

# Vaccines For Children (VFC) Program

# Vaccine Storage and Handling - Updates, Challenges, And Partnerships For Nursing

#### **Christina Sapad, MPA**

Assistant Chief, Vaccine Management and VFC Program Section Immunization Branch - Division of Communicable Disease Control California Department of Public Health



# **Key Topics**



- Overview of vaccine storage and handling requirements
- Discuss challenges and issues the VFC Program and Providers are experiencing related to vaccine storage and handling
- Consequences of improper vaccine storage and handling
- Best practices for vaccine storage and temperature monitoring
- Update on requirements, resources, and online enhancements





# VACCINE STORAGE AND HANDLING



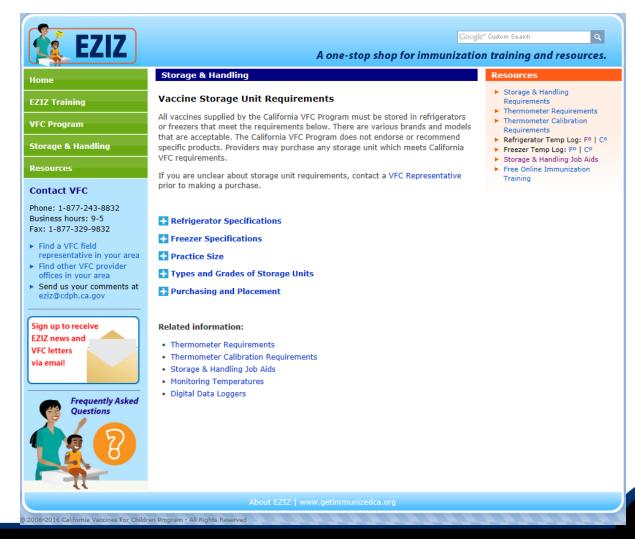
# Recommended Temperature Range

- Refrigerated vaccines should be stored between
   35.0°F and 46.0°F (2.0°C 8.0°C)
- Frozen vaccines should be stored between
   -58.0°F and 5.0°F (-50.0°C and -15.0°C)





#### VFC Program Requirements



# Current Vaccine Storage Equipment

Doses/Year	Required Equipment
Very high volume providers (10,000 doses/year)	Pharmacy-grade or biologic-grade refrigerator- only units and stand-alone freezer units.
High volume providers (2,000-10,000 doses/year)	Refrigerator-only (11 cubic feet minimum) and stand-alone freezer units.
Medium volume providers* (500-2,000 doses/year)	Refrigerator-only (11 cubic feet minimum) and stand-alone freezer units
Low volume providers* (less than 500 doses/year)	or Pharmacy-grade or biologic-grade under the counter units.

\* If grandfathered during the 2009 requirements, they are no longer able to use household combination units in 2016.



# ACCINES for CHILDS

# Acceptable Units

Grade/Type	Comments	Rating
	Specifically engineered to maintain consistent temperatures throughout the unit. Purpose-built or pharmacy-grade refrigerators can be compact, making them ideal for small offices.	Best
Pharmaceutical grade/	Specifically engineered to maintain consistent temperatures throughout the unit. These units have more than one compressor allowing for better and separate temperature control of the refrigerator and freezer compartments.	Best
(etand-alone)	Usually intended to store food and beverages and are often larger and more powerful than household units. These units are not specifically designed to store biological materials.	Good
	Usually smaller than commercial units and are intended for use in small offices and in homes, typically for food storage. Like commercial units, they are not designed to store biological materials.	OK

<sup>\*</sup>These units may require additional water bottles (refrigerator) or frozen cold backs (freezer) to maintain stable temporary



#### CALIFORNIA

# Unacceptable Units



These do not meet VFC specifications and may **not** be used vaccines.

Household combination units	These units have a refunits have one comprefrigerated vaccines and can freeze vaccine capable of maintaining
Dormitory-style and bar-style combined refrigerator/freezers	These units pose a sig storage.
Manual defrost (cyclic defrost) units	These models have ar They have significant or.
Convertible refrigerator-only units	These units have an inter freezer" unit. " - " all
Cryogenic Freezers	These freezers reach temperatures well below -58.0°F (-50.0°C), too cold for frozen vaccines. The recommended temperature range for frozen vaccines is between -58.0°F and 5.0°F (-50.0°C and -15.0 °C).

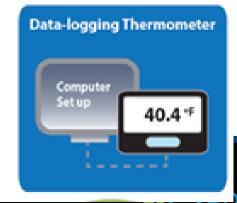


#### VFC Thermometer Requirements

To meet specifications, thermometers must:

- Be accurate within +/-1°F (+/-0.5°C);
- Be digital, with the digital display placed outside the unit to allow readings without opening the door;
- Have a buffered temperature probe immersed in one of the following: a vial filled with liquid (e.g. glycol, ethanol, glycerin); a vial filled with loose media (e.g. sand, glass beads); or a solid block of material (e.g. Teflon®, aluminum);
- Display current, minimum, and maximum temperatures;
- Have a visual or audible alarm to signal out-of-range temperatures;
- Be calibrated annually (or every other year when the manufacturer recommends calibration done in a period that is longer than two years); and
- Have a valid Certificate of Calibration
- Have a memory stores at least 4,000 readings (DDL only)







