

Emergency Medical Services & Emergency Coordination

Statement of Purpose

Essex-Windsor Emergency Medical Services is committed to providing the highest quality Emergency Medical Services to the citizens of the County of Essex, the City of Windsor and the Township of Pelee.

Fiscally responsible quality care is fostered through:

- Maintaining mutually supportive relationships with other emergency services and health care agencies in the community
- Participation in public education for prevention and awareness
- Programs of Continuous Quality Improvement to ensure the highest standards of patient care are achieved
- Supporting employees by providing them with the tools and methods to accomplish quality care

The department adheres to the five principles of Emergency Medical Services, which are to provide the community with an EMS system that is:

- Accessible
- Accountable
- Responsive
- Seamless
- Integrated

Service Description

The Emergency Medical Services Department is responsible for the operation of the public ambulance service for the County of Essex, the City of Windsor, and the Township of Pelee. Essex-Windsor EMS serves a population base of approximately 399,000 across 1,852 square kilometers. For statistical reference, Essex-Windsor EMS provides approximately 404,000 on-the-road paramedic-staffing hours, exclusive of response time hours provided by Deputy Chiefs and/or District Chiefs.

The EMS department maintains a fleet of 39 front line ambulances, 13 Emergency Response Vehicles, 1 Logistics Vehicle, 1 Administration Vehicle, a Special Operations Trailer, Hazmat Trailer and an Off Road transport vehicle.

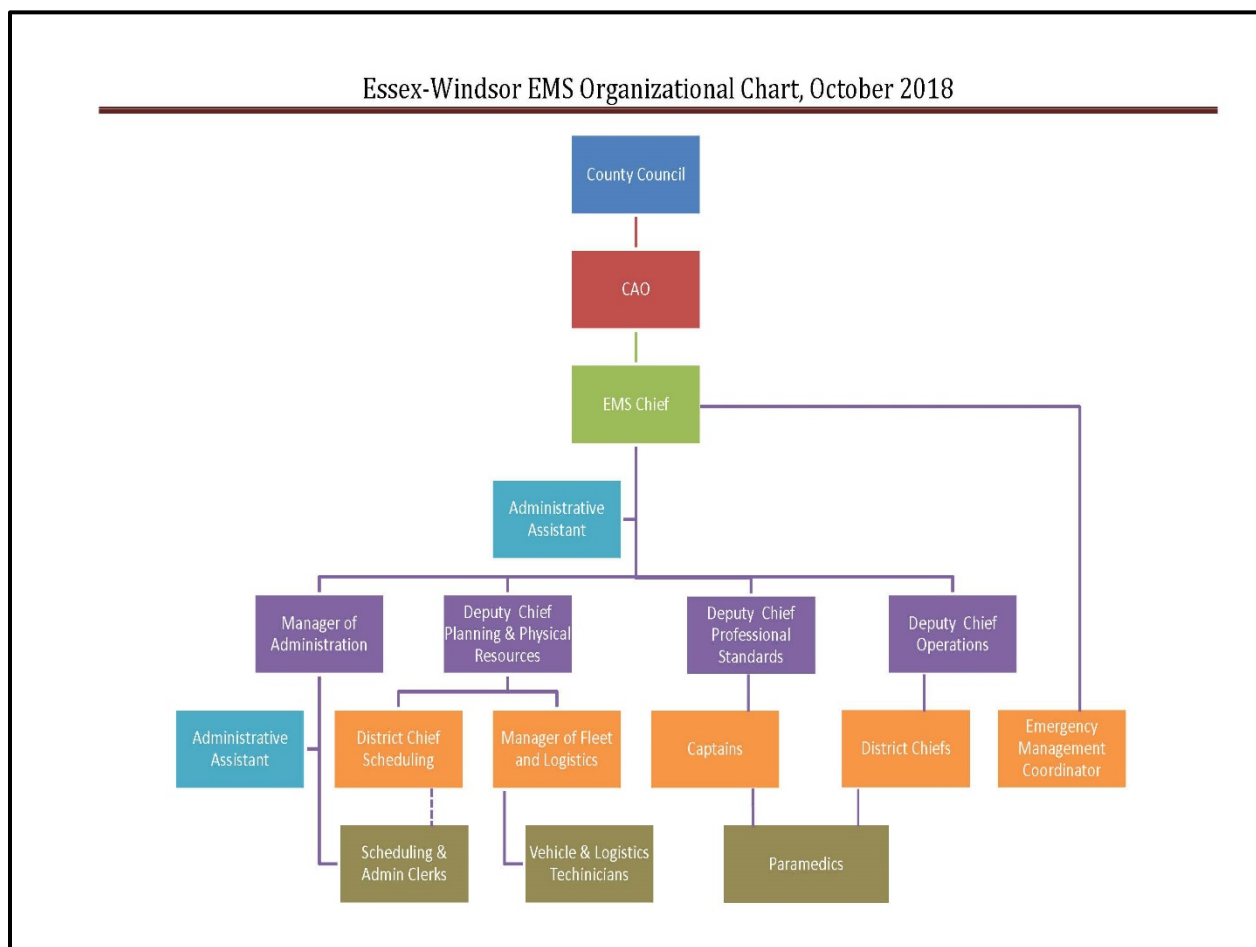
There are 12 ambulance stations located throughout the County of Essex, the City of Windsor and the Township of Pelee.

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Departmental Staffing

Staffing	2016	2017	2018	2019	2016 Actual (\$000)	2017 Actual (\$000)	2018 Budget (\$000)	2018 Actual (\$000)	2019 Budget (\$000)
Full-time paramedics	168	168	182	182	12,930	13,497	17,480	13,964	17,510
Part-time paramedics	102	102	110	110	6,770	7,211	5,576	8,385	5,256
Full-time Management & Administration	28	28	28	29	2,748	2,749	3,058	3,042	3,333
Total	298	298	320	321	22,448	23,457	26,114	25,391	26,099

Organizational Chart



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Mandatory Programs

Essex-Windsor Emergency Medical Services, as mandated by legislation, must:

- Obtain and continue to maintain a certificate from the Province of Ontario; licensing the County to operate a Land Ambulance Service;
- Develop a Deployment Plan outlining station locations, staffing patterns, emergency coverage patterns and plan;
- Respond to requests for emergency medical assistance in the community by sending the closest available resource;
- Provide emergency medical care to those in need and transport to the most appropriate medical facility;
- Develop and administer mandatory paramedic documentation and performance auditing processes to ensure quality of care and compliance with legislated patient care and documentation standards;
- Provide continuing education programs for paramedics to ensure compliance with legislation;
- Develop and administer strict ambulance vehicle maintenance schedule;
- Develop and administer strict medical and conveyance equipment maintenance schedule;
- Develop and administer mandatory medical supply inventory management;
- Develop an annual response time performance plan. Ensure that this plan is continually maintained, enforced and where necessary, updated. Provide each plan and each update to the Ministry and report to Ministry on the response time performance achieved under the previous year's plan; and
- Participate in triennial audit and review (Service Review) in order to demonstrate compliance with all mandatory programs necessary for renewal of Provincial Certification.

Discretionary Programs

- Development and maintenance of a Vulnerable Patient Navigator (VPN) Program;
- Develop and administer a public relations program to provide education related to public safety initiatives, use of EMS and 911 and to promote the EMS Department;
- Provision and coordination of a regional Public Access Defibrillation Program, including oversight of training and program quality assurance;
- Coordinate the MOHLTC funded Dedicated Ambulance Offload Nurse program in conjunction with area hospital emergency departments;
- Participation and cooperation in patient referral programs such as Vulnerable Patient Navigator (VPN), Community Outreach and Support Team (COAST), Mental Health Response Unit (MHRU) and research in Community Paramedic Remote Patient Monitoring (CPRPM); and
- Participation in the development and coordination of local Health Link initiatives.

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Prior Year Performance

In 2018, net departmental operations are anticipated to end the year \$5,910 over budget (County of Essex share).

