

HOW MILWAUKEE COUNTY OEM TURNS DATA INSIGHTS INTO ACTION AND IMPACT

“We took that 1,000-item history list down to under 300 and standardized the system. Now, our providers document faster, our analytics compare apples to apples, and we can act on what we see.”

- Ben Kisner, Manager, Data Analytics & Strategy, Milwaukee County OEM



THE OPPORTUNITY

Milwaukee County Office of Emergency Management (OEM) coordinates a countywide EMS system spanning 19 municipalities and 15 EMS agencies, transporting patients to area hospitals under longstanding medical direction from the Medical College of Wisconsin. The system [shares data publicly](#) via an EMS analytics portal to drive transparency and quality improvement.

Historically, Milwaukee County’s EMS system ran on 15 independently configured ImageTrend Elite sites—where, naturally, documentation practices and data fields varied by agency. That variation complicated QA/CQI reviews and countywide comparisons, and it slowed providers on scene.

The opportunity was to standardize their system under a single Elite environment and layer in continuous monitoring and advanced analytics. This would ensure that every agency could capture the same fields with the same definitions and rules, while enabling the county to move faster on clinical and operational priorities, and turn signals into action at county scale.

THE APPROACH

Milwaukee County OEM consolidated to a single, standardized Elite Rescue environment, then connected it to Continuum, the External Data Mart (feeding their county data lake), and the state's biospatial account—so frontline documentation, monitoring, and advanced analytics all reinforce each other.

Key Implementations:

Products and Features	Impact
Elite Rescue (ePCR) Standardize & Speed Up	Milwaukee County standardized Elite Rescue with system-level validations and visibility rules, then added agency-level validation so individual agencies can layer their own checks on top of the county standard—providing local control without forcing everyone into a single “OEM form.” Working with agency liaisons, the team streamlined the Primary Impression list, reducing it from about 1,000 options to a smaller, standardized set. They also use presets for common call types (such as lift assist and canceled call) to streamline data entry. ImageTrend's AI Assist is enabled, with a pilot planned at a smaller suburban agency to further reduce clicks and speed narratives. <i>Elite Rescue is ImageTrend's ePCR platform for EMS and Fire departments—built to capture complete, structured patient care reports fast with AI assist, smart validations, configurable forms, and offline-ready workflows. It turns field documentation into reliable data you can monitor, analyze, and share across your system.</i>
Continuum Monitor What Matters	Milwaukee OEM is standing up Continuum monitors (e.g. for field blood administration) that notify leadership and medical direction immediately. For day-to-day views, the team primarily relies on internally built dashboards. <i>Continuum is ImageTrend's active data monitoring and analytics layer that turns your EMS/ fire data into live dashboards, auto-updating playlists, and targeted alerts, so the right people see what matters without manual report building. It keeps teams aligned with always-current visuals and notifications driven by your rules.</i>
Data Mart Analyze & Join	Milwaukee County maintains an annual subscription to the External Data Mart, which feeds their Microsoft SQL Server environment. They use Power BI for visualization and join Elite data with EMS communications datasets (for example, STEMI and trauma alerts) to provide integrated decision support. <i>Data Mart is a reporting-ready mirror of your ImageTrend data in your own analytics database, built for fast querying and joins. It lets you use tools like Power BI/Tableau/SQL to blend Elite data with CAD, hospital, finance, or GIS sources and build custom dashboards and models.</i>
biospatial (State Account) See Emerging Signals	biospatial is used for out-of-the-box overdose, stroke, STEMI, and respiratory surveillance. During the 2023 poor air-quality events, the OEM identified a persistent respiratory “hot spot” ZIP code for further study. <i>biospatial is a syndromic-surveillance and analytics platform that turns large-scale EMS data into timely signals—spotting spikes and trends in issues like overdoses, heat illness, and respiratory syndromes. It delivers maps, dashboards, and alerts so public safety and health partners can act fast on emerging patterns.</i>
Interoperability Close the Loop with Hospitals	ImageTrend's Health Information Hub (HIH)—our ePCR-vendor-agnostic interoperability solution—is live with Children's Hospital. OEM is receiving some outcome data into the External Data Mart and for clinician feedback, and it is working to onboard additional health systems. <i>HIH is ImageTrend's integration layer that connects EMS ePCR systems and hospital EHRs for automatic, near-real-time, bidirectional exchange of patient information. It delivers prehospital data to the ED and returns outcomes/updates to EMS, strengthening feedback loops and continuity of care.</i>

THE RESULTS



Cleaner, Faster Documentation—Plus Comparable Data Across Agencies

Consolidation combined with system-level rules removed variation, reduced clicks, and enabled true countywide comparisons in dashboards and QA/CQI reviews. For example, STEMI identification is now “gamified” between units. Using their internal QA dashboards, the OEM has added a friendly competitive element around performance on STEMI, so med units and fire departments can see how they stack up against each other on that KPI.



Flood → Mold Remediation, Targeted by Data

After Milwaukee’s historic 2025 flood that caused roughly five billion gallons of sewage backup, OEM used the Social Vulnerability Index and respiratory-status data to prioritize ZIP codes for mold remediation and abatement. The goal was to prevent exacerbations of chronic conditions and reduce downstream emergency department burden.



Overdose Prevention: Data Driving Placement & Messaging

OEM’s overdose dashboards, which include drug-combination insights (for example, fentanyl plus cocaine), guide Narcan placement and community education in partnership with OD PHAST (Overdose Public Health and Safety Team). County leaders report a year-over-year decline in fatal overdoses, along with reduced naloxone administration by EMS. This public reporting aligns with the county’s broader data-driven effort to decrease opioid deaths.



Operational Scale and Responsiveness

City responders performed approximately 65 to 70 water rescues during the flood period. OEM is exploring a lightweight disaster-impact capture—such as embedding a Survey123 URL in workflows—to augment situational awareness during routine calls and collect damage assessment information utilizing an existing workforce.

WHAT'S NEXT?

Milwaukee OEM is tightening device data completeness. Internal dashboards now track the percentage of transported calls, and monthly reviews turn those numbers into targeted provider and agency feedback to raise compliance.

On the documentation and monitoring front, the team will pilot Elite's AI Assist with a smaller suburban agency and then expand its use, while broadening Continuum monitors to capture more high-value clinical and operational events as they happen.

Interoperability is also growing. OEM plans to add more Health Information Hub hospital partners and clarify data-push triggers so clinician feedback arrives faster and outcomes flow reliably into the External Data Mart.

Finally, with richer outcome data, OEM will study trends in chronic conditions—such as asthma, CHF, diabetes, and sepsis—and correlate those findings with climate signals like air quality, temperature, and barometric pressure to anticipate risk and tailor community education.

“Every dashboard has two views—an internal QA view with KPIs and a public education view. We pull out the nuggets people need to know. If someone isn’t breathing, do CPR and use an AED. You go from a 9% survival rate to 55% survival rate in our county if you use an AED as a bystander.”



About Milwaukee County OEM

Milwaukee's OEM is committed to “Helping People in Extraordinary Times.” OEM delivers countywide EMS and provides education and credentialing, protocols and standards, and a HIPAA-compliant data repository. It operates within a broader public-safety mission that also includes the county PSAP and radio services. EMS medical direction is provided in partnership with the Medical College of Wisconsin, a relationship in place since 1973.