# CHALLENGES

With Vaccine Storage and Handling



# Office of Inspector General (OIG) Report June 2012



Department of Health and Human Services

OFFICE OF
INSPECTOR GENERAL

VACCINES FOR CHILDREN
PROGRAM:
VULNERABILITIES IN
VACCINE MANAGEMENT



Daniel R. Levinson Inspector General

June 2012 OEI-04-10-00430



#### Are Doctors Improperly Storing Vaccines?



**VACCINES for CHILDREN** 



Vaccines Stored Improperly: Warning for Parents

AUTO START: ON OFF



By KIM CAROLLO June 6, 2012





#### Excerpts from the ABC News Story

- An investigation by the Department of Health and Human Services' Office of the Inspector General (HHS OIG)
  found that many providers of immunizations meant for low-income children don't store the vaccines at proper
  temperatures, potentially rendering them ineffective and placing children at risk for contracting serious diseases.
- "I'd be very furious if that happened to me," said one parent. "I would be furious if my doctors were not storing them properly and so her vaccines were not effective."
- The investigation found that 76 percent of the providers stored the vaccines at temperatures that were either too
  hot or too cold. They also found that 13 providers stored expired vaccines along with non-expired vaccines. In
  addition, they said they found that none of the providers properly managed the vaccines according to VFC
  program requirements.
- The storage problem could potentially lead to less effective vaccines, but doesn't pose a safety risk, the HHS OIG said.
- While the report is concerned with vaccines offered under the VFC program, doctors say the government's investigation is an important reminder to all clinicians about the need to properly and carefully store all vaccines.
- In its report, the Inspector General's Office recommends that CDC take steps to ensure that providers who
  participate in the VFC program do their jobs.



# Response from the Centers for Disease Control and Prevention (CDC)



CDC is not recommending that parents revaccinate their children. The main concern with improper storage temperatures is that they can make vaccines less effective rather than less safe. The OIG report did not assess vaccine potency or effectiveness. While it is possible that some children have received less potent vaccines due to exposure to improper temperatures, our data do not suggest that this is a common or widespread problem. Our national monitoring indicates vaccines are doing their job at providing protection against disease. Most of the diseases we vaccinate against are at record low levels in the United States. Investigations of recent outbreaks of measles and pertussis have been associated with factors such as vaccine refusal and waning of immunity over time. In fact, patterns in these outbreaks suggest that children are receiving potent and effective vaccines. Our vaccine safety monitoring also indicates that we continue to have the safest vaccine supply in our history.

While the safety and health of our nation's children has not been compromised by the issues identified by the OIG, the findings are important and underscore that we must do better at ensuring that all vaccines are stored properly at all times, including removing expired vaccine from units where viable vaccines are stored. The vaccines that protect children against serious and even deadly diseases should always be stored properly. CDC and our partners are working with a sense of urgency to address the problems identified in the OIG study.



# Quality Assurance and Monitoring Compliance



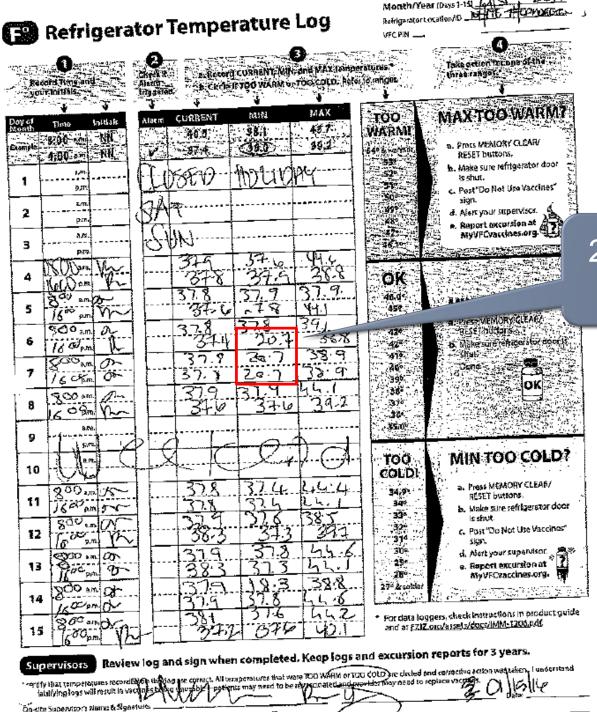
- Compliance Site Visits
- Unannounced Storage and Handling Visits
- Random Temperature Log Submission





## **QA Findings**

- Non-compliant temperature monitoring devices in use
- Non-compliant vaccine storage units
- Old temperature logs being used
- Incomplete or inconsistent recordings
- Temperatures not documented
- Documented temperatures have been falsified
- Out-of-range (OOR) temps without any actions noted
- Perfect logs, no temp variations
- Logging temp alarm settings instead of MIN/MAX
- Documentation errors (illegible writing, missing negative signs, etc.)
- Thermometer not being cleared (same temp readings every day)



On-site Supervisors viams & Signature.

Month/Year (Days 1-15)



20.7°F recorded but no action taken



#### Refrigerator Temperature Log

Month/Year Doys 1-151 March 266 fiefrigeratoriLocation#0.—

Check II triggered.

b. Record CURRENT, MIN, and MAK temperatures." b. Circle if TOO WARM or TOO COLD. Refer to ranges. Take action for one of the three ranges.\*

	. 🖫	. 1
Day of Month	Time	initials
Example	8:06 a.m.	-NN
	4:00 pm	NN
1	g00	200
	CO on	
2	7.40	16:40
	900	
3	/(60 pm	
<del></del>	200	7
4	N/0000m	Ver-
	-376.	-
5		
	p.m.	
6	(A/T).	
	p.m.	
	Q40 and	5
7	7600 pm	Y~-
	QQQ 678	C&-
6	7600 pm	0
	QOO arm	0>-
9	1600g	W~
	5200 am	71.3
10	72 50 pm	1 N -
<b> </b>	600	100
11	6 C C	167
<b>_</b>	18 00 PW	1
12	sym.	
	- 6.81	]
Π.	a.m.	1
13	g <sub>i</sub> m	1
	Q 00 an	(3 <del>)</del> -
14	800,00	γζ
	100 - 500	1 1

Bacord Time and

your taitials.