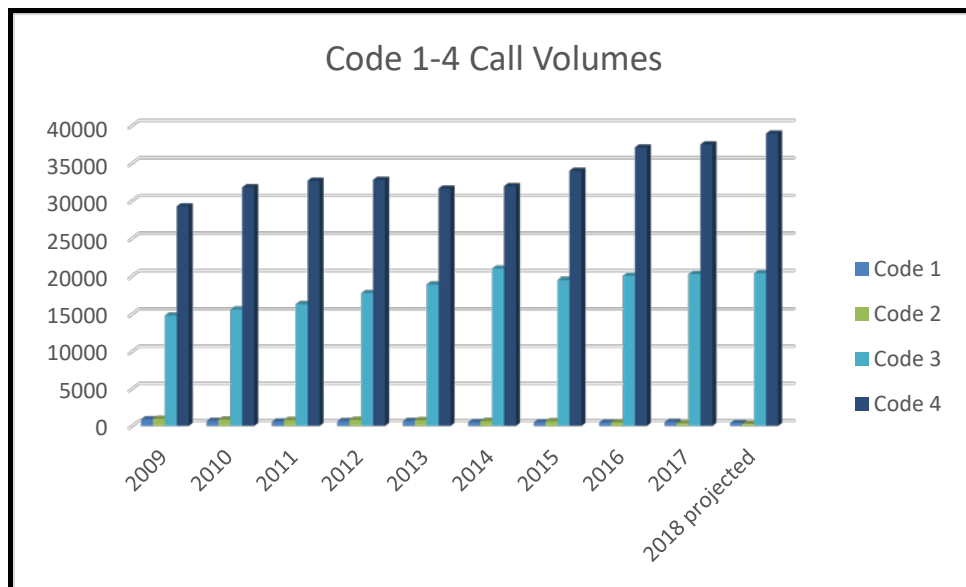
Both favourable and unfavourable factors leading to the budget variance included wage, benefit and operational costs as follows:

- Modified work assignments (for WSIB / pregnancy / injury).
- Modifications to deployment and response plans
- Increased WSIB NEER costs
- Increased fuel costs
- Lower vehicle repair and maintenance costs realized due to cyclical replacement of the fleet.

Performance Metrics

The 2018 call volume, Code 1 through 4 and 8 is projected to be 107,362. This is a 3.5% decrease in overall call volume compared to 2017. Low priority transfers decreased by 30% and coverage standbys decreased by 11%. Prompt and Urgent responses (Code 3 & 4) increased 3.7% compared to 2017.

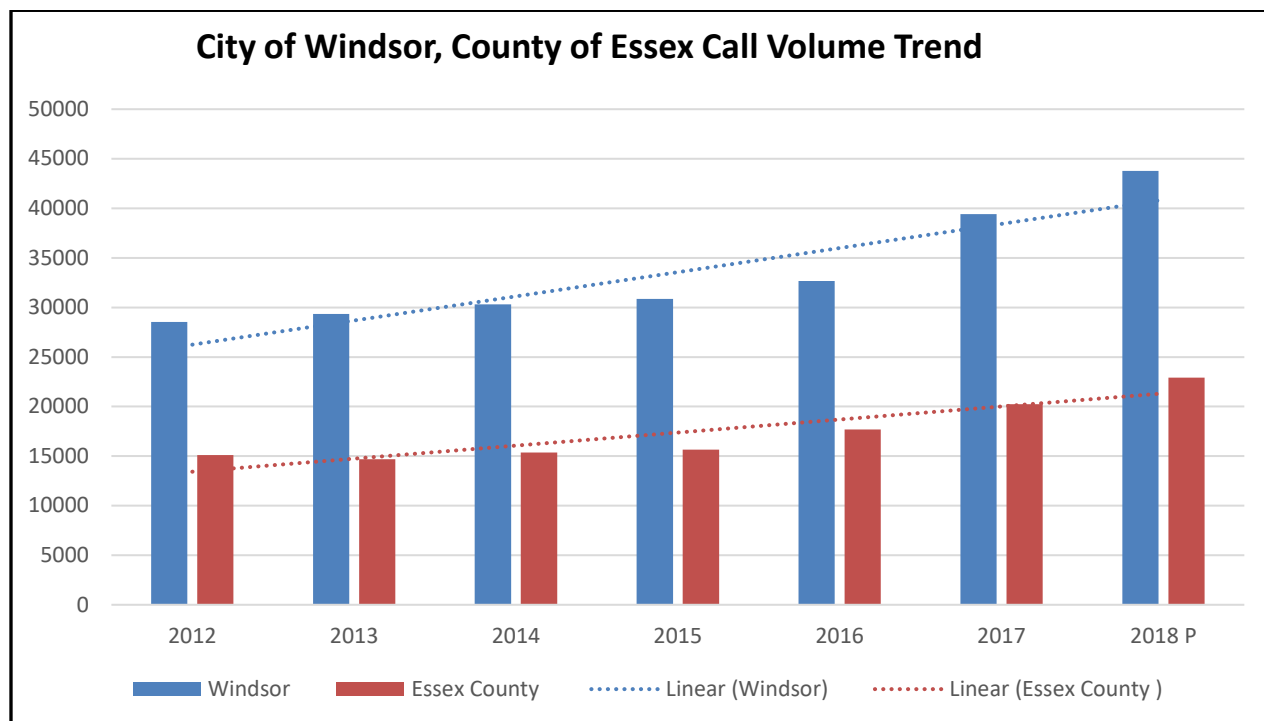
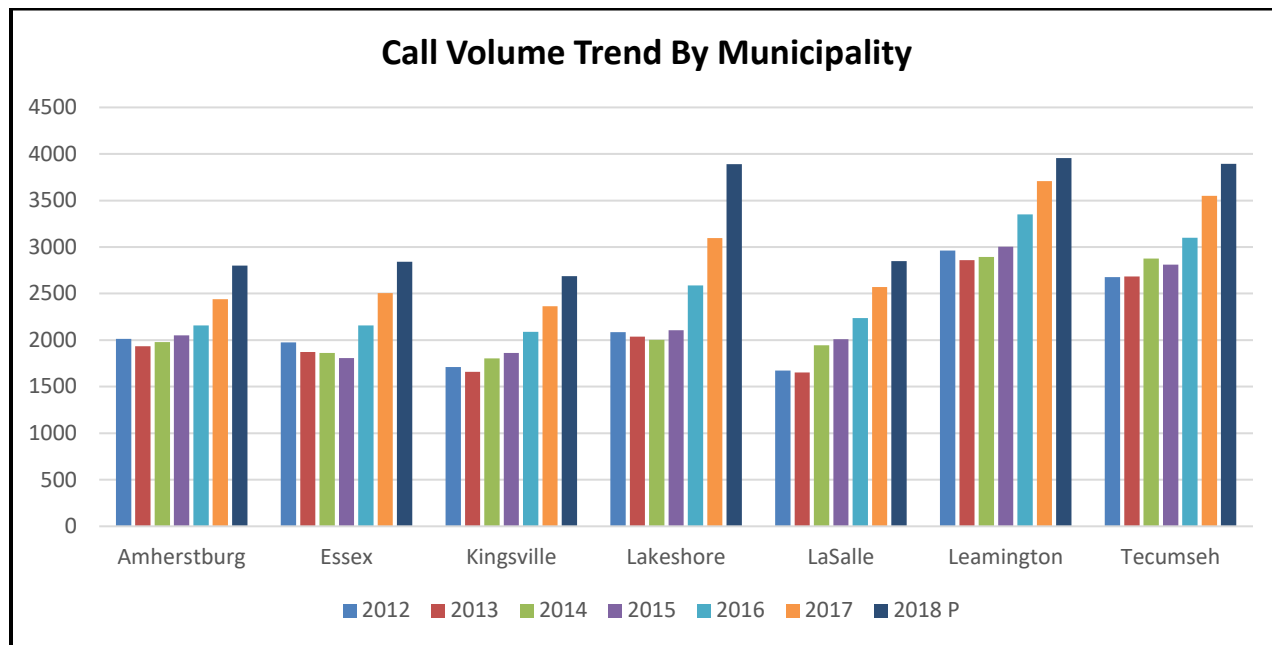
Between 2014 and 2018, Code 1 to 4 call volumes increased on average by 2.8% annually. Acknowledging the aging population and the expected increased demand of EMS services, anticipated annual increase of code 1 to 4 calls will remain consistent in the 3% range for the near term.



