AeroScout®

TEMPERATURE MONITORING APPLICATION NOTE

Temperature Monitoring is the Most Cost Effective and Easy to Deploy Solution to Improve Patient Safety and Care, Maintain Regulatory Compliance, Dramatically Reduce Costs and Increase Staff Efficiency

CHALLENGES

Today, the process of monitoring refrigerator and freezer temperatures is often a manual process performed by nursing, laboratory and pharmacy clinical staff. Alternatively, some hospitals use expensive temperature logging machines that are attached to the refrigerator or freezer and lack an advanced alert system and power outage solution. In addition, manual logging and monitoring mechanisms are unreliable. Data can get lost, there can be gaps in data logging and monitoring, and the accuracy of the temperature reading is not completely reliable.

Regulatory organizations such as The Joint Commission (formerly JCAHO), the American Association of Blood Banks (AABB), the College of American Pathologists (CAP), and Clinical Laboratory Improvement Amendments (CLIA) all regulate some aspect of temperature monitoring in hospitals. The regulations cover the process of temperature monitoring, the number of times per day the temperature must be checked, the calibration of such monitoring devices, the corrective action that must be taken and recorded if the temperature is out of range, and even the storage of such records. Failure to comply with some of the regulations may be determined through routine or announced audits, and could prevent reimbursement from Medicare and Medicaid programs, which may account for over half of a hospital's revenue.

The requirements apply to vaccines, pharmaceuticals, tissues, blood bags, organs, cafeteria food, patient test results and other items. These regulations are put in place to ensure quality patient care as well as patient safety.
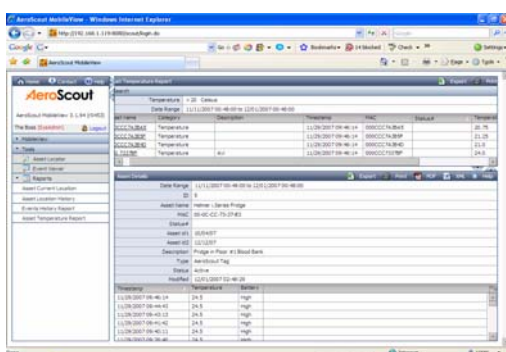
SOLUTION

AeroScout features a Temperature Monitoring solution as part of its industry leading healthcare visibility suite, which

- Automated temperature monitoring, logging and alerting
- Temperature graphs and charts
- No hard wires and easy to install
- No redundant networks - leverages existing Wi-Fi network
- FDA registered solution for Joint Commission compliance

uses a ubiquitous, standard Wi-Fi infrastructure to deliver a wide variety of benefits throughout the hospital.

AeroScout's tags include temperature sensors and can be easily placed in refrigerators or freezers. The tags send the temperature readings periodically as specified by the user (i.e., every few minutes), to our web-based MobileView software. The battery powered tags and wireless communications link will continue to monitor the temperature even if there is a power outage in the unit. The solution does not require a dedicated network of readers in order to receive the tag's signals, since the tags transmit a Wi-Fi signal which can be received by the existing Wi-Fi infrastructure. The tags monitor the temperature anywhere from -30 degrees Celsius to +75 degrees Celsius or -22 degrees Fahrenheit to 167 degrees Fahrenheit. If the temperature of the refrigerator or freezer exceeds or goes below a defined threshold specified by the user through Event Manager in MobileView, an alert is triggered.

Through the MobileView Event Manager the user can specify the type of alert or alerts—an e-mail, a pop-up window in MobileView, a page, a VOIP phone or badge alert, a text message or other forms of alerts. The Event Manager can even be set to only trigger an automated alert after a specified number of consecutive events outside of the range in order to eliminate false alerts, which may be caused by temporary situations such as a door being opened. The corrective action to fix the source of the alert is then noted by the user in the MobileView software as the documentation of the action is required by The Joint Commission. Other alerts specified by the user may include low battery alerts, out of sight events where the network cannot find the tag, and tamper events if the tag is removed from the refrigerator or freezer.

The information stored and viewable from MobileView, including the temperature logs, alerts and corrective actions, can be accessed through out-of-the-box reports including Historical Temperature, Historical Events and others. The reports can be exported to Adobe Acrobat, Microsoft Excel, and XML or may be printed directly from MobileView. The reports include graphical views, which enable staff to easily identify temperature trends and deviations. The temperature history and data can be stored for a year or more.

The Temperature Monitoring solution information can also be integrated into existing hospital information systems to send alerts or share data.

BENEFITS
- Labor cost savings through the reduction in manual temperature monitoring by nurses, lab personnel and pharmacy

- Regulatory compliance with The Joint Commission and other federal and state agencies; FDA registered solution for temperature monitoring

- Improved patient safety through adherence to the desired temperatures in an ongoing manner versus a periodic check

- Improved patient care by freeing up clinical staff from temperature monitoring activities to spend time with patients

- Easy deployment of the wireless solution-- tags may be placed in the unit or mounted inside

> Sample Return on Investment
> - 200 refrigerators and freezers
> - Checked twice per day
> - Five minutes per check
> ------------------------------------
> 12,167 hrs./yr. x $50/hr= $608,333/yr.

- Most cost effective temperature monitoring solution - leverages the existing Wi-Fi infrastructure for a low cost solution relative to alternatives

AeroScout is the leading provider of Wi-Fi-based Active RFID solutions. For more information about our healthcare visibility suite of solutions, please call (650) 596-2994 or visit www.aeroscout.com.