Ataxin	CURRENT	MIN	MAX
	40.5	38.1	43.7
1	87.4	(99.0	39.2
-		37.4	44.1
	37:4	37.6	285
ļ	7-5-1	27.	12021
	37.9	3 1.6	240
	10-ry	(2)(1)	2-12
L	37.4	37.8	3 1.8
	38.3	340	3574
	38.3	37.2	441
	326	[1-,9]	38.3
	<u> </u>		
h	} <u></u>		·
-	<del> </del>	·	
_		3-7-5	
ļ	372	1254	43.7
	37-4	34.7	_43 <i>:</i> ⁄s
Ι.	[37.2	[5].2	55.1
	37.2	37 Z	[لرلم, ا ]]
	272	37.2.	38:5
	36.3	- 22 4	٩6.2_
<del>                                     </del>	12:00 G	37.L	44.4
	2420	207	388
	22/	37 / 1	
	3.34	374	37.9
<u> </u>	1771	774	7010
ļ	ļ	ļ	ļ
	[		L
	.37,6,	3),2	44.8
	38.3	1350	44.4
-	37.6	21.4	385
1	3	1	;

	•	
	TOO WARM!	MAX TOO WARM?
	54° & wasmer 53°	<ul> <li>a. Press MEMORY CLEAR/ RESET buttons.</li> </ul>
	52°	<ul> <li>b. Make sure refrigerator door is shut.</li> </ul>
	51° 50°	<ul> <li>c. Post*Dolfat Use Vaccines*</li> <li>sign.</li> </ul>
	49.	A Diert word SUMPTVSOF.
_	40	
	47*	MyVFCvacco
	46.70	14,5 - 1 - 1 - 1 - 1

#### OK 46.D\* 450 44"

430

42\*

414

40\*

39° 389 37\* 360 35.00

34.90

94\*

330

32°

319 300

27° & colder

#### MIN & MAX OK.

- p. Press MEMORY CLEAR/ RESET buttons.
- b. Make sure refrigerator door is shut Done.



#### MIN TOO COLD? TOO COLD!

- a. Pres; MEMIORY CLEAR/ RESET battons.
- b. Make sure refrigeral is sheet.
- c Post
  - Afert your supervisor.
- e. Report excursion at
- MyVFCvaccines.org.

Review log and sign when completed. Keep logs and excursion reports for 3 years. Supervisors

Tear-fify that temperatures recorded on this log are correct AR temperatures that years TOO WASIM or TOO COLD are chicled and corrective action was taken. I understand al sifering tons will result in varythes theing thousable - patients may make to be revolutionated and provides may never be replace varyings.



Negative sign not used appropriately

21.4°F recorded but no action taken



For data loggers, check instructions in product guide and at E/22 org/assets/docs/INM-1206.pdf.



# Challenges for the VFC Program

- Ensure that key practice staff, or those responsible for vaccine management, have been properly trained and have retained the information the Program disseminates
- Convey that these are not just VFC Program requirements, but are best practices to safeguard the efficacy of their vaccine supply





## Challenges for VFC Providers

- Staff turnover and the need for continuous training
- Verifying that training information has been retained and best practices are implemented
- Getting used to new storage and handling requirements
- Familiarizing staff with new equipment and resources
- For a busy clinic, staff may not have time right away to report an out of range temperature or contact vaccine manufacturers
- Time commitment involved with vaccine management and supervisory review of temperature logs





# CONSEQUENCES OF IMPROPER VACCINE STORAGE





## Vaccine Efficacy

- Depending on the temperature and timeframe, vaccines exposed to temperatures outside of its recommended range may not be effective in preventing disease
- "Failure to store and handle vaccines properly can reduce vaccine potency, resulting in inadequate immune responses in patients and poor protection against disease. Patients lose confidence in vaccines and their providers when revaccination is necessary because the vaccine(s) they received may have been compromised (exposed to inappropriate conditions/temperatures or handled improperly). Storage and handling errors can also result in significant financial loss if the vaccine(s) cannot be used."
  - Centers for Disease Control and Prevention (CDC) Vaccine Storage and Handling Toolkit May 2014



#### Recent Headlines

Bad Refrigerator Sparks Palo Alto Medical Foundation to Issue

Vaccination Warning

By Terry McSweeney











The Palo Alto Medical Foundation is warning parents that their children may vaccinations. Terry McSweeney reports. (Published Tuesday, May 12, 2015)

The Palo Alto Medical Foundation is warning parents that their to repeat their vaccinations.

A bad refrigerator inside the foundation's Los Gatos office had vaccines a couple degrees too cold, possibly ruining the vaccin

#### Bad refrigerator at Stanford Children's Health medical office means 1,551 kids need re-vaccination

By Tracy Seipel tseipel@mercurynews.com

POSTED: 10/03/2015 05:59:02 AM PDT | UPDATED: 7 MONTHS AGO

SAN MATEO -- More than 1,500 pediatric patients will have to repeat their vaccinations after a faulty refrigerator compromised 10 different vaccines stored at a medical office affiliated with Stanford Children's Health, officials said Friday.

Dr. Mark Showen, the lead physician who oversees five other pediatricians at the Peninsula Pediatric Medical Group in San Mateo, said the safest thing to do is to offer new vaccinations -- including shots every four weeks for some -- to everybody who could possibly be affected, from babies to 18 year olds.

He said letters are being mailed Saturday to the patients' families to help them arrange an appointment, and if a patient or their family has not responded by a certain date, they will be re-contacted.