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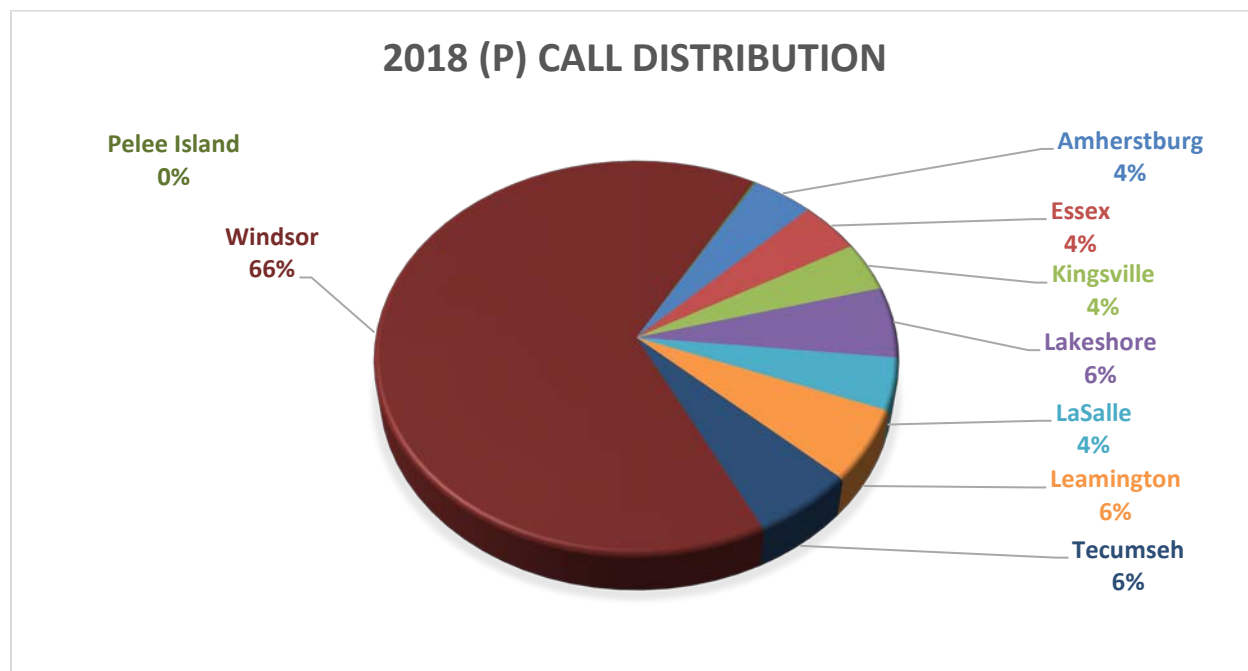
Municipal Call Volumes

For reference purposes, the charts below highlight the patient contact call volume trend by County municipality and the City of Windsor for the period of 2012 to 2018 (Projected) (Codes 1 to 4) by origin of call.



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The following chart illustrates the 2018 (Projected) call volume distribution by municipal pickup.



Response Times

The steady increase in emergent and urgent call volume and the continual off load delays has impacted response times year-over-year. Essex-Windsor EMS has reviewed and modified deployment plans, monitored and changed staffing hours and maintains response times to historic levels.

The Essex-Windsor EMS Response Time Standard Plan performance for 2018 (January to September) is as follows:

CTAS	Time Min.	Target	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 YTD
Sudden Cardiac Arrest	6	55%	59%	53%	61%	59%	64%
CTAS 1	8	75%	75%	76%	78%	75%	81%
CTAS 2	10	90%	85%	86%	84%	84%	85%
CTAS 3	12	90%	86%	87%	87%	87%	86%
CTAS 4	14	90%	90%	92%	91%	91%	95%

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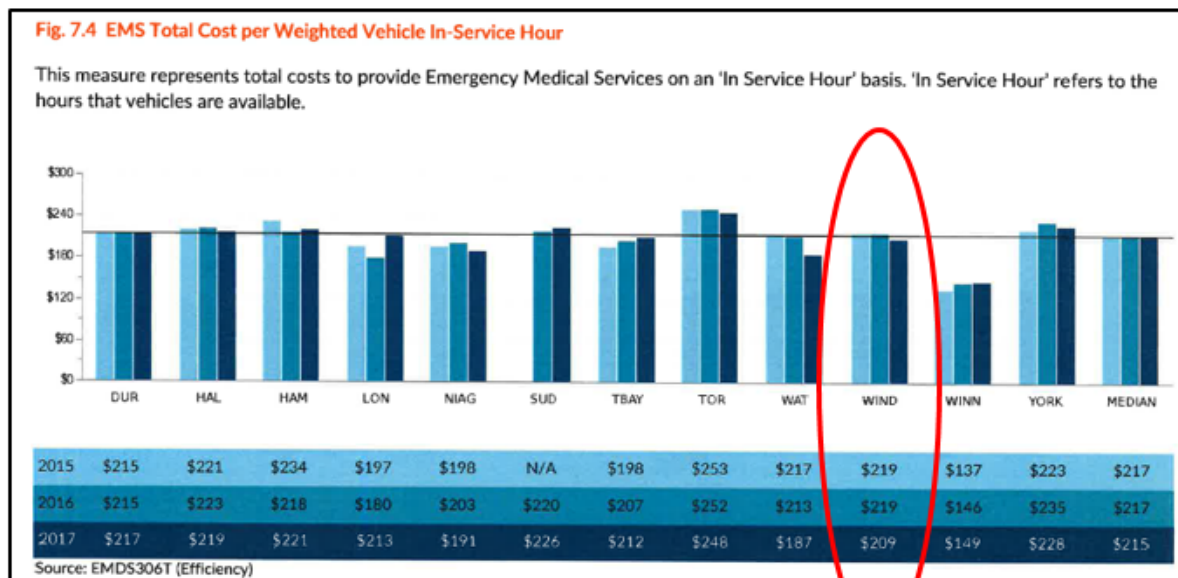
CTAS	Time Min.	Target	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 YTD
CTAS 5	14	90%	91%	91%	90%	90%	90%

The locally developed targets for the 2019 Response Time Standard Plan remain the same as 2018, as approved by Essex County Council.

Municipal Benchmarking Network Canada

Essex-Windsor Emergency Medical Service continues to participate in the Municipal Benchmarking Network Canada (MBNC), along with 12 other EMS services from across Ontario and Canada. Through MBNC, and other initiatives, administrations provide comparable data to allow municipalities to assess best practices and make informed decisions on service performance, quantity and cost. In reviewing statistical data, such as MBNC, care must be exercised to recognize the unique characteristics related to each community's socio-demographics, geographic location, population density, and other influencing factors. The benefits of comparisons are to provide enhanced information for decision making, identification of innovative ideas for service improvement and ultimately more efficient and effective service to the citizens served.

According to the latest report (2017), the Essex-Windsor area "cost to provide one hour of ambulance service" is lower than the median (\$215 per hour) of the control group at \$209 per hour. This is below eight of the comparable regions and slightly above Niagara and Waterloo Regions. Hours refer to only the hours that vehicles are available for service. Costs include paramedics, administration, medical supplies, building, operating costs, supervision and overhead.



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Comparatively, the 2017 Essex-Windsor area weighted vehicle in-service hour per 1,000 population is above the median (374) at 455. The Essex-Windsor Region is higher than seven of the comparable, including the Regions of Durham, York, Halton, Toronto, Hamilton, London and Durham.

Fig. 7.3 EMS Weighted Vehicle In-Service Hours per 1,000 Population

'In-Service Hours' refers only to the hours that vehicles are available for service.



The fact that EWEMS weighted in service hours per 1,000 is higher than the median (455/374) and the cost per weighted vehicle in service hour is lower than the median (209/215), it is rationalized that service delivery is completed fiscally, effectively and efficiently, as it relates to the MBNC comparators.

EMS Stations

In 2018, the EMS Station construction located at 2620 Dougall Avenue in Windsor was completed. This station was updated from an older, two-bay, small facility to a three wide by two vehicle deep garage bay, drive through design, full crew quarters, generator back up and with excellent access to all directions.

