented and discussed in detail below.

Hospital Off Load Delays

Hospitals off load delays are a constant impact to the service and community. Off load delays are caused when the emergency department is unable to off load a patient from an ambulance. The result is that ambulances are held for long periods in a hospital and unable to respond to calls in the community. This practice influences response times, lunch periods and shift overruns, impacting service delivery, cost and overall staff morale.

In January of 2018, EWEMS worked with the ambulance call report vendor, Interdev Technologies, and developed a real time situational dashboard. This dashboard allows EWEMS management staff to monitor, in real time, the status of the ambulance resources. Utilizing this live data, transferred directly from the communication centre, provides management with key information to make real time decisions, including an understanding of: the volume and duration that resources are on lengthy delays; number and duration that resources are placed on out of town transfers; which hospitals are experiencing increased volume compared to others, and which crews are experiencing shift overruns. This new tool reduces voice communication between the communication centre and management staff and proactively

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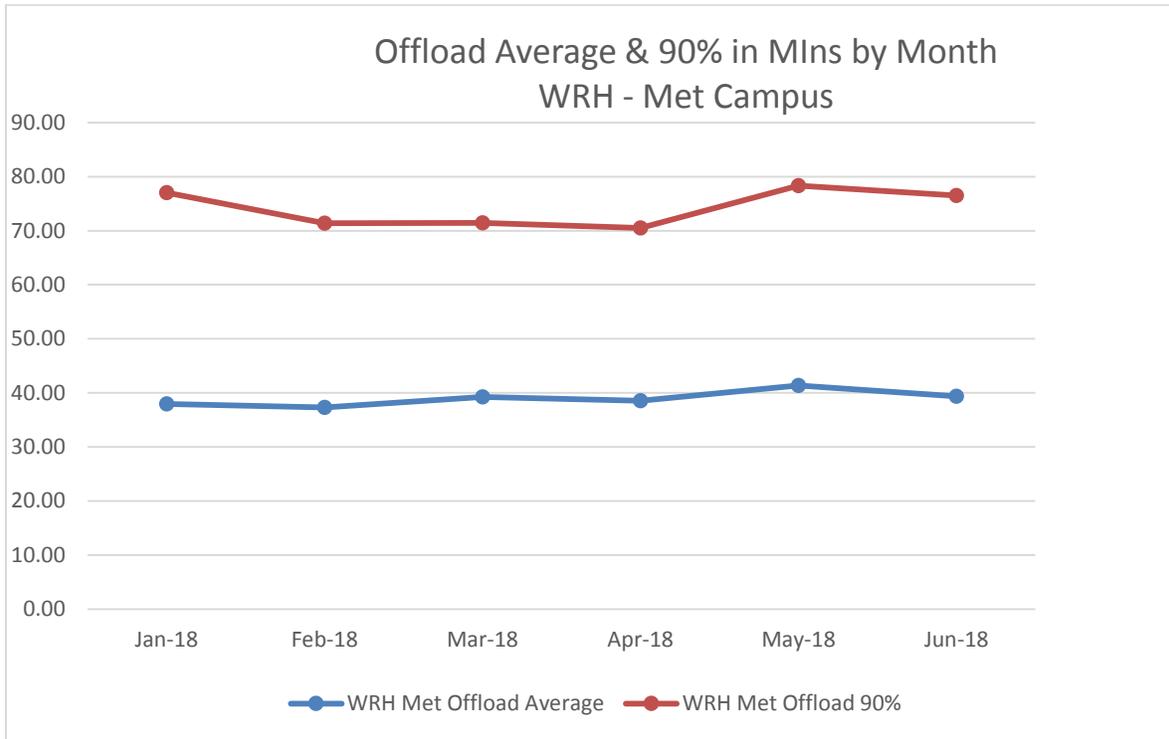
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allows for expedient decisions in resource utilization/deployment, resulting in improvements to the overall system.

A result of the preliminary use of the situational dashboard is evident in the following charts, highlighting the hospital offload delays by month.

