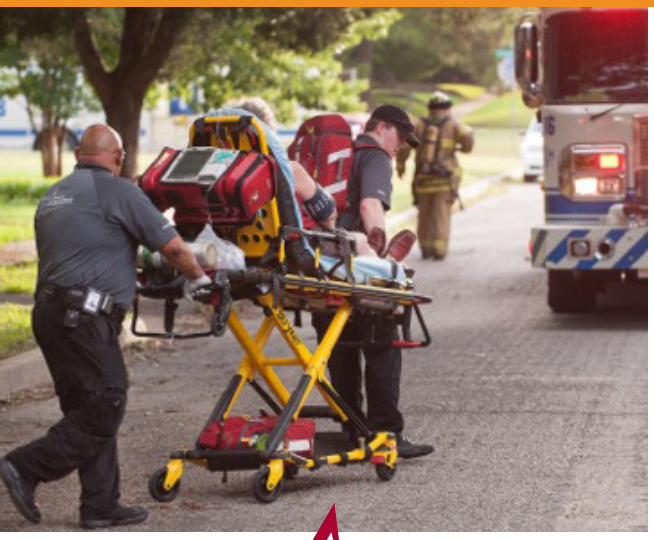
CASE STUDY

Temptime®
Improving Global Health

Temperature Intelligence®



MEDSTAR MOBILE HEALTHCARE

Giving Front Line Crews Confidence with Best Practices for Monitoring Medication Temperatures

Certified by the Commission on Accreditation of Ambulance Services (CAAS), MedStar Mobile Healthcare delivers lifesaving emergency medical attention to nearly one million people throughout Fort Worth, Texas and the surrounding communities. In addition to complying with CAAS and state regulations, Shaun Curtis— Support Services Manager for MedStar—says it's essential that his crews know they have what they need to deliver the best possible patient care. That's when he started looking into a more accurate, seamless way to monitor the temperatures of medications carried on MedStar ambulances.

Shaun Curtis, Support Services Manager, MedStar

EDGE® S-400—Benefits At-a-Glance

- Continually monitors and records medication temperatures 24/7
- Gives front line confidence in the efficacy of medications
- Illustrates USP and CAAS compliance with detailed reporting capabilities
- A single "set it and forget it" process for automated temperature tracking
- Cloud-based access to historical data for 63 vehicles

EDGE® S-400 Bluetooth®-enabled sensors are installed in each of MedStar's fleet of 63 ambulances.

Business Challenge

MedStar's mission is to deliver the highest quality services to its patients and CAAS certification ensures they are always living up to what's considered the industry's "gold standard" of care. In particular, CAAS standards emphasize operational efficiency. This helps reduce overall costs, which is important to their payers such as Medicare and Medicaid. It's also critical to MedStar because it operates on a public utility model. That means while they are governed by Department of State Health Services, they receive no tax revenue. Instead, they operate entirely on income from transports.

One of the several hundred regulations CAAS certified organizations must consider is keeping medicines and devices at safe temperatures, as outlined in **USP Guidelines**. For much of what MedStar crews carry, this is controlled room temperature medications that must be stored between 36°F and 77°F. The challenge for MedStar is that their 63 ambulances, which cover approximately 436 square miles, deploy out of a single station. "We don't have stations where ambulances can plug in. So they use only their air conditioners and heaters to maintain controlled room temperature inside the vehicles," explains Shaun.

Having started as a field medic and grown through the organization over the last 18 years—Shaun knows firsthand how important it is that frontline staff has confidence in the efficacy of the medications and tools they are using. "In the past, we had thermometers installed on the trucks and staff would manually record temperatures," he says. "But there were multiple failure points in this process—and we ended up disposing of medications that might not have been exposed to a temperature excursion." Every one of those events was a hit to the bottom line.

All these factors sent Shaun looking for a more reliable way to monitor medication temperatures to make sure they didn't fall out of range. He started by talking to other like organizations to see what protocols and processes they had in place. They were all pretty much doing what MedStar had been all along, so he looked outside mobile healthcare to other industries such as pharmacy and food delivery services. That's how he came upon Temptime.

The Solution

MedStar started with Temptime's TransTracker® temperature indicators, which give users a visual cue if temperatures have exceeded a predetermined heat or freeze threshold. "We found out pretty quickly that this solution, although effective, wasn't quite right for our process," says Shaun.

"I realized I wanted actual temperature data, not relative temperature exposure information," Shaun says. "Plus, I wanted to be able to monitor temperatures on all the ambulances from my desk no matter where they were in the field and needed to generate reports to prove safe temperature maintenance." Temptime recommended their EDGE® wireless Bluetooth®-enabled sensors, particularly the EDGE S-400.

The EDGE S-400 monitors temperatures 24/7—generating alerts when temperatures fall above or below a pre-defined threshold. Using the EDGEBridge®, a receiver that is installed at the entrance of MedStar's facility, data is captured and stored on the EDGECloud® where it can easily be accessed or downloaded. Shaun can also check in on the temperature in any ambulance right from his phone with the EDGEVue® mobile app. The fact that everything is cloud-based also means no additional cost or need for software stored locally on MedStar computers.

Data is collected and downloaded automatically via the EDGEBridge® as each of ambulance returns to the MedStar facility.

The Result

In March of 2018 MedStar installed an EDGE S-400 on each of its 63 ambulances as well as two others throughout the facility. "Now I get realtime alerts of ambulance temperatures, so I know immediately if a truck is in danger of going out of range," he says. "We've already saved a lot of medications we might otherwise have had to throw away."

