A STEP-BY-STEP GUIDE TO SELECTING AND USING A DATA LOGGER FOR VACCINE INVENTORY

VFC
ALABAMA
Vaccines for Children
PROGRAM

1 — PLAN
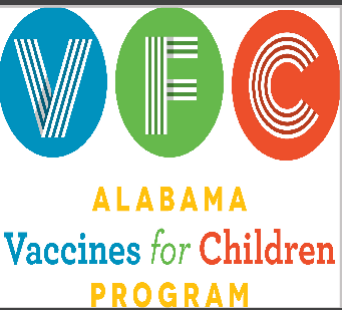
Follow CDC recommendations & VFC requirements
http://www.cdc.gov/vaccines/recs/storage/toolkit/storage-handling-toolkit.pdf

Use Immunization program resources

Keep staff skills and capabilities in mind

2 — DO

Follow manufacturer instructions for set up

Detachable buffered probe

Current/valid ISO17025 certificate of calibration testing

Device stores data

3 — CHECK

Read Min/Max/Current temperature twice daily

Check for out of range temperature alarms

Download and review data weekly

Stop & check when alarm triggered

Assure probe is with vaccine in center of unit
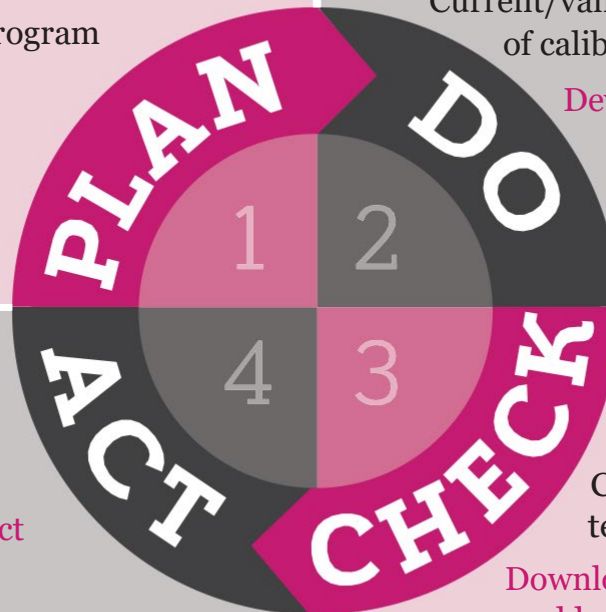
4 — ACT

Take immediate action when alarm is triggered.

- If needed, move vaccines to correct temperature
- Call immunization program
- Call vaccine manufacturer

File monthly reports for three years

USING A DATA LOGGER – THE DETAILS

PLAN 1

- Detachable temperature probe in buffered material (e.g. bio-safe glycol)
- Check for availability of training tools to support providers and staff before purchasing
- ISO 17025 calibration certificate
- Continuous temperature recording: Minimum every 15 minutes
- Memory: Minimum 4,000 readings or 39 days
- Operating range: $-25^{\circ}c$ to $+55^{\circ}c$ ($-13^{\circ}F$ to $+133^{\circ}F$)
- Uncertainty/Accuracy: $\pm 0.5^{\circ}c$
- Resolution: $0.1^{\circ}c$ (or 1 decimal point)

- Battery life: Minimum 6 months
- Track when temperatures are checked: Minimum 2x/day
- LCD display with: current, Min and Max temperatures visible – PLUS alarm status OK or Not OK
- Report: Shows alarms, temperature ranges and duration of excursions
- Assess custom software to avoid installation issues – especially with hospitals and clinics
- Data export capability: Excel, CSV, Txt

DO 2

- Place probe in the middle of the unit with vaccines.
- Thread probe wire through door hinge and tape in place (inside & outside the unit).
- First week: reveals storage equipment temperature issues right away

- Know where to find the ISO certificate - Check for an expiry date on the data logger
- Both audible and visual alarms are preferred

