



Managing Vaccine Storage with Wireless Temperature Monitoring

When dealing with temperature-sensitive medications such as vaccines, the ramifications of improper temperature management can have drastic financial implications, not to mention the potential effect on your institution's reputation.

With this in mind, implementing a system capable of effectively monitoring these medications at all times is essential.

At Holy Name Hospital in Teaneck, New Jersey, we carry both routine and seasonal vaccines, and the New Jersey Department of Health requires, at minimum, twice-a-day monitoring of seasonal vaccines and vaccines for children. To monitor temperatures in the past, we used compact temperature recorders with circular paper graphs that had to be replaced weekly. In addition to having to perform this routine maintenance, the recording pins sometimes failed, creating gaps in the record. The recorders themselves also were somewhat cumbersome and had to be hung on the outside of every device to be monitored. We eventually transitioned to a wired temperature monitoring system, which linked all of our equipment to a single computer.

While this was more effective than the previous system, it was still limiting. The wires would occasionally break or disconnect when devices were moved, and when placement of the devices was reconfigured, the wires had to be rerouted. Given these limitations, we decided to implement a wireless temperature monitoring (WTM) system. Because of the simplicity of expanding wirelessly, we eventually rolled the system out to all freezers, refrigerators, and warmers in the hospital, including those in our clinics, dialysis units, and operating rooms. We later transitioned to a Web-based reporting system, so the data collected from the WTM system could be accessed through the Internet. Though we do not currently use the system as such, this Web-based connectivity would allow for data gathered from a satellite or off-site clinic to be monitored as well.

Convincing administration of the benefits of WTM for vaccine storage is not particularly difficult, especially if you have ever lost vaccines or other expensive medications, such as chemotherapy,

due to a malfunctioning refrigerator. This type of system not only removes the human error factor involved in manual temperature recording, it also reduces time spent performing this activity, resulting in more efficient use of pharmacist or technician time, and a more reliable system overall.



Photo courtesy of Helmer

Vaccine storage and administration can be a complicated task, often due to the impact of public perception. Rumored (and even factual) reports of vaccine shortages can result in a significant increase in demand. Conversely, if those shortages are remedied—or media attention turns elsewhere—the demand decreases. As we are required to order our vaccines at the beginning of the calendar year with a projection as to how much we will actually use, purchasing can be something of a gamble. Though there is no way to foresee whether there will be vaccine shortages, the best way to protect your investment, and not waste valuable product, is to have precise, real-time information on your storage conditions. ■



Rosario (Russ) Lazzaro, MS, RPh, is the director of pharmacy and IV services at Holy Name Hospital in Teaneck, New Jersey. Russ received his BS in pharmacy, and his MS in pharmacology from St. John's University, and also completed the Smith Kline Beecham executive management program for directors of pharmacy at The Wharton School of the University of Pennsylvania.

Vaccine Storage Tips

- **Store H1N1 and regular influenza vaccines centrally** in a refrigerator that does not have a freezing component when possible. The temperature requirements for both H1N1 and regular influenza vaccines are the same: they must remain between 2° and 8° C (35° and 46° F), without freezing.
- **Stock vaccines to ensure airflow** around them is unobstructed as this produces a more accurate temperature reading. When possible, remove unnecessary packaging from items being stored, and place items on racks off the bottom of the refrigerator to allow for additional airflow.

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| Vendor | Reader Service Number |
|-------------------------------|-----------------------|
| Aegis Scientific | 130 |
| Coldchain Technology Services | 134 |
| CompX | 136 |
| Cooper-Atkins Corporation | 137 |
| Dickson | 139 |
| DocuTemp | 132 |
| E-Controls Systems, Inc | 141 |
| Eoscene | 142 |
| FRESHLOC Technologies, Inc | 143 |
| Hampshire Controls Corp | 144 |
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