It is anticipated that the construction of the new EMS Administration offices, located at the Civic Centre, will be completed in early 2019. This will coordinate and locate the senior administrative staff under one roof, in a central location to the entire service.

Special Events

The Department continues to staff Special Events that occur throughout the County and City which require the presence of EMS resources. In 2018, Essex-Windsor EMS attended over 50 Special Events, with these events requiring EMS staff and vehicles at a cost to the system.

To every extent possible, the events were managed by utilizing the support of volunteer paramedics, the use of in-service resources, dependent on emergency coverage and

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call demand and personal volunteer attendance. Examples of events where EMS services are provided include a variety of local fairs, outdoor concerts, and various marathons.

For some of the larger events, which impose entrance fees to the public and create a financial and operational expense to the service, fee for service are recouped in accordance with the Corporation's Fees and Charges By-Law # 12-2018.

Further, Essex-Windsor EMS enters into a Service Agreement with any organization or agency which is paying for the service, as per the EWEMS Special Events Service Agreement By-Law # 48-2014. The largest cost recovery events covered during 2018 were the Windsor Spitfires and the Come Home Music Festival.

Proposed Budget – Current Year

The Budget for 2019 represents a total expenditure level of \$45,456,310, with significant recoveries including: \$21,466,790 from the Province, \$11,964,350 from the City of Windsor and the Township of Pelee. The estimated net levy allocation for the County is \$12,080,770.

The 2019 Emergency Medical Services budget reflects the projected costs of operating a public service based on the actual experience of 2018 and historical trends.

Senior EMS Management continues to review statistical information specific to a number of service delivery metrics. A review of call volumes, the Response Time Targets and patient off load pressures has identified the requirement for increased vigilance in patient flow and patient transport diversion protocols. Collaboration between EWEMS, Windsor Regional Hospital, Hotel Dieu Grace Health Care, Erie Shores Health Care (formerly Leamington District Memorial Hospital) and various community partners continue and protocol and procedural changes are implemented to assist with mitigating the demands of off load and with the focus of decreasing response times.

In 2018, EWEMS embarked on a Ten (10) Year Master Plan with the objective to analyze the current state and plan for the future. The Plan is expected to be completed and presented to Essex County Council in early 2019. The Master Plan reviews current practices and procedures, processes, infrastructure, including human and hard assets, historical volumes and trends, future projects (Mega Hospital) and other industry best practices. The 2019 Budget includes some contingency to possibly implement some recommendations, if presented and approved by County Council.

While benefits of economies of scale continue to be realized in many operational areas, a number of uncontrollable costs have contributed to an increase in County Responsibility of \$140,670. Other factors impacting the 2019 Budget, include:

- Less than 50% (approximately 47%) funding from the Province
- US exchange rate
- Inflationary increases to supplies and services
- Shift in Regional cost sharing proportions
- Training cost for mental wellness education and peer support training

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- Increase in fuel costs
- Increase in KM's travelled

Cost allocation for the 2019 budget planning is based on estimated 2019 regional weighted assessment; subject to finalization of MPAC assessment data and County and City tax policy decisions.

Municipal Share	ACTUAL 2018	EST 2019
% Allocation	Weighted Assessment	Weighted Assessment
City of Windsor	50.636%	50.236%
Pelee Island	0.282%	0.282%
Total recovery-service partners	50.918%	50.518%

The 2019 Budget includes a draw from reserves (\$1,572,250 for vehicles and equipment). Amortization of vehicles, equipment and stations is included in the annual expenditures (transferred to reserve) and the cost of replacement assets is drawn from these reserves.

Challenging Issues 2019

The cost of operating an EMS system is directly correlated to factors that are systemic MOHLTC issues which are beyond the control or influence of the Essex-Windsor EMS Service. Staffing and funding for Hospitals, Long Term Care Facilities, Community Services and the Local Health Integration Network (formerly the Community Care Access Centres) coupled with the lack of specialists in the Essex-Windsor area place an increased burden on the municipal share of providing Emergency Medical Services. This concept is demonstrated by the current and potential future increases in costs associated with the continued inability to unload patients at regional hospital emergency rooms and Provincial Patients First Action Plan (age in place initiative).

Call Volume trend and forecast

Aging Population

The effects of an aging population and Provincial initiatives to have people age in place rather than placement in a Long Term Care facility are placing increased demand on the services of EMS in the Essex-Windsor area.

The Patients First Action Plan is one such initiative. Although the MOHLTC is providing more funding to other agencies for in-home services, there is a direct impact on the

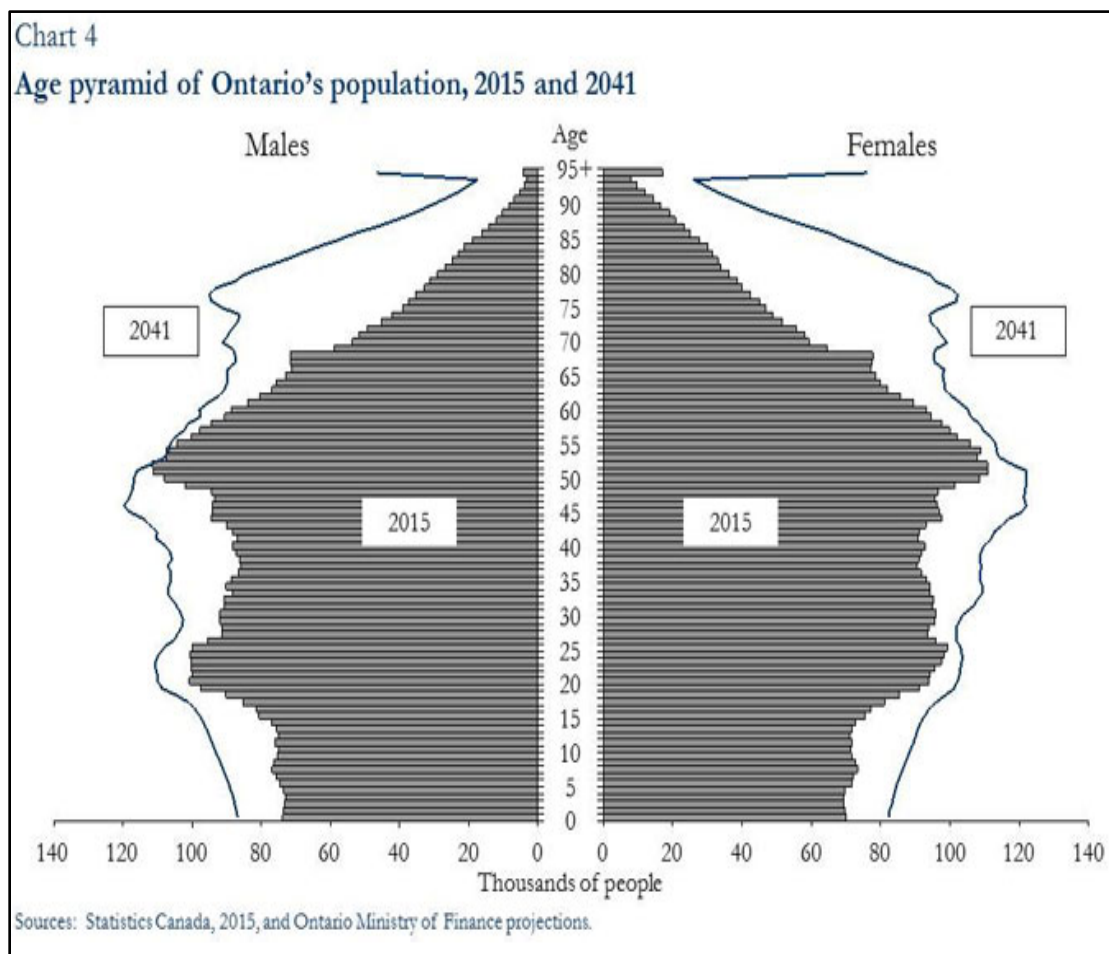
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demand for services of EMS as patients are being transported to the Emergency Departments for services such as blood work, general checkups and dehydration.

As seniors age at home, in general, their medical needs become more complex and more frequent, leading to more calls for EMS. As a result of these factors, call volumes increase each year and impact service and response times negatively.

