

# New York State Department of Health (NYSDOH) Bureau of Immunization Thermometer Guide for Storage and Handling of Publicly Purchased Vaccine

**The New York State Department of Health Bureau of Immunization does not recommend or endorse products or manufacturers. The information below is intended to provide guidance in selecting thermometers that meet federal and state requirements of the NYSDOH Vaccine Program, and the needs of individual medical practices.**

## Thermometer Requirements

Thermometers are a critical part of good storage and handling practices. Health care providers enrolled in the NYSDOH Vaccine Program are required to have calibrated thermometers in all refrigerator and freezer compartments. All thermometers should have a Certificate of Traceability and Calibration Testing from the manufacturer. Vaccines for Children (VFC) providers will be asked to produce certificates of calibration for each thermometer used at the time of a VFC Compliance Site Visit. The certificate of calibration describes the level of accuracy of the thermometer and confirms that the calibration comes from a laboratory that is accredited by an International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) signatory body such as the American Association for Laboratory Accreditation. All thermometers used for monitoring publicly purchased vaccine will require recalibration according to the manufacturer's specifications, but not to exceed two years. Thermometers with certificates of calibration that do not specify a recalibration date require annual calibration. Calibrated and certified thermometers are available in a variety of types including analog, digital, and continuous graphic. Additionally, digital thermometers may also have data loggers that allow the user to continuously monitor and download temperature data on a periodic basis or whenever a temperature excursion may have occurred. This enables the user to more accurately determine when and for how long vaccine temperature may have been out of range.

Regardless of the type of thermometer used, all VFC providers are required to take temperatures in both freezer and refrigerator units twice daily, record the temperatures on Immunization Action Coalition (IAC) temperature logs, notify the VFC Program if temperatures are out of range, and maintain the logs for three years.

## Thermometer Recommendations

The U.S. Centers for Disease Control and Prevention (CDC) has posted *Vaccine Storage and Handling: Interim Guidance* on its web site. The guidance is in response to recent scientific studies on equipment used for vaccine storage and a better understanding of best practices for vaccine storage and handling. NYSDOH strongly encourages providers who may be purchasing new thermometers, whose calibration certificates may be expiring, or who may not have calibrated thermometers, to purchase digital data loggers with a probe in a glycol buffer for all refrigerators and freezers where publicly funded vaccine is stored.

The *Vaccine Storage and Handling: Interim Guidance* recommends the following features to consider when purchasing a data logger:

- LCD temperature display showing the current temperature along with the minimum and maximum temperature
- Accuracy of +/- 1°F (0.5°C)
- An alarm for out of range temperatures and a reset feature
- Low battery indicator
- User programmable logging interval with storage for over 4000 readings that does not allow recording after the memory is full

## Resources

CDC, *Vaccine Storage and Handling Toolkit (November 2012)*: <http://www.cdc.gov/vaccines/recs/storage/toolkit/storage-handling-toolkit.pdf>

CDC, *Interim Vaccine Storage and Handling Guidance*:  
<http://www.cdc.gov/vaccines/recs/storage/interim-storage-handling.pdf>

CDC, *Frequently Asked Questions, Interim Guidelines for Vaccine Storage and Handling*:  
<http://www.cdc.gov/vaccines/recs/storage/interim-faq-storage-handling.pdf>

Below is a chart giving a sample list of manufacturers that currently offer calibrated thermometers with valid documentation (i.e., certificate).

At the time this list was compiled, prices ranged from \$54 to \$383.

<b>Company</b>	<b>Website</b>	<b>Phone</b>
Control Company	<a href="http://www.control3.com">www.control3.com</a>	1-281-482-1714
Control Solutions	<a href="http://www.vfcdataloggers.com">www.vfcdataloggers.com</a>	1-888-311-0636
Fisher Scientific	<a href="http://www.fishersci.com">www.fishersci.com</a>	1-800-766-7000
Nova-Tech International, Inc.	<a href="http://www.novatech-usa.com">www.novatech-usa.com</a>	1-866-433-6682