# Temperatures Not Recorded or are Falsified



- The VFC Program cannot confirm that the vaccines in question have been stored and maintained according to VFC Program requirements for proper vaccine storage and handling therefore the VFC vaccines in question will be deemed <u>non-usable</u>:
- Per the 2016 Certification of Capacity to Store and Manage Vaccines Agreement, item number 7: "The Vaccine Manager shall monitor and record the temperatures (including current, minimum and maximum temperatures) in the refrigerator and freezer twice each day...If temperatures are not monitored and documented, or if temperature logs are falsified, the affected vaccines will be automatically deemed non-viable and will be considered a negligent vaccine loss."
- Without documentation of the current, minimum, and maximum temperatures it is unclear what the highest and lowest temperatures the vaccines were exposed to.



# Things to consider...

- How many patients do you immunize each day, week, month, or year?
- What if you had to recall all those patients that were immunized with non-viable vaccines?
- How will you explain to parents why their children must repeat the vaccine doses?
- Will your patients maintain their trust in you that you are providing quality care?
- Consider the costs, staff resources and patient time involved with having to revaccinate
- Avoid a situation like this and TAKE ACTION RIGHT AWAY if you notice out-of-range temperatures!





## BEST PRACTICES

For Vaccine Storage and Temperature Monitoring



# Vaccine Management Requirements



Vaccine Storage Equipment



Vaccine Temperature Monitoring Equipment



Vaccine Temperature Monitoring and Documentation



Managing out of range temperatures



Inventory Management



Vaccine
Management
\_\_\_Plans

Represent best practices to protect and safeguard vaccines



#### Improved Use of Vaccine Storage Equipment



Mid 90's: Any refrigerator.

2009: Stand alone refrigerators, household and purpose built, limited combo unit use.

2018: Certified Vaccine Storage units optimal?











2000's: No Dormitory-style refrigerators, household combo unit use ok. 2016: No combo refrigerators, purpose build units standalone units optimal, household standalone units ok.







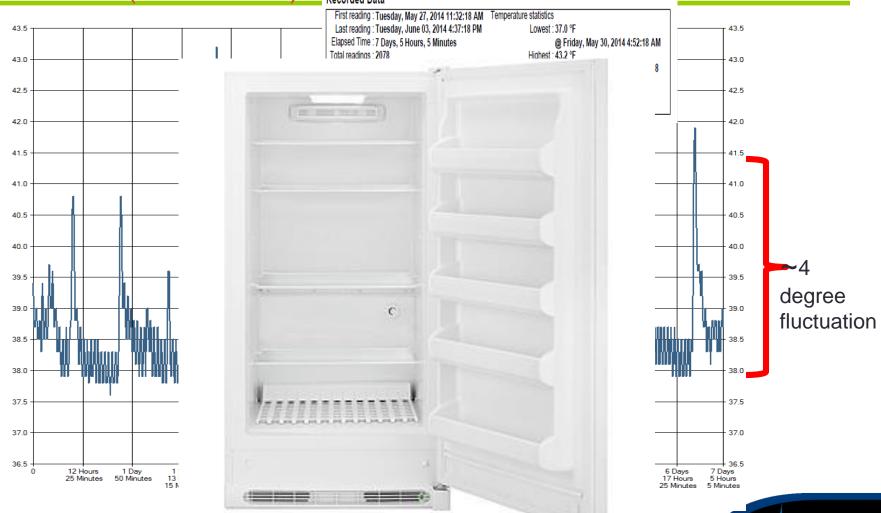






Unit Performance: Medium Volume: Stand



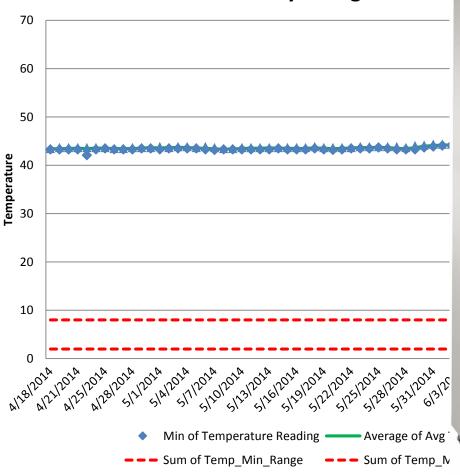




070668, High Volume: Pharmacy Grade (Aegis Scientific, 2008)