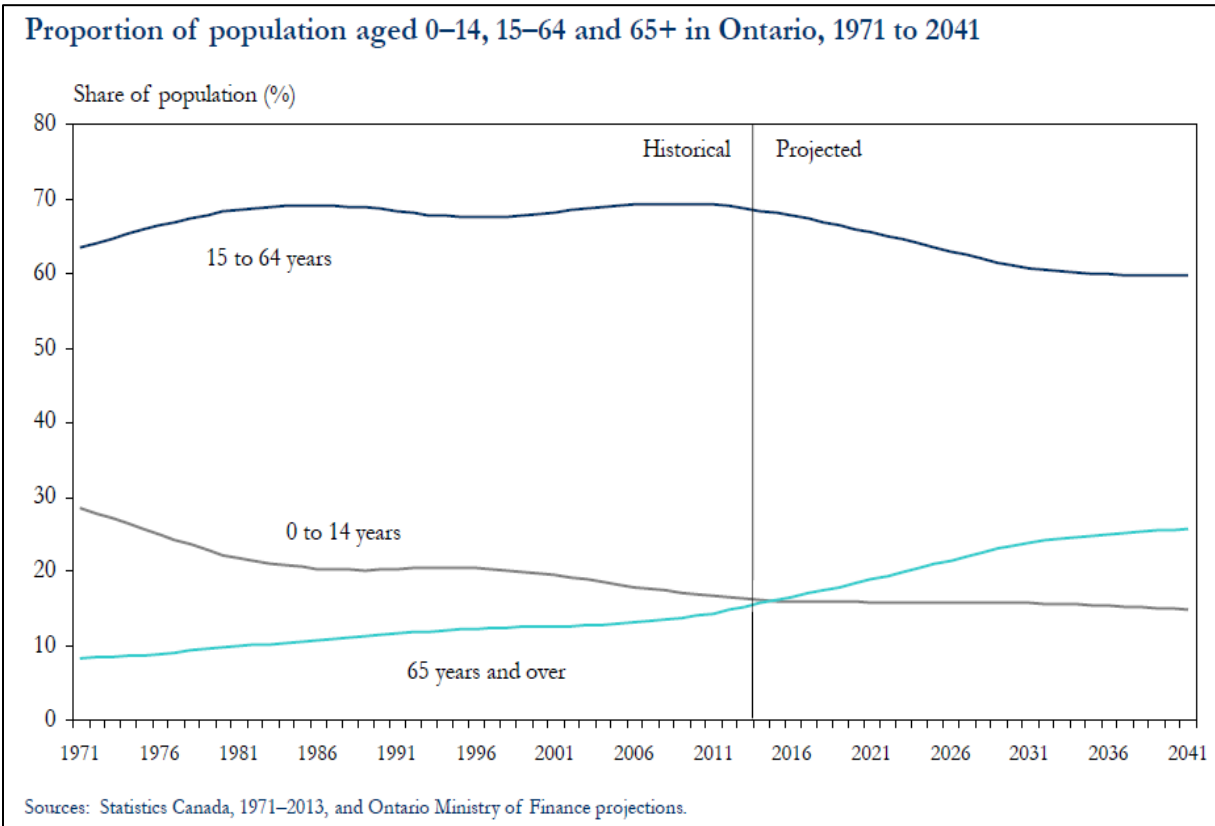
In addition to the current Provincial initiatives, recent reports have recommended the development and expansion of Community Paramedicine programs across Ontario as a support to the aging at home strategies.

It is projected that by 2041 there will be more people in every age group in Ontario compared to 2013. Further, it is projected there will be a sharp increase in seniors, age 65 years of age and older.



The number of seniors in Ontario is projected to more than double from about 2.1 million in 2013 to over 4.5 million by 2041. Since 2015, seniors account for a larger share of the population than children age 0-14 years of age.

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An aging population has an impact on the Health Care system which has an impact on the EMS system. For example, an initiative is underway marketing the area as a retirement destination. While the benefits to the local economy are promoted, an increase of retirees in the area will have a direct impact on demand for EMS services as described above.

In 2016, EWEMS instituted the Vulnerable Patient Navigator (VPN) program. In August 2018, the VPN program celebrated its two (2) year anniversary. The goals of VPN are to reduce the EMS patient transfers to the emergency rooms, reduce off load delays, reduce response times and connect or provide the necessary treatment or health care services to the patients in their homes. The goals are achieved with:

- a reduction of 911 responses by 64.5% for enrolled VPN patients
- in 2018, the approximate 200 fewer 911 responses translates into a cost avoidance of approximately \$40,000
- 911 reduction reallocates 250 hours into unit service utilization
- Emergency Department reduction equates to a \$320,000 savings for the health care system,

VPN also strengthens and maintains the current Paramedic Referral Program, which connects EMS patients to other community partners. On average, EWEMS has realized 33 referrals a month in 2018. VPN works in conjunction with the Community Paramedic Remote Patient Monitoring (CPRPM) project. CPRPM focuses on the same demographic and instead monitors patients remotely, via electronic devices.

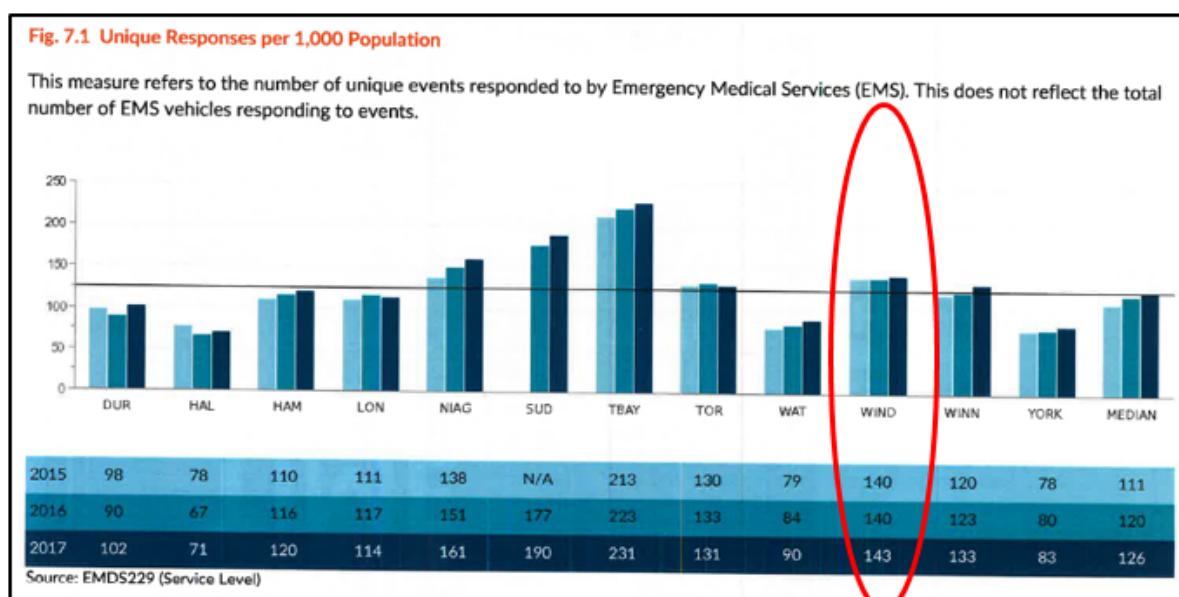
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This project continues to reduce EMS responses and Emergency Department visits of the targeted population by approximately 40%. Together, VPN and CPRPM addresses a patient population that accounts for approximately 20% of the EWEMS call volume and has been historically over the age of 65.

Essex-Windsor EMS is committed to growing and fostering our partnerships with agencies such as Erie St. Clair LHIN, Community Health Links, Primary Care providers, Hospice and other community health care or support agencies to ensure that the residents are provided the right care, at the right time and at the right place. The Vulnerable Patient Navigator Program is a key component to providing this care.

Emergency Calls per Population

As discussed under Prior Year Performance, the Essex-Windsor area continues to experience one of the highest rates of EMS response per population in the Province of Ontario with 143 calls per 1,000 population (MBNC) as compared to the 2017 median rate of 126 calls per 1,000.

