

# Ensuring Patient Safety and the Joint Commission Compliance through Automated Temperature Monitoring



## CUSTOMER PROFILE

**Wake Forest Baptist Medical Center** is a nationally recognized academic medical center and health care system in Winston-Salem NC. It is an integrated enterprise that includes educational and research facilities, hospitals, clinics, diagnostic centers, as well as primary and specialty care physician practices that serve 24 counties in northwest North Carolina and southwest Virginia. Wake Forest Baptist operates 1,159 licensed beds, employs over 14,500 people, and operates on an annual budget of more than \$2.9 billion.

## CHALLENGE

The challenge Wake Forest Baptist faced was to better manage temperature-controlled units in order to meet regulatory compliance, ensure the safety of contents such as medications, blood, patient nutrition products, research specimens and other high value items.

## SOLUTION

The problem was solved by leveraging automated monitoring and documentation of refrigeration equipment using automated temperature monitoring solution, designed and implemented by Infinite Leap – a Real-Time Technology consulting organization. On the surface the solution looked simple, but the complexity rose with the realization that there were more than 700 refrigerators across multiple, geographically separated buildings and campuses. Adding complexity were the hundreds of staff who were responsible for the daily care and management of these units. Specifically, more than 10,000 staff hours were spent annually acquiring the mandated twice daily temperature checks. This time commitment alone was calculated to value approximately \$300,000. Infinite Leap recommended moving to a centrally managed notifying and dispatching system for all temperature related alerts, which allows to streamline corrective actions.

## RESULTS

At the highest level, the goals of the initiative were realized in that compliance soared to nearly 100% within a few days of go-live. Additionally, the project met the goals of leveraging existing technologies and personnel so as to minimize new investment. From an external perspective, the new process and systems earned high praise from CMS who stated their desire that every hospital should have as strong a solution, and from the CDC who were involved in guiding the new internal processes surrounding the use of the system. More specifically: care providers appreciated shedding the task from their daily schedule, as well as the 10,000 extra hours in care providing time that was returned to them on an annual basis. The Joint Commission's surveys, with a most recent conducted in November 2017, also highlighted the value the real-time

technology solution at Wake Forest Baptist provides in ensuring compliance with safety protocols. One additional, however unexpected outcome, was that about 8% of refrigeration units in the hospital were found to be incapable of holding the required temperature therefore requiring replacement. This added additional and unforeseen cost, but also helped identify and avoid a potential opportunity for risk that had been previously unknown.

- Accurate and complete documentation of now over 950 temperature-controlled units due to the automatic collection of temperature readings.
- Increased surveillance of the temperature-sensitive items as number of readings increased from 2 per day to one every 5 minutes on every unit, every single day of the year.
- Instantaneous notifications led to early alerting and quick response, thereby avoiding potentially disastrous outcomes.
- Massive savings on avoided negative outcomes from bad units. On one incident alone, 6,000 doses of flu vaccines valued at \$90,000 would have been discarded and repurchased, causing both financial loss as well as a shortage of flu vaccines at the hospital.