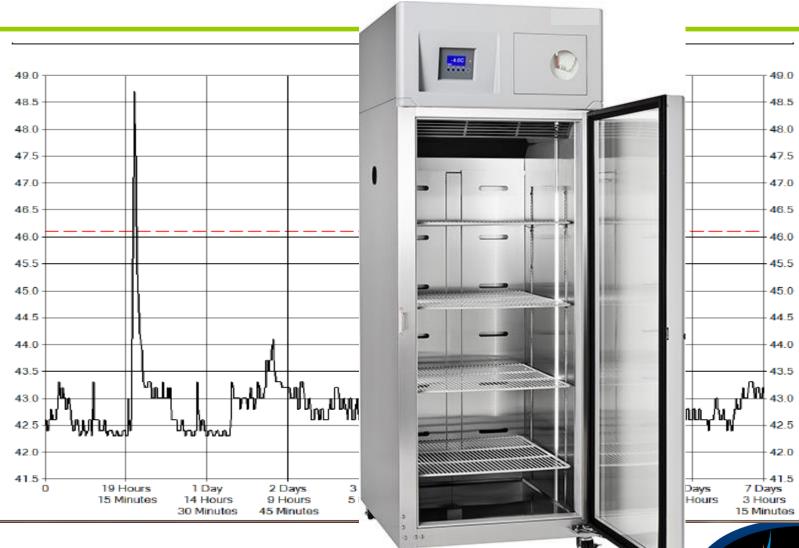






#### Very High Volume, Biomedical, Pharm





## Advance Temperature Monitoring

# VACCINES FOR WITH

#### **Equipment**

Sticking Point: Temperature Control Vital to Vaccine Viability

BY MICHAL CHOJNACKY ON JANUARY 21, 2016

HEALTH, PHYSICS, PUBLIC SAFETY









Use of buffered probes



Use of Min/Max themometers





# ACCINES FOR CHILDRE

#### Importance and Use of Data Loggers

- Information from a digital data logger helps clinic staff:
  - Know the exact times and for how long vaccines are stored at specific temperatures;
  - See how a storage unit's temperatures increase and decrease during clinic operations;
  - Continuously monitor temperatures even when the clinic is closed. Some data loggers have advanced, remote alert capabilities to notify clinic staff of excursions during non-business hours;
  - Prevent unnecessary vaccine losses when excursion time frames cannot be precisely determined.
- Make a difference between vaccine usability or not
  - Exposure times
  - Notifications
  - Accuracy
- Investing in reliable temperature monitoring devices is less expensive than replacing vaccines wasted due to inaccurate temperature readings

#### Data Logger Required Technical Specifications

- The logger you buy must meet these technical specifications:
- Accuracy of +/-1°F (+/-0.5°C)
- Visual or audible alarm for out-of-range temperatures
- Low battery indicator
- Memory storage of at least 4,000 readings
- Current, minimum, and maximum temperature display
- User-programmable logging interval (or reading rate)
- Certificate of Calibration
- Buffered temperature probe immersed in one of the following: a vial filled with liquid (e.g. glycol, ethanol, glycerin); a vial filled with loose media (e.g. sand, glass beads); or a solid block of material (e.g. Teflon®, aluminum)
- Also, data loggers must meet <u>calibration and recalibration</u> requirements that became effective since 2013.



## Data Loggers Job Aids

A one-stop shop for immunization training and resources.



EZIZ Training

Storage & Handling

Phone: 1-877-243-8832

representative in your area

► Find other VFC provider

Send us your comments at

Frequently Asked

Business hours: 9-5

► Find a VFC field

Sign up to receive

**EZIZ** news and

**VFC letters** 

via emai

Fax: 1-877-329-9832

Contact VFC

#### Question to Ask Vendors about Digital Data Loggers

The following questions are examples of what one can ask to become an informed data logger consumer. Data loggers are tools to help safeguard vaccines. Their correct and consistent use depends on how well clinic staff know about them, how they work, and how to use them.

Which of your products meet all the following requirements for data logger use in a vaccine storage unit?

- Be accurate within +/-1°F (+/-0.5°C);
- . Have a visual or audible alarm for out-of-range temperatures:
- · Have a low battery indicator:
- · Have memory storage of at least 4,000 readings;
- · Display current, minimum, and maximum temperatures;
- Have a user-programmable logging interval (or reading rate):
- . Have a valid Certificate of Traceability and Calibration Testing, also known as a Report of Calibration; and
- . Have a buffered temperature probe immersed in one of the following: a vial filled with liquid (e.g. glycol, ethanol, glycerin); a vial filled with loose media (e.g. sand, glass beads); or a solid block of material (e.g. Teflon®, aluminum).

#### Questions about training

- . Do you have training for your customers on how to set up and use the data
- · What type of training and/or technical support do you offer? Is there a cost for that training and/or technical support?
- . How can clinic staff access the training resources/materials, etc.?

#### Questions about calibration services

- . Does the data logger come with a NIST-traceable certificate of calibration?
- · Can the logger be recalibrated?
- · What is the cost of a NIST-traceable certificate of calibration?
- As a vendor, do you provide recalibration services?
- . What will be the cost of recalibration for the data logger?
- . Is the certificate of calibration from a lab that follows ISO/IEC 17025 standards?
- · What is the manufacturer's recommended calibration cycle? 1 year? 2 years?

#### Questions about logger use

- . Will my device be ready to use out of the box or will it need accessories?
- . Does the device require software to set the temperature alarm settings and/or read temperature recordings?
- Does the device require software to set the recording interval?

#### **Data Logger Setup & Use**

#### Preparing New Data Loggers for Use

Refer to your device's product guide or video to learn how to use your data logger. Please call your vendor's support contact number for all questions regarding setup, functionality, or configuration.

#### Set Up and Get Familiar with Functions

- 1. Determine what you will need to set up and prepare your data logger to monitor temperatures.
  - · Install software and configure the device as needed. For some data loggers, data download may require setup of a cloud account or purchase of a flash drive.
  - · Locate the vendor's support contact number in case you need to reach them during the software installation or device setup.
- 2. Get familiar with your data logger.
  - Make sure you can find CURRENT, MIN, and MAX readings. Some devices display all of these readings on the main digital display. For others, you may have to access menus by toggling buttons such as REVIEW, START, and DISPLAY on the device.
  - Determine how your device will communicate temperature alarms. Some data loggers may display a red light or icon/symbol on the digital display. Wi-Fi-enabled devices may issue text messages or email alerts wirelessly.
- 3. Locate the necessary steps to download temperature data files.
- Determine if your device must be stopped before downloading data files to prevent recording room temperatures.
- · Determine if your device must be unplugged from the probe to download data files. Probe must remain in storage unit at all times.
- 4. Locate the necessary steps to resume temperature recording after data downloads.
  - Determine how your device must be stored. You may have to plug the data logger back into the probe and press the START button.
  - · Determine if your device must be reset manually after recording temperatures. Data loggers may reset either manually or automatically.