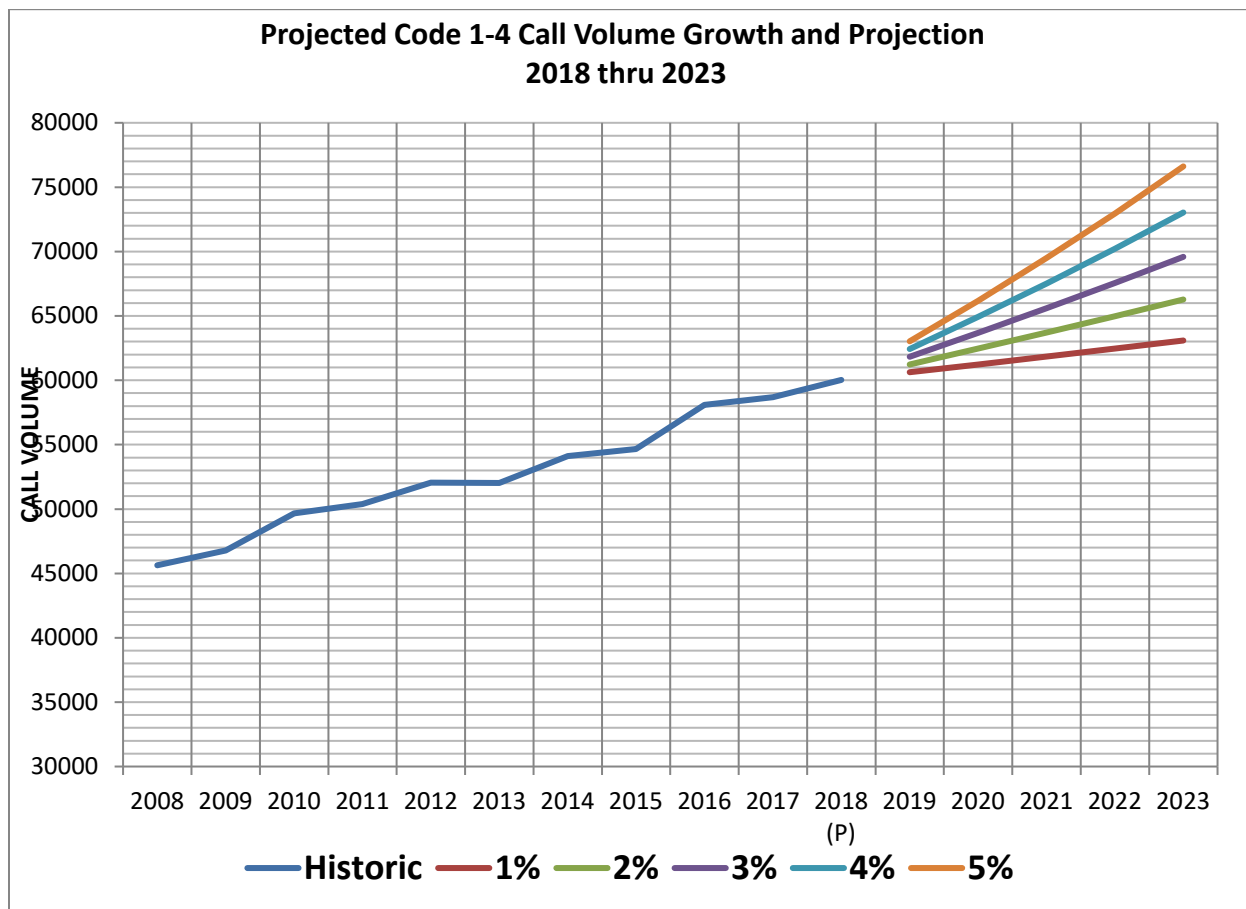


Further, Essex-Windsor's call volume per vehicle or per unit hour of service continues to be one of the highest in the Province. Historical data and population projections suggest that the call volumes will continue to increase given demographic conditions and development projections in the City of Windsor and Essex County.

Between 2009 and 2018 (10 year average), Code 1 to 4 call volumes grew on average by 3.1% annually, similarly to the 5 year average. With the aging population and forecasted increased use of EMS services, it is anticipated that the annual increase of code 1 to 4 calls will remain in the 3% range.

Based on the historical percentage increase and forecasting to 2023, Code 1 to 4 Call Volume will be in the range of 68,000 to 72,000, based on 2%-3% growth.

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Long Distance Transfers

The EMS system continues to regularly transport patients from the Essex-Windsor area to hospitals in London, Toronto, Hamilton and Detroit. Trips to London place Essex-Windsor ambulances out of service for a minimum of 5.5 hours, while Detroit trips place ambulances out of service in excess of one hour per trip. With the expansion of Windsor Regional Hospital's Cardiac Care Services (Cardiac Catheterization Unit) in the fall of 2015, cardiac transfers have decreased, but have not been eliminated. Many patients are required to go to London to receive medical treatment for services unavailable in Essex-Windsor (such as Cardiac By-Pass Surgery).

The current Health Care system in Ontario relies heavily on the ability of MOHLTC to guide the patient to the right hospital for the most appropriate care in the quickest manner. The MOHLTC utilizes Criticall to ensure that patients in Ontario are directed to the most appropriate facility for care. Therefore, every Hospital must contact Criticall if the care requirements of a patient in their facility cannot be sufficiently met. In these instances, the patient may be transferred long distances to another facility.

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Critical will make all the arrangements, but in many cases EWEMS is not notified until a team from another area arrives in the local jurisdiction, requiring EMS transport back to the receiving facility. In the Essex-Windsor area, the service is transporting sick pediatric patients to London or Toronto on very short notice and usually at hours when vehicle staffing is limited and therefore compromising the availability of existing resources.

These long term transfers create a strain on the system and, in many instances, Essex-Windsor EMS is required to up-staff to accommodate the needs of local citizens.

Offload Delay (OLD) - Dedicated Emergency Room Nurses

Essex-Windsor EMS continues to deal with the inability to unload patients in the emergency rooms (Offload Delay). Commencing in 2008, the Ministry of Health and Long Term Care (MOHLTC) provided temporary funding for Dedicated Emergency Room Nurses to be put in place in the local hospitals to receive and off-load ambulance patients. Essex-Windsor EMS was instrumental in advancing this initiative and, as a result, the MOHLTC provided \$250,000 to the County to implement the Dedicated Emergency Room Nurse Program.

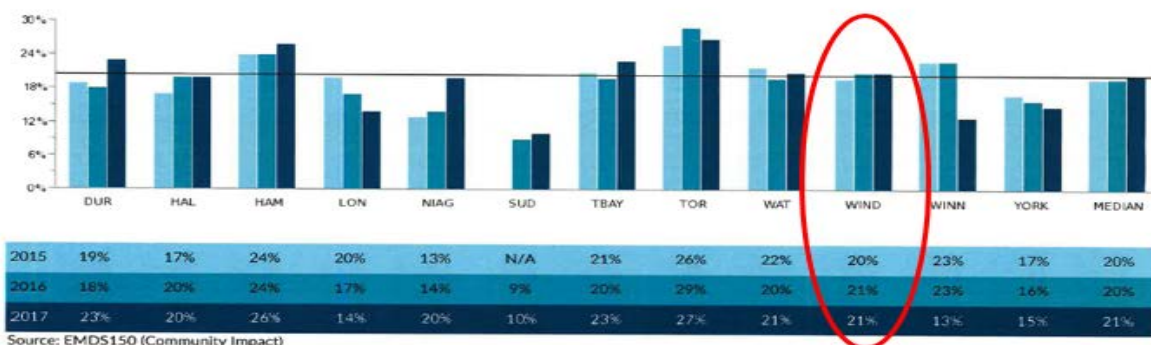
EWEMS continues to experience increased offload delay hours, frequency and duration. Although process and procedural changes have occurred within the hospital and EMS system, call volume increase and specifically the low acuity of patients transferred and increased number of mental health patients are the main contributors to offload delays.