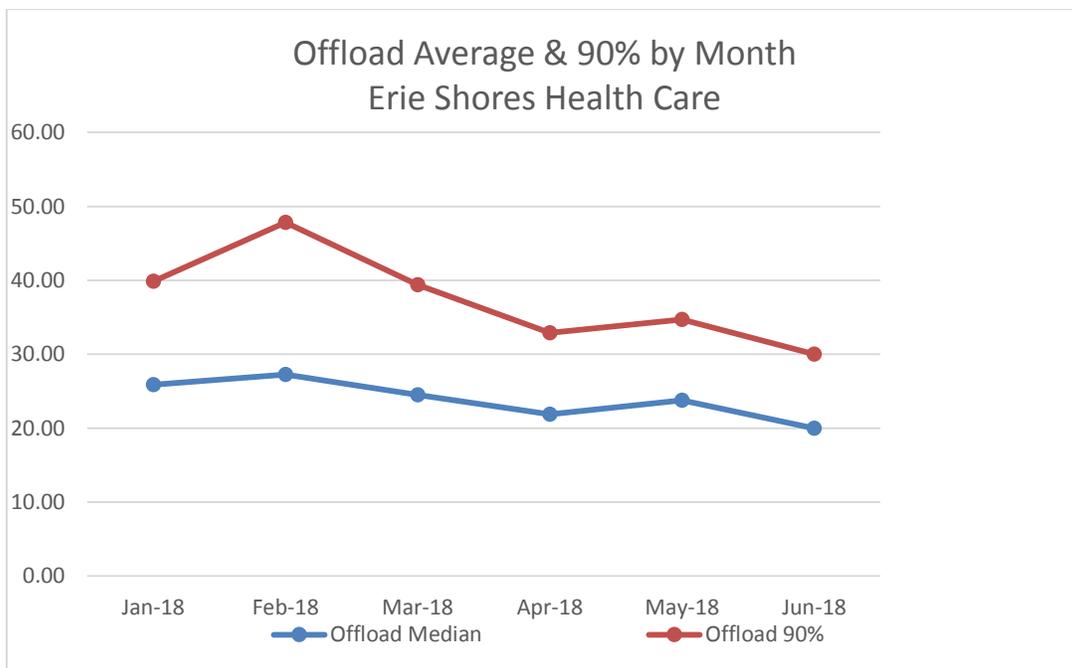
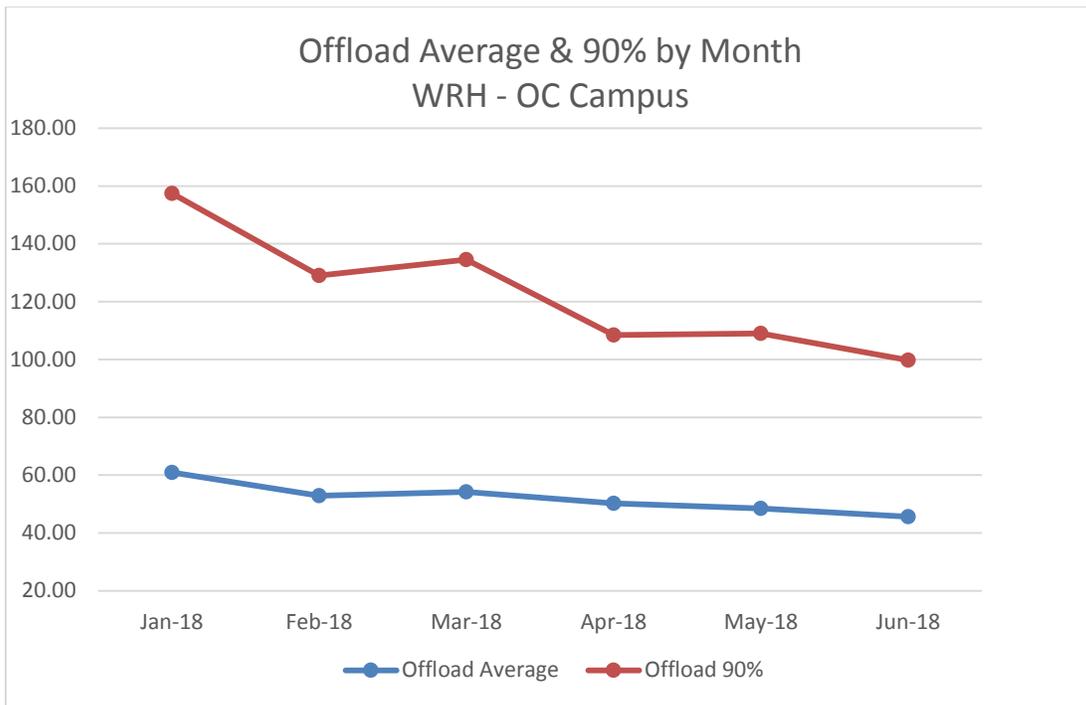


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From the graphs above both Erie Shores Health Care (ESHC) and Windsor Regional Ouellette Campus (WRH-OC) have experienced decreases in ambulance offloads. WRH Met Campus (WRH-Met) remained level.