- 5. Get familiar with your downloaded temperature data files including summary
  - Make sure you can locate key temperature excursion details. Look for excursion time/ date, MIN/MAX temperatures, and total time above/below alert limits.
  - · Locate the summary data. Most devices generate a one-page summary of excursion details that you'll need when reporting temperature excursions to VFC.
- 6. Set up an electronic filing system for saving your downloaded temperature data files to your computer.
  - · Create separate folders for each storage unit by location. For example, Injection Room Unit 01.
- 7. Store your data logger's Certificate of Calibration in a safe accessible location.

#### Configure Settings

Settings may be programmed on the data logger or using the software installed on the computer depending on your device.

- 1. Set the temperature scale to Fahrenheit or
- 2. Set the recording intervals to 15 minutes (if not already pre-configured).
- 3. Set the LO/HI temperature alarm limits for refrigerators and freezers:

Settings	Refrigerator	Freezer
LO	34.9°F (1.9°C)	-58.1°F (-50.1°C)
HI	46.1°F (8.1°C)	5.1°F (-14.9°C)

Page 1 of 2

California Department of Public Health, Immunization Branch, Vaccines for Children (VFC) Program

EZIZ.org

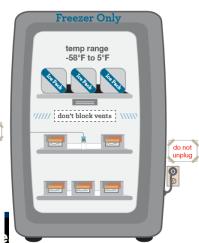


## <u>Updated Equipment Requirements</u>

#### Vaccine Storage

- Providers must have separate refrigerator-only and freezer-only units which must be dedicated to the storage of vaccines.
- No more combination units





#### **Temperature Monitoring**

- All new VFC providers, practices that are open 2 days a week or less, and practices needing to replace their primary or back-up thermometer are required to purchase and use data loggers to monitor temperatures.
- Providers conducting mass vaccination clinics must also use data loggers to monitor temperatures during vaccine transport and at the mass vaccination clinic.
- Use of DDL will be required for all providers in 2017

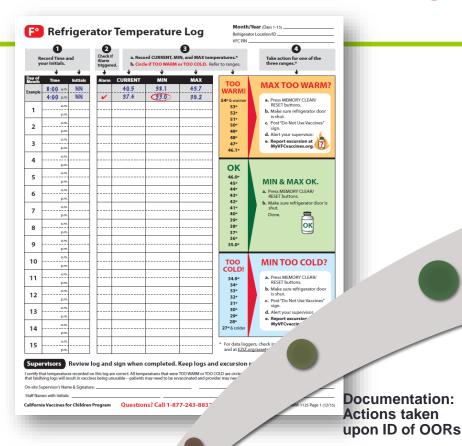


# UPDATES TO TEMPERATURE MONITORING RESOURCES



## Temperature Monitoring and Documentation





QI: Staff member's names (lesson completion) and Supervisory review of completed logs Checking if thermometer alarms have been triggered Online documentation of actions taken when OORs are identified

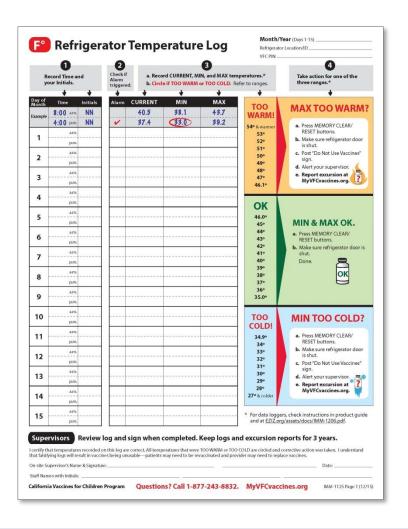
MIN & MAX temperatures, guidance and actions for out of range temperatures (OORs)

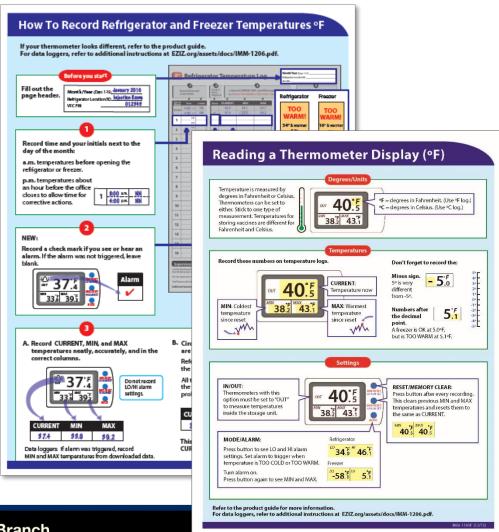






## New Temp Logs & Job Aids





## Temperature Monitoring



- Temperatures for each unit (current, MIN & MAX) must be read and documented twice daily
  - logs must be maintained for 3 yrs and be readily available for review (during site visits or during randomly selected provider temperature review process).
  - Thermometer temperatures must be cleared after each daily MIN/MAX readings.
  - Temperatures must be recorded on VFC-provided temperature logs, even if using a continuous temperaturerecording device or digital data logger.
  - Supervisor must review logged temperatures twice a month