Combining home health care initiatives and plans, lack of mental health capacity and ongoing occupancy rates in excess of 100% for both Windsor Regional Hospital's Met and Ouellette Campuses and Erie Shores Health Care, coupled with increased call volume across the region, offload delays will continue to be an ongoing issue. It should be noted that Erie Shores Health Care is not immune to OLD and is experiencing increased offload delays as well.

The following chart reflects the 2017 OLD pressures experiences by the MBNC comparator group. Essex/Windsor is at the median, at 21%.

Fig. 7.2 Percent of Ambulance Time Lost to Hospital Turnaround

Time spent in hospital includes the time it takes to transfer a patient, delays in transfer care due to lack of hospital resources (off-load delay), paperwork and other activities. The more time paramedics spend in the hospital process equates to less time they are available to respond to calls.



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EWEMS and local health care partners are examining possibilities to utilize changes to the Ambulance Act will assist in transporting and referring patients to the right care, at the right time and at the right place. It is anticipated that the Ambulance Act will allow paramedics to treat and refer patients to alternate destinations and care, transport to destinations other than emergency departments or refer care to other community services. The objective and goal is to ensure the valuable resources are available to respond when required and that the community receives the right care, at the right time and at the right place while decreasing the Off Load Delay impacts.

Central Ambulance Communications Centre (CACC)

It is important to note that the County does not control how vehicles are dispatched; this is controlled by the Province of Ontario through the Central Ambulance Communications Centre (CACC). EWEMS administration is responsible for developing deployment plans but how the deployment plans are implemented is based on how the CACC dispatches the vehicles. EWEMS administration is accountable for EMS service delivery, but has no control or authority over vehicle dispatch.

In June 2017, the Minister of Health and Long Term Care announced that changes will be forthcoming to the Ambulance Communications dispatch triage tool. These changes were confirmed when the Ontario Improving Transparency in Health Care announcement was released on September 27, 2017. The role of the CACC is to receive ambulance requests, triage those requests and transfer that information to EWEMS resources.

There has been a longstanding issue that the current triage tool is outdated, not based on medical evidence and is found to over prioritize ambulance responses. This over prioritization leads to resources being deployed in an urgent manner when the problem may only require a prompt response or delayed response. The current practice leads to over utilization of resources.

Although the announcement for the new triage tool was announced in 2017, it is not expected that the entire Provincial CACC system will be changed over in 2019 and Windsor CACC was not announced as one of the first implementation sites.

In 2011, the MOHLTC concluded a review of the Niagara and Ottawa Dispatch Centres which are currently being operated on a pilot basis by the local EMS system, utilizing an alternate Medical Priority Dispatch System. Following up on this analysis, MOHLTC is expected to recommend the preferred delivery model for CACC's. While the analysis of the effectiveness of the pilot project has been concluded, the MOHLTC has yet to publicly release the results and recommendations.

Mental Wellness

In 2016, the Province passed Bill 163, Supporting Ontario's First Responders. This Act is very important for paramedic well-being, support and overall service well-being. EWEMS has been a longtime supporter of mental wellness of the staff, with a retained

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psychologist, employee assistance programs, health benefits, counselling and the development of a Peer Support Program.

Peer Support is a group of volunteer, front line paramedics who are trained in communicating with those first responders during a time of need. Such need can range from being involved in a tragic incident or just the need to talk. In 2017, EWEMS increased the compliment of trained paramedics to approximately twenty (20) Peer Supporters and their utilization has increased each month. This is an excellent sign, as the more people talk, the better they can receive the proper help they require.

Education in mental wellness, the signs and symptoms and paths for recovery are important for any responder. Essex-Windsor EMS partnered with the Windsor Essex Health Unit, WE CMHA, the local hospitals and local emergency services to apply for Ministry of Labour funding for a regional mental health approach. In early 2018, the collaborative was advised of the success of the application and is receiving \$170,000 in grant funding over a period of two (2) years. The Canadian Mental Health Association, Windsor Branch (CMHA) is the lead organization of the project and the grant funding. The goal of the project is to provide a regional and unified approach to mental wellness prevention, education and service to all providers and emergency response.

Essex-Windsor EMS has developed a comprehensive mental wellness plan, which is proactive, preventative and reactive. In 2018, EWEMS continues to refine cognitive awareness and peer mentoring program for those individuals returning to work in a graduated, scheduled and supervised fashion, to ensure a safe and early return to the pre-injury condition. As with physical injuries, mental wellness can be just as debilitating. The action plan addresses those injuries which are unseen but as with the investments in preventing lifting injuries, EWEMS is investing in mental health preparedness.

The 2019 proposed budget continues to have funds allocated to mental wellness education, prevention and reaction.

Technological Advances

Automated Chest Compression System

Research has shown that for every cardiac arrest the most important intervention in saving a life is Cardio Pulmonary Resuscitation (CPR). Research has also shown that one of the most dangerous aspects of a paramedic's job is administering manual CPR in the back of a moving ambulance. In 2010, EWEMS implemented the LUCAS 2 automatic CPR devices on every ambulance in the fleet.

EWEMS has experienced increased survival rates from sudden cardiac arrests and decreased back, shoulder and neck injuries to paramedics in the last 7 years. The main component to these successes is the implementation of LUCAS 2. These devices are due for replacement in 2019 and the proposed budget addresses the replacement plan and funding requirements to continue the patient focused and paramedic safety successes of these important tools.

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Electronic Ambulance Call Reports (eACR)

Essex-Windsor EMS implemented an Electronic Ambulance Call Report (eACR) system in 2011, becoming fully operational in 2012. In order to support this technology a number of hardware and software installations have been required to ensure connectivity, security and transfers of electronic data.

In 2014, all of Essex-Windsor EMS ambulances and ERU's became Wi-Fi hotspots. This achievement allows for critical patient data to be sent to the hospitals as soon as reasonably possible. The data sent is found to be crucial for physician treatment both in the Emergency Department as well as the other supporting departments, such as the cardiac catheterization lab.

In 2017, Essex-Windsor EMS finalized the Business Proof of Concept (BPOC) for live sharing of eACR and CACC data. The objective of the project is for the timely and accurate sharing of data during a call to reduce the amount of time that a Paramedic requires to complete documentation, thereby reducing the time to return resources to an available status. Results and feedback have identified that the BPOC has met and exceeded the objective.

In conjunction with the BPOC, Essex-Windsor EMS began utilizing the shared CACC data for the real time viewing of ambulance movement, call engagement and time on task and for accurate and reliable routing or mapping. Routing and mapping has begun and resulting in the receipt of excellent feedback. All initiatives will allow EWEMS to provide the best possible care to our residents and to monitor the status of our resources in real time to assist in mitigation of any off load or delay in response issues.

These technological advancements continue to place an increasing burden on the Information Technology staff and the cost of providing additional support is addressed in this budget.

Asset Management: Fleet, Power Stretchers and Power Loads

In 2013, Essex-Windsor EMS introduced Power Stretchers to the ambulance fleet. Along with the Power Stretchers, Power Load lifting devices were installed in the new ambulances from 2013 through to 2017. To date, EWEMS has a total of thirty three (33) Power Load lift devices operational and another six (6) are proposed within the 2019 Fleet replacement Budget.

Essex-Windsor EMS continues to experience a reduction in lower back and shoulder over exertion injuries. These reductions are reflective of a reduction in loss time injuries thus lowering the WSIB injury experience. Between 2014 and 2018 overexertion lost time hours attributed to stretcher use has been lowered by approximately 93%. This continued reduction of injuries can be attributed directly to the implementation of Power Stretchers and Power Load lifting devices and will have:

- a positive impact on the EWEMS WSIB experience over time
- sets achievable standards that build on Essex-Windsor EMS' strong overall performance.

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The 2019 Budget continues to realize the cyclical replacement of ambulance fleet with seven (7) ambulances due for replacement. New technology and advancements have evolved in the industry as it relates to vehicles and this year EWEMS is proposing to complement the fleet with two (2) Hybrid ambulances.

Hybrid Ambulances utilize gasoline-powered engines with a complementary electric generation system from the braking system. Ambulance services such as Oxford County in Ontario have realized monetary savings in fuel consumption, longer brake life expectancy and an overall greener footprint.

The 2019 EWEMS Budget is proposing that two of the seven ambulances that are to be replaced be hybrid. One being placed in the urban centre (Windsor) and one in the County (Leamington). This will allow for research and experience to determine where the best placement and location of this ambulance type is in the future.

