

Middlesex-London Paramedic Service London, Ontario, Canada



Case Study

Real-time Data Tools Streamline Operations



Better Situational Awareness Helps Patients and Providers

Background

Middlesex County is home to the city of London, which is surrounded by a largely rural area in southwestern Ontario, Canada. The total county has a population of 650,000 and covers 3,317.27 square kilometers (just over 2,000 square miles). The Middlesex-London Paramedic Service is responsible for providing 24/7 care to the city as well as the surrounding area. This private service, which runs 29 ambulances out of 13 stations, responds to approximately 94,000 calls per year. The 245 full-time and part-time EMS staff are a combination of Primary Care Paramedics (PCP) and Advanced Care Paramedics (ACP).

The Need

The Middlesex-London Paramedic Service is tasked with managing the EMS care for both the large city center with a population of 500,000 plus the surrounding rural area with an additional 150,000 individuals. In order to effectively oversee the combined area, company supervisors must maintain an appropriate balance of units in the field. They need to see a complete picture of where their units are at any given time to help predict strains in the system before they happen and to ensure that ambulance crews are providing adequate coverage of all service areas yet still getting some downtime during their shift.

Solution

The Middlesex-London Paramedic Service wanted to enhance their operational effectiveness and improve their outcomes, as well as prioritize the health and wellness of their providers. The agency turned to the FirstWatch Live Workload Report to optimize their data and increase situational awareness for their units, which is key to streamlining overall operations. The Live Workload Report gives the agency a system overview, showing the status of all their ambulances in real time.

"We can see what's happening with the system as a whole," explained Adam Bennett, Commander of Operations with the Middlesex-London Paramedic Service. "It's almost like a pulse check on the daily system, so that we can see how busy the units have been, which ones are strained, and how many units we actually have tied up at any given moment." Bennett emphasized that by having access to those crucial data points, they have a complete picture of what's going on with their system.

As the Middlesex-London supervisors monitor the FirstWatch Live Workload Report throughout their shift, they have access to various data including Unit Hour Utilization (UHU), a ratio that measures the number of calls for service in relation to the number of units available over the period of one hour. This data shows which units are getting tasked too high and which ones could potentially be moved around to help with areas that need additional coverage. They may move a particularly underutilized ambulance to a position where they can ease the strain of another unit or there may be times when all units are being utilized heavily across the board and can use system data to evaluate why that is the case. Ideally, the data can help streamline operations for supervisors and benefit EMS providers in several ways. Bennett noted that supervisors can use data on the report dashboard to confirm that all geographic areas are properly covered but can also ensure that staff is getting some downtime, a chance to eat and enough time to travel to and from calls.

The Middlesex-London units are largely deployed from a central station, but they also deploy from stations throughout the city, which adds another element of complexity. They need to come on and off shift from all locations in intervals to keep the coverage consistent and make sure personnel can leave when their shift is over.

"On the Live Workload Report dashboard, it will start to highlight particular units as they're coming close to the end of their shift," explained Bennett. In addition, if units are getting closer to the end of their shift, "we can start moving them back toward central deployment to pull them off shift in time so that we can mitigate crews being stuck on the calls," he added.

Conclusion

By using the FirstWatch Live Workload Report, Ontario's Middlesex-London Paramedic Service has streamlined operations for supervisors and benefited EMS providers in numerous ways. Supervisors have been able to help manage the workload on each unit, determine where units deploy from and increase overall situational awareness.

Not only is this data helpful for daily real-time decisions, but the agency is able to look at historic data to make decisions about hiring, schedules, and location of stations.

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Helping to Manage Hospital Delays

Middlesex-London Paramedic Service deployed FirstWatch and the EMS Transport/Hospital Status Dashboard module. Working together, these FirstWatch tools show how many units are on active calls and which ones arrived at the hospital, in addition to the average offload delay and turnaround time for each hospital.

"The hospital status dashboard gives us the ability to help manage where those patients are transported," said Middlesex-London Commander of Operations, Adam Bennett.

WATCH

Middlesex - Hospital Status Dashboard 10/5/2021 2:25:57 PM

Middlesex-London	Enroute	Arrived
Strathroy Middlesex Gen HO	0	1
LHSC Victoria/Westminster (Adults) HO	1	4
LHSC CHWO HO	1	0
LHSC University HO	0	4

The dashboard indicates when a particular unit is experiencing an offload delay or extended "wall time," waiting to hand off patient at a particular hospital. This allows supervisors to dictate changes that will help alleviate backups. Explained Bennett, "Lower acuity transports can potentially go to a different hospital; we can divert them away from hospitals that would lead to offload delays."

Ultimately, the dashboard gives the service the opportunity to help control the delays that the paramedics would experience at any of the sites they would potentially transport to. "Less delays means crews can get back into the system and help their co-workers respond to calls in the community, get breaks, and get off their shifts on time." Bennett indicated that the hospitals appreciate when they try to balance out where patients are transported. "If they're already struggling with patient loads and wait times are starting to climb, and we have the ability to take somebody to a different site, that's helpful," added Bennett.

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