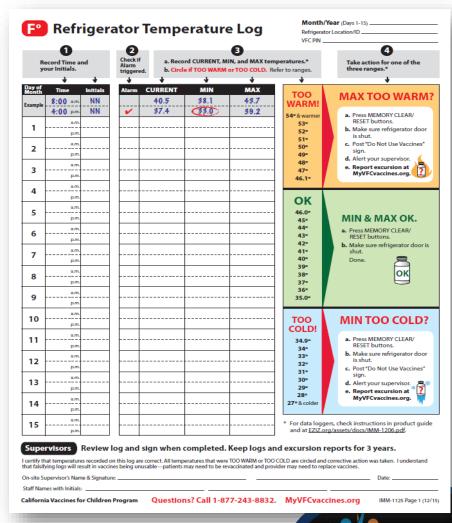


### VACCINES for CHILDREN

## **Enhanced Temperature Monitoring and Documentation**



- Incremental changes
  - Reading and documenting MIN & MAX temperatures twice daily
  - Guidance and actions for MIN vs. MAX temperatures
  - Documentation of actions taken upon identification of temperature excursions as part of the logs
  - Documentation of staff member's names documenting temperatures
  - Supervisory review of completed logs
  - Checking if thermometer alarms have been triggered
  - Online documentation of actions taken when OORs are identified





## New Temperature Monitoring Lesson Required for all 4 Key Practice Staff



**EZIZ** Lesson: Monitoring Storage Unit Temperatures

Welcome to Monitoring Storage Unit Temperatures



## Documentation of Storage and Handling Incidents

- If a cold chain failure is suspected (temperatures outside the recommended temperature range), providers must:
  - Store vaccine under correct temperature storage conditions
  - Label the vaccine "DO NOT USE" so the vaccine is not administered until a response indicating the vaccine is acceptable for use has been received
  - Notify your clinic supervisor
  - Report excursion into VFC's new Storage and Handling Online Triage System (SHOTS)
  - Contact individual vaccine manufacturers for a determination of vaccine viability

## **Online Documentation and Reporting!**

Report excursions to MyVFCvaccines.org every time temperatures get TOO WARM or TOO COLD.

The report will give you instructions to:

- Continue to use vaccines,
- Return vaccines, or
- Contact vaccine manufacturers for further guidance.



Va	accine Storage Excursion Report for PIN 888888						
4	This report will triage your temperature excursion. The information you submit will determine if vaccines can be used or if vaccine manufacturers need to be contacted.						
	Do not use or	r return vaccines until instructed to at the	the end of this report.				
	Start						
			Re-opened Reports				
			Pending Reports				
	11/25/2015	116: General Electric	Finish & Submit				
	11/25/2015	115: General Electric, test	Finish & Submit				
	11/25/2015	114: test, General Electric	Finish & Submit				
			Completed Reports				
	11/25/2015	117: General Electric	View				



## Storage and Handling Online Triage System (SHOTS)



SHOTs will guide providers on the documentation of out of range temperatures discovered for their vaccine storage unit(s) and provide them with feedback on whether they need to contact the vaccine manufacturers.

## #MYFCVACCINES

#### **MAIN PAGE**

Izzy the Bear- Pediatrics MD PIN: 888888

Order confirmation email: jerad.timmons@cdph.ca.gov Add'l order confirmation email: test@cdph.ca.gov Phone: (877) 243-8832

Address:

850 Marina Bay Pkwy Richmond, CA 94804

**Delivery Information:** 

T, W, TH: TWTH 8AM TO 12PM AND 1PM TO 5PM

Provider Category: Low Volume Order Frequency: Every 3 months

Update Practice Information »
Logout

Provider of Record: Christina Sapad Provider of Record email: test@cdph.ca.gov Vaccine Coordinator: Christina Sapad

Vaccine Coordinator email: jerad.timmons@cdph.ca.gov

Key Practice Staff Change Request

#### Orders

**Order Vaccine** 

**View Order History** 

Supplemental Flu Order

**View Shipping History** 

Video Demo | PDF

#### Inventory

**Enter Returns & Transfers** 

**View Returns & Transfers** 

Vaccine Inventory Form
Vaccine Usage Form
Video Demo | PDF

#### Recertification

**Submit Recertification Form** 

Storage and Handling

All information inputted will be saved under your VFC Provider Account

Report/View Excursions







#### Vaccine Temperature Excursions for PIN 888888, Izzy the Bear- Pediatrics MD

Listed below are the incomplete, re-opened and completed excursion reports.

Before starting a new report review incomplete reports to ensure that excursion has not already been documented.

Incomplete and re-opened reports must be completed prior to submitting a vaccine order. Vaccine orders will not be processed if there is an incomplete or re-opened report.

#### **View Temperature Excursion History**

	Incomplete Reports	
03/02/2016	1104: Kenmore	Finish & Submit
01/26/2016	694: no freezer on site	Finish & Submit

Start New Report

#### Re-opened Reports

		Completed Reports	
01/28/2016	769: Kenmore	View	
01/25/2016	648: Kenmore	View	





Do not use the affected vaccines or return the affected vaccines until you have received further instructions at the end of this report. Please provide the following information regarding your <u>Vaccine Storage</u> excursion.

All information inputted will be saved under your VFC Provider Account.

Note: All fields are required.

1.) Name of person reporting:

Megan Brunner 🗸

- 2.) How was temperature excursion discovered?
- Discovered by provider staff (Reporting)
- O Discovered by the VFC Program (Reporting)
- 3.) Date and time of discovery:

02/15/2016 ① 10:38 am

- 4.) Please confirm the storage unit(s) involved in this excursion:
- ☑ Refrigerator: Kenmore Location: front

Thermometer on file associated with the unit above (select other, if listed thermometer is not associated with the unit):

Digital with probe encased in buffered media

What is the current temperature of this unit?

40.00 F 🗸

☐ Refrigerator: Kenmore AF00000 - Location: Room B25

☑ Refrigerator: Kenmore - Location: Room B24

Thermometer on file associated with the unit above (select other, if listed thermometer is not associated with the unit):

Datalogger or Continuous Temperature Monitoring Device

What is the current temperature of this unit?