CHECK 3

- Read and record temperatures 2x daily noting data/time/temp/initials
  - Note: Initials may be in a separate log book
  - Some data loggers offer this feature
- Download and review reports weekly
  - PDF reports simplify record keeping

ACT 4

- Take immediate action: when there is an alarm
  - Move vaccines to a storage unit operating at the correct temperatures
  - Print report and look for clues to the problem
    o E.g. Is the ave. temperature $5.0^{\circ}c$ ($41^{\circ}F$)? If not it is too cold or too warm in the unit
  - Send alarm information to immunization program and vaccine manufacturer
  - Alarm reports require the duration of the alarm period and the highest or lowest temp. during the alarm
- Store monthly reports per state/VFC requirements
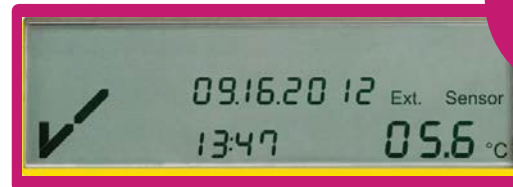
Display screen

Thread flat wire through gasket on hinged side of unit

09.16.20 12 Ext. Sensor
13:47 05.6 °C

Duct tape wire to wall

Stabilize vial with probe on shelf

Data logger manufacturers and distributors:

 Accsense http://www.accsense.com/p_p_a102.html

Berlinger http://www.berlinger.com/en/temperature-monitoring/productshardware/data-loggers/

Control Solutions Inc. www.vfcdataloggers.com

 Dickson http://www.dicksondata.com/products/find/data-logger

DeltaTrak http://www.deltatrak.com/flashkink-vaccine-usb-pdf#specifications

Lascar Electronics http://www.lascarelectronics.com/data-logger/

Onset (Hobo) http://www.onsetcomp.com/

SensoScientific http://www.sensoscientific.com/vaccine-vfc/

T&D Corporation http://www.tandd.com/#fragment-1

Temperature Guard http://temperatureguard.com/

Temperature@lert http://www.temperaturealert.com/Temperature-

Alarm.aspx

ThermoCo Products, Inc www.thermcoproducts.com

Tip Temperature Products www.tiptemp.com

In order to be assured your data logger meets all desired specifications, you may want to discuss them with your vendor. Below is a list of questions to ask your vendor to help you understand all the functions of a data logger. You may use the chart on the next page to fill-in information and compare models.

Questions to ask about desired specifications:

• Does this data logger display the current, minimum, and maximum temperature? Is the display outside of the vaccine storage unit (refrigerator or freezer) where it can be easily accessed?

• Does the unit have an alarm that will alert the user if temperature exceeds the high/low thresholds?

• Does the unit have a reset button that clears the minimum and maximum temperatures since the last clearing?

• Does the unit have a low battery indicator?

• Does the unit have one or more detachable temperature probe(s) in glycol or suitable temperature buffer?

• Does the temperature probe and unit measure accurately, within +/- 0.5°C (+/-1°F and come with Certificate of Traceability and Calibration?

• Can it record at least a month worth of readings at a 10 minute sample rate?

• Does this unit loop data (record over the oldest data) when memory is full?

• Is the logging interval customizable? At what intervals can this device record?

Questions to ask about additional features:

• Can this unit connect more than one probe?

• Can this unit transmit data wirelessly?

• Is a power cord available?
    o If not, does the battery last at least 1 year?
    o How long does the battery last?
    o Is the battery replaceable?

• Is software included or available for separate purchase? (If separate, considering purchasing to access your stored data).

• What are the system requirements for the software?

• Can this unit place phone calls (landline and mobile), send text messages, and/or send e-mail messages to several numbers and addresses if it detects a temperature excursion?
    o If so, can a user query the monitor for additional readings while traveling to the office? (If it "recovers" as in a power outage, you want to be able to return home).

• Can it record at least a month worth of readings at a 10 minute sample rate?