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EWEMS and WRH are collaborating to develop processes to realize similar reductions with WRH Met offload times.

Hospital Patient Volumes

A major component of hospital offload delays is the volume of patient traffic received at any one facility. It would be reasonable to deduce that as volume increases, offload delays would also increase. Additionally, patient volumes are directly related to ambulance destination decisions. For EWEMS, destination decisions are predicated by the service provisions of the various hospitals, as outlined below:

WRH-OC:

- Trauma
- Cardiac (heart attacks, STEMI)
- Stroke
- Adult Mental Health and Addictions
- Renal issues

WRH-Met:

- Obstetrics
- Pediatric Mental Health and Addictions
- Orthopedic
- Oncology

All other service response calls are distributed amongst the other regional facilities, including ESHC, depending on distance, CTAS level and capacity within the facilities.

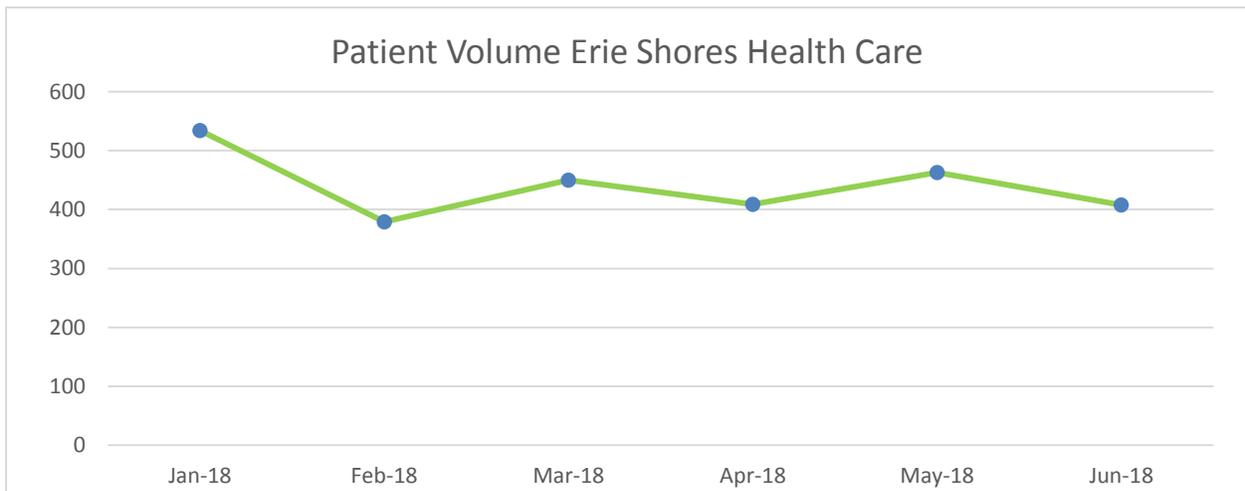
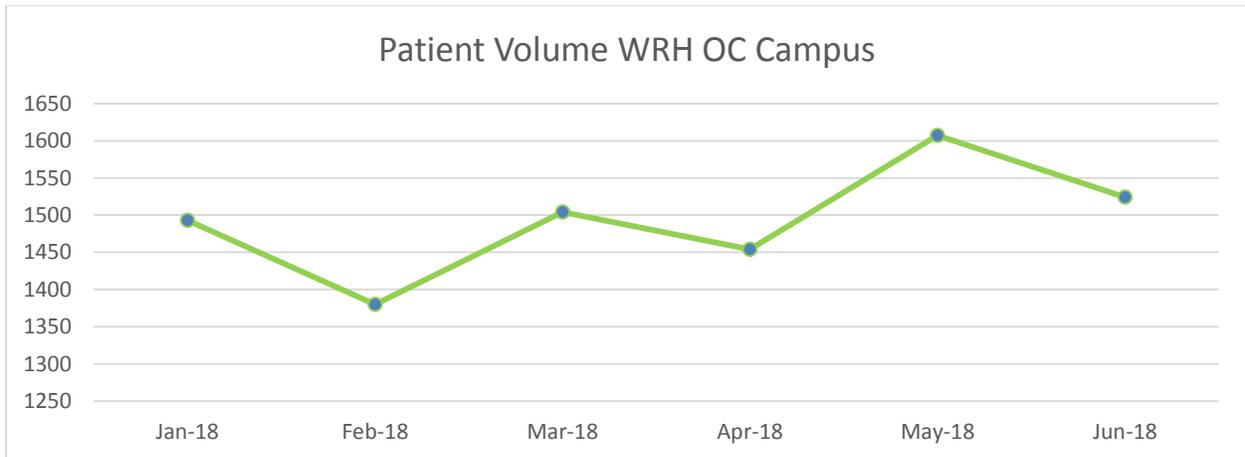
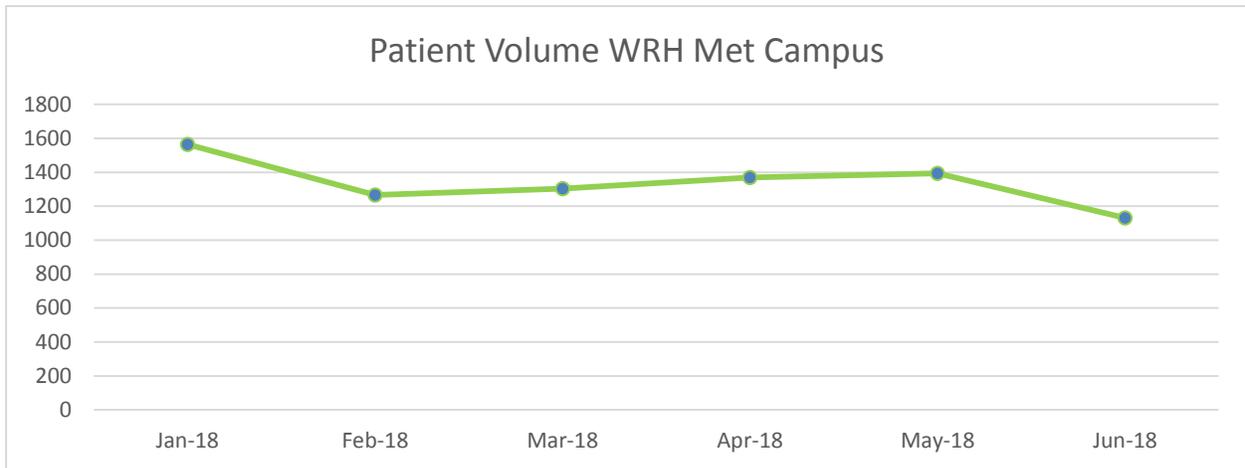
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The following graphs indicate the hospital ambulance volumes by month:



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Service Response by Age and Facility

The following charts document service response transported by age and facility. It must be noted that service response for calls dealing with weakness/dizzy, behavioural issues, abdominal/pelvic pain and musculoskeletal are historically low acuity, non-urgent call volume classifications. These call responses lead to ambulance offload and emergency department overload.

EWEMS anticipates that changes to the Ambulance Act may assist in having various call classifications transported to alternative care facilities (care provided by the right resource, at the right time and at the right place). EWEMS understands that the Erie St. Clair LHIN and Hotel Dieu Grace Health Care are discussing the possibility of a dedicated mental health emergency department at the Prince Road site. This type of alternative facility arrangement could assist in reducing offload delays experienced at WRH-OC, while providing appropriate and available mental health supports for residents of Essex-Windsor.

Essex Windsor Region					
age	1	2	3	4	5
00-15	Behavioural/Psych	Weak/Dizzy	Musculoskeletal	Postictal	Trauma
16-31	Behavioural/Psych	Abdo/Pelvic Pain	Weak/Dizzy	Musculoskeletal	Trauma
32-47	Behavioural/Psych	Weak/Dizzy	Abdo/Pelvic Pain	Musculoskeletal	Back Pain
48-63	Weak/Dizzy	Behavioural/Psych	Abdo/Pelvic Pain	Musculoskeletal	Cardiac
64-79	Weak/Dizzy	Respiratory	Abdo/Pelvic Pain	Musculoskeletal	Cardiac
80-95	Weak/Dizzy	Musculoskeletal	Respiratory	Abdo/Pelvic Pain	Med/Trauma
96+	Weak/Dizzy	Musculoskeletal	Respiratory	Trauma/Injury	Abdo/Pelvic Pain

Vulnerable Patient Navigator Program

For the first half of 2018, the Vulnerable Patient Navigator (VPN) Program continues to experience great results and reductions in patient utilizing 911 and emergency services. The VPN program is a multi-faceted program in which paramedics complete home visits, remotely monitor vital signs and facilitate community-housing visits for those patients or residential buildings who utilize the use of EMS services frequently.