It works the other way as well. "In one case, I had a crew who felt that their truck was too hot and that the temperature was out of acceptable range. I was able to take my phone out and show them that the meds were safe," he says. "So not only does the EDGE S-400 help me save inventory—it gives my crews confidence that they are administering safe and effective life-saving medications."

Of course, the historical data is invaluable. "Since I can download data in several formats, it's easy for me to create the reports I need to show the executive team that our trucks are always in compliance with CAAS, city and state regulations." The reports are also detailed enough that Shaun says compliance with temperature monitoring has become the easiest part of their CAAS inspections. "CAAS audits take place every three years, but the state can inspect at any time without notice—and with Temptime on our side, we're always ready."

Set up was relatively simple. "Each device had to be programmed individually," explains Shaun. "So I thought it was going to be cumbersome, but once I'd set up the first one and created a template, it went a lot faster than the first." In the end, he says the time spent programming was a small investment for something he'll never need to touch again.

In addition to the efficiency and accuracy the EDGE S-400 delivers, Shaun says it's the relationship with Temptime that has made a real difference. "I'm always cautious to engage new vendors. More times than not they want to sell you as much as possible. That wasn't the case with Temptime at all. My rep worked with me to design a solution that fit my needs and my budget, even letting me try out the TransTracker solution although he didn't think it would ultimately suit our needs."

He goes on to say that Temptime is always in touch and following up. "Even when we had challenges with the initial EDGEBridge wireless gateway installation, they resolved the issue immediately. A lot of folks disappear once they get the check. Not Temptime. They have a clear commitment to our success."

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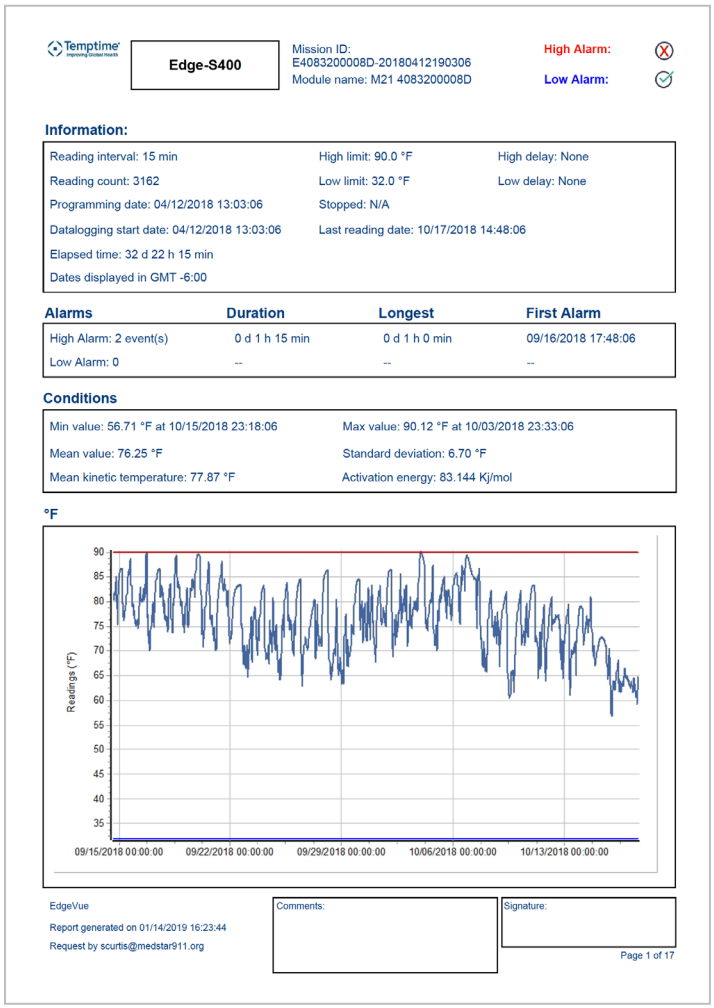
Shaun Curtis, Support Services Manager

MedStar Mobile Healthcare



Data can be downloaded in several formats, allowing MedStar to generate reports for CAAS and state inspections as well as the executive team.

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About MedStar

The Metropolitan Area EMS Authority, known as MedStar, is the exclusive emergency and nonemergency ambulance service provider to 15 Tarrant County cities including Blue Mound, Burleson, Edgecliff Village, Forest Hill, Fort Worth, Haltom City, Haslet, Lakeside, Lake Worth, River Oaks, Saginaw, Sansom Park, Westover Hills, Westworth Village, and White Settlement.

MedStar is a high performance Emergency Medical Services (HPEMS) system, providing advanced clinical care with high economic efficiency. They deliver advanced life support ambulance service to 436 square miles and more than 980,000 residents in Tarrant County, Texas—responding to about 135,000 emergency calls a year with a fleet of 63 ambulances.

They aspire to be a premier EMS service for both customers and employees and set standards for others to follow. Their mission is to provide high quality patient care in an efficient and cost effective manner with accountability.

About Temptime

Temptime offers a comprehensive range of temperature monitoring solutions to address the cold chain needs of pharmaceutical and medical device manufacturers, hospitals, blood banks, mailorder pharmacies and EMS providers. Customers use their chemical and electronic devices to monitor the storage and handling of medical products that improve and save lives.

The company seeks to improve global health by providing the tools and knowledge necessary to accurately monitor drug products and ensure that they have not been exposed to temperature events that could impact their effectiveness in treating patients. Temptime's products include low cost, chemically-based heat indicators and freeze indicators for application to blood products, vaccines, biologics, and other medications. Their sophisticated electronic EDGE wireless temperature and humidity monitoring systems are equipped with low-energy Bluetooth® technology for cloudbased data storage and sharing, leveraging mobile technology.

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