Electronic tracking of hard equipment assets

Every ambulance and emergency response vehicle (ERV) contains hard equipment assets that are mobile (moved from vehicle to vehicle) that require maintenance and regular inspections. Examples of such items are stretchers, defibrillators, response bags, radios, cellular phones, computer tablets, oxygen systems, automated CPR devices and other assorted pieces of equipment.

Essex-Windsor EMS is planning to implement technology that locates, identifies and reminds staff of equipment location, how it is being utilized and when it is required to be inspected. The implementation of such technology will reduce human resource hours in tracking and locating equipment and alleviate the lost or misplaced equipment by tracking and monitoring the valuable tools of EWEMS.

The 2019 Budget is proposing the integration of equipment tracking hardware and software to ensure the efficient use, security and maintenance of EWEMS hard equipment assets and patient care delivery devices.

Education

Education of staff is evolving and changing with each given year. With changes in technology, legislation and practice, the need for increased education is key. EWEMS utilizes two models of education:

- in class
- eLearning

In Class

In class is currently composed of sixteen hours of continual medical education. One eight-hour block is dedicated to the Base Hospital Program for annual recertification in delegated medical acts, as required under the Ambulance Act.

The remaining eight-hour block is dedicated to EWEMS specific training. This is based primarily on hands on training of specific equipment, processes or techniques. Some

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examples would be tourniquet application, lifting device training, personal protective equipment application, driving, etc.

The sixteen hours does not however provide adequate opportunity to effectively train in all areas that are specific to EWEMS nor does it provide time to consider mental wellness initiatives.

The 2019 Budget addresses this gap by providing an additional eight hours of training to ensure the paramedics and staff are trained to appropriately meet current standards and legislation.

eLearning

EWEMS currently utilizes a web based platform for electronic educational materials. This avenue is primarily for bulletins and programs that do not require hands on but more of an information sharing and application.

EWEMS incorporates the use of electronic equipment into the in class portion. CPR recertification is required annually and EWEMS performs a “pit stop” style CPR course. The paramedics must complete rounds of CPR and log his/her performance for a passing grade. Currently this practice is logged and recorded in a paper format. With advancing electronic capabilities, paramedic training and performance can be tracked electronically with devices such as iPads or tablets.

This storage allows the paramedics and Professional Standards to measure and review their ongoing performance and guide improvements.

The 2019 Budget addresses the technology improvements with a capital purchase of electronic devices as a training aid, documents storage and review tool for staff.

Conclusion

Essex-Windsor EMS remains committed to providing quality and timely care to the residents of Essex-Windsor along with continual analysis of performance and system improvements.

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Emergency Management Coordination

Service Description

In 2018, Emergency Management Coordination oversight was transferred from the Planning Department to the Chief of Essex-Windsor EMS. The move has seen limited efficiencies in 2018, but is expected to realize greater savings and opportunities in 2019 and beyond.

With Emergency Management Coordination under the umbrella of EWEMS, increased synergies with emergency response and coordination are being realized. An example is the implementation of three (3) alternate Community Emergency Management Coordinators (CEMC). This implementation will ensure continued coverage and redundancy within the department.

Emergency Management Coordination is the activity undertaken before, during and after a disaster or significant emergency incident to reduce the risk and impact to the life and health of the County of Essex residents, environment and property. This is achieved through a comprehensive Emergency Management Program that includes, but is not limited to, a Hazard Identification and Risk Analysis (HIRA), an annual update of the County of Essex Emergency Management Plan which includes associated hazard specific plans contained in its annexes.

Responsibilities under this program include Prevention & Mitigation of Hazards and Risks, Preparedness & Planning, Response and Recovery, which are the pillars of Emergency Management. These activities are never completed by a single agency or entity, but are achieved through strong partnership relationships with the Community Emergency Management Coordinators (CEMC's) of the 9 local Municipalities, Provincial and National Governments, Emergency Response Professionals in EMS, Fire, Police and Public Works Services, International Cross Border Partners, Private Enterprise Entities, Non-Government Organizations (NGO's) and the participation of the general public.

Staffing Chart

Staffing	2016	2017	2018	2019	2016 Actual (\$000)	2017 Actual (\$000)	2018 Budget (\$000)	2018 Actual (\$000)	2019 Budget (\$000)
Full-Time	1	1	1	1	69	68	70	70	67
Part-Time*	4	4	4	4	14	15	16	15	17
Total	5	5	5	5	83	83	86	85	84

*includes annual fees paid to the County Fire Coordinator and 2 Deputy Fire Coordinators as part of the Fire Mutual Aid Agreements and by requirement of the Ontario Fire Marshall.

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Prior Year Performance

The results for 2018 are expected to be on budget. Operational savings in the cost of the Internal Notification system (Everbridge) were offset by small operational variances. Cost to replace disaster management software will be funded by reserve, as budgeted.

Proposed Budget – Current Year

The proposed budget for 2019 is \$188,110 which represents a nominal decrease from the prior year. Operational savings related to the implementation and maintenance of a Staff Alerting and Situational Awareness System (Everbridge) were partially offset by other operational variances. Some operational savings will be realized with the move to EWEMS and the EMS Administration office.

Priorities for the department are to implement the Everbridge system for staff notifications. The Everbridge system is designed to alert internal staff to a variety of situations including inclement weather warnings, security threats or evacuations/shelter in place, and could include pictures from active scenes. In addition, the system may be used as an urgent call-in or up-staffing tool for Infrastructure Services / Sun Parlor Home / EMS. The system was used successfully in 2017 before the annual regional exercise, to alert the County of Essex Community Control Group (CCG) to deploy to the Emergency Operation Centre (EOC) and will be further tested and utilized regularly in 2019 to ensure staff roles and system functionality.

The WebEOC software is no longer in use, however annual support costs have been included in the 2019 Budget to allow for transition to another system, if necessary. The focus for 2019 is continued and ongoing training of the County Control Group (CCG) and support staff, such as scribes, alternates and backups. Topics such as Incident Management Systems (IMS) will be continued to ensure a robust process and practice is in place in the event of any emergency.

Minor adjustments were made in training, seminars, memberships, subscriptions and mileage, and are associated with the Co-ordinator's involvement with regional and provincial committees, as well as efforts to increase interoperability in regional communications capabilities, through increasing local EOC and amateur radio network system capacity.

Continued development and training for frontline staff, department managers, Community Emergency Management Coordinators (CEMC's), and regional partners will focus on basic emergency management (BEM), incident management / incident command systems (IMS/ICS) and scribe/note taking courses both in class and online in preparation for regional drills, exercises or actual events that are planned for later in 2019. Enhanced training will ensure that staff and partners are prepared to fulfil their roles in incident management, EOC operations, documentation and record keeping, to resolve, mitigate and recover from the impact of identified disaster or emergency incidents.

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The budget includes a summer student who will assist with support to regional CEMC's, emergency management and business continuity coordination, emergency plans, Hazard Identification Risk Assessment (HIRA) updates, drills, education, awareness and training. The student will assist both the Town of Amherstburg and the County of Essex with public education, awareness on the up-dates to Nuclear Response Planning, in accordance with the Provincial Nuclear Emergency Response Plan mandate. The summer student will have the opportunity to assist any municipality with emergency management and business continuity program up-dates, including but not limited to programs in public and staff alerting/notification systems, situational awareness, education and preparedness programs.

Discussions with various stakeholders have taken place to research the possibility of developing and implementing two programs in the region. The first would occur during emergency preparedness week in May 2019 for both elementary and high school students to prepare students for emergencies through a hands on program of awareness. The second program would train volunteers to respond and assist neighbours and those affected by a disaster or emergency incident in their own community, through being a member of the County of Essex Community Emergency Response Volunteer (CERV) Team. Nominal increases were included in the 2019 Budget to advance these initiatives and increase public awareness.

The County of Essex Emergency Management Coordination Department will continue to coordinate the development and improvement of disaster resilient communities while maintaining a high level of due diligence in risk management, operations continuity and protection of all residents and businesses in the Essex-Windsor region through a comprehensive Emergency Management Program.