The home visit component of the program has realized an approximate 50% reduction in 911 and emergency room visits. The patient satisfaction rate is high upon patient discharge from the program.

As an example, the 2018 Q1 results are as follows:

Discharge Survey Results (Q1 2018)

Questions	Average Score
Question 1 - I feel I currently receive the care I need to maintain a good quality life.	4.5
Question 2 - Most days, I'm comfortable managing my health in the comfort of my own home.	4.7
Question 3 - I often find myself worrying about things and suffer from nervousness.	3.2
Question 4 - I feel educated on my own health.	4.5
Question 5 - I'm fully aware of the health care services that are available to me in my community.	4.2
Question 6 - Overall, I'm satisfied with the VPN program.	4.9

Scale
1 - Strongly Disagree
2 - Somewhat Disagree
3 - Neutral
4 - Somewhat Agree
5 - Strongly Agree

The Community Paramedic Remote Patient Monitoring (CPRPM) program continues to realize reductions in 911 use and emergency room visits. On average and approximate 40% reduction is experienced and both patients and families are extremely satisfied with the program.

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The Community Paramedic Clinic Program (CP@Clinic, Appendix I) provides the published results for Essex-Windsor. As a reminder, this program places VPN paramedics in high use, multi residential buildings twice a week for health checkup clinics. Highlights of the report are as follows:

- On average, participants with an initial elevated blood pressure experienced to have normal readings on the sixth visit.
- 94% of the participants were able to improve their CANRISK category or stay in the same category.
- 47% of participants improved their quality of life.
- Participants experienced a decrease in pain, discomfort, depression and anxiety. Participants reported an increase in overall improvement in their health state.
- EMS call response 40% lower than those buildings without a CP@Clinic.

The health assessments delivered are as follows:

- 40% of participants assessed for diabetes risk.
- 46% of participants assessed for high blood pressure. Those with elevated readings were connected to the primary health care provider for increased care, where applicable.
- 15% of participants has a high-risk discussion with the VPN. For example a discussion on fall prevention.

The VPN program has, and continues to, realize reductions in 911 and emergency service use. The VPN focus on providing the right care, at the right time and at the right place, in the patient's home and the patients have voiced their satisfaction with the program.

EWEMS believes that the results of the VPN have a direct correlation with the decrease in the low acuity transports, as reported above and the subsequent reduction in offload delays.

Response Time Standards

The following chart indicates the 2018 Q1/Q2 performance of the Response Time Standard Plan, as compared to the 2017 actual performance:

CTAS	Time Min.	Target	2017 Actual	2018 Q1/Q2
Sudden Cardiac Arrest	6	55%	59%	61%
CTAS 1	8	75%	77%	79%
CTAS 2	10	90%	85%	84%
CTAS 3	12	90%	87%	86%
CTAS 4	14	90%	91%	89%
CTAS 5	14	90%	90%	90%

The 2018 Q1/Q2 performance is consistent with the performance of the 2017 annual actual. An improvement is indicated in Sudden Cardiac Arrest and CTAS 1 Responses, those being the most critical and life threatening.

Summary

The first half of 2018 has been busy and productive for EWEMS. Although call volumes have decreased overall, the emergent and urgent volumes are projected to rise at historical rates. Non-urgent call types are experiencing decreases, which can be directly attributed to the programs and projects EWEMS offers through the VPN program.

Response times have improved in the life threatening acuties and remain consistent with 2017 results and experience. Offload delays are trending down and EWEMS is committed to lowering offload times in collaboration with the hospitals.

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Hospital transport volumes are rising consistently with EMS call volume increases. Proactive analysis and assistance with call data by management staff (call type, CTAS acuity, service delivery constraints) continues and assist with the reduction of offload delays.

EWEMS Professional Standards will deliver a report that will address the VPN program and experience in September 2018.

Financial Implications

No financial implications are expected due to this report.

Recommendation

The foregoing report is for the information of County Council.

Respectfully Submitted

Bruce Krauter

Originally Signed by

Bruce Krauter, Chief, Essex-Windsor Emergency Medical Services

Concurred With,

Robert Maisonville

Originally Signed by

Robert Maisonville, Chief Administrative Officer

Appendix No.	Title of Appendix
I	Essex Windsor EMS CP@Clinic Impact Report