



## Vaccine safety in VFC clinics

A very complete [NIST study](#) of refrigerator storage of vaccines in 2009 found that:

“...many VFC clinics use digital display, analog, or liquid in glass thermometers to monitor the temperature of their vaccine storage refrigerators.

They are only required to check and record the temperature readings of these thermometers twice each working day.

Based on the results of our study, a number of factors, including the frequency of refrigerator door opening, refrigerator defrost cycles, room temperature increases, and power outages, could cause an employee to obtain a false representation of the actual refrigerator and/or vial temperature based on this methodology”.

The study recommended that data loggers be used to monitor the vaccine temperatures. The study used data loggers which recorded temperatures either every minute or every two minutes. NIST stopped short of recommending a specific logging interval or a particular type of data logger, but emphasized that data logging of temperature is crucial in determining the safe storage of vaccines in a refrigerator over time. Noting that recording the temperature twice a day was apt to miss temperature excursions what could occur within short periods of time.

It is quite possible that the internal temperature of a refrigerator can rise above the 8°C safety threshold and then drop back down into a save zone between the twice a day readings mandated by the VFC program.