39.55 F ✓

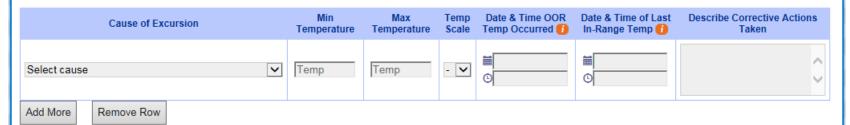


#### Enter temperatures and times.

Include any information for the same units that were not previously reported.

#### Refrigerator: Kenmore - Location: front

Instructions: Use this table to document the out-of-range (OOR) temperatures and actions taken. The system will calculate total time out of range. Only enter excursions not previously reported.



#### Refrigerator: Kenmore - Location: Room B24

Instructions: Use this table to document the out-of-range (OOR) temperatures, actions taken, and the total time temperatures went outside of the recommended storage range based on your data logger report. Only enter excursions not previously reported.

Cause of Excursion	Min Temperature	Max Temperature	Temp Scale	Date & Time OOR Temp Occurred 1	Total Time Out of Range 🕧	Describe Corrective Actions Taken
Select cause	Temp	Тетр	- 🗸	<b>≡</b>	Time	¢
Add More Remove Row	'					



HILDREN



#### Results

Thank you for documenting your excursion with VFC. Your reported excursion has been saved. No further action is needed at this time.

#### Instructions

The following are best practices to prevent future storage and handling incidents from occurring. Consider implementing these recommendations if you have not done so already:

- Place additional water bottles in your refrigerator or ice packs in your freezer for temperature stability.
- Educate all staff involved in vaccine management and temperature monitoring on proper vaccine storage and handling. Lessons are available on EZIZ.org.
- · Place a "DO NOT UNPLUG" sign next to your vaccine storage unit's outlet and the circuit breaker to prevent loss of power.
- Do not use extension cords or power strips with an ON/OFF switch.
- · Make sure the door is shut completely.
- If your vaccine storage unit frequently has out of range temperatures, consider purchasing a data logger to better monitor the length of time an excursion may have occurred. More information about data loggers is available on **EZIZ.org**.
- · Use the latest VFC temperature logs to ensure that you are capturing all important data about vaccine temperatures.
- Have an Emergency Vaccine Management Plan in place and take immediate action.
- Store MMR in the freezer. Although MMR can be stored between -58F to 46F (-50C to 8C), MMR is a live virus vaccine and is sensitive to warm temperatures and should be stored in the freezer.









#### Results

Excursion must be reported to vaccine manufacturers to determine if vaccines can or cannot be used.

#### Instructions

- · Place the affected vaccines in a properly working storage unit and label "DO NOT USE" until further guidance from vaccine manufacturers.
- Notify the Provider of Record that a storage incident has occurred.
- The system will only calculate total time out of range since your last vaccine order. If affected vaccine inventory was exposed to previous temperature excursions prior to your last vaccine order, review and report all documented excursions to vaccine manufacturers.
- Continue to the next step to prepare information needed by manufacturers.
   You'll need temperature logs and list of vaccine brands affected.



Next

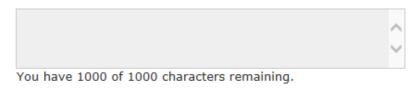






#### Describe excursion and submit temperature logs.

- Have affected vaccines been given to patients? OYes ONo
- Add more details about the excursion and what happened:



3. Submit temperature log PDF files:



☐ Can't upload files. I will fax temperature logs to VFC at 1-877-329-9832 using a cover sheet.



Next

(Please ensure that the information inputted is correct before proceeding.)





## OR N I A

#### Identify inventory.

Check mark vaccines in current inventory that were affected by excursions. Vaccines listed are from your last order. Add vaccines as needed.

#### **Refrigerated Vaccines:**

Vaccine	Manufacturer	Stored in Kenmore Room B24	Stored in Kenmore front
ActHIB	Sanofi Pasteur		
Adacel	Sanofi Pasteur		
BOOSTRIX	GlaxoSmithKline		
Daptacel	Sanofi Pasteur		
ENGERIX B	GlaxoSmithKline		
Gardasil 9	Merck		
Havrix	GlaxoSmithKline		
Infanrix	GlaxoSmithKline		
IPOL	Sanofi Pasteur		
Kinrix	GlaxoSmithKline		
Menactra	Sanofi Pasteur		
Menveo	GlaxoSmithKline		
MMR-II	Merck		





#### Call vaccine manufacturers & provide the details below.

- · Only licensed health care staff should contact vaccine manufacturers.
- · Print this page to use as a reference.
- · Request a letter containing stability information and enter the results below.
- · Your account will be put on hold until this report is completed.

#### Print

After obtaining stability information, enter required vaccine viability determination, date of call, and case numbers given by the manufacturers (NOTE: Some manufacturers do not provide Case Number. Please obtain Name of Person Contacted).

#### Kenmore Room B24

Lowest Temperature 30.00 °F (-1.11 °C), Total time too cold: 02 hours and 00 minutes.

Manufacturer	Vaccine	Result	Date Called	Case # OR Contact Person
GlaxoSmithKline				
866-475-8222 Press: 4	ENGERIX B	O OK to Use Do NOT Use		Ĉ.
Sanofi Pasteur				
800-822-2463	ActHIB	O OK to Use Do NOT Use		^
	Daptacel	O OK to Use O Do NOT Use		~

Practice Name: Izzy the Bear- Pediatrics MD Address: 850 Marina Bay Pkwy, Richmond, CA

Provider of Record: Megan Brunner Phone: (877) 243-8832

Official practice E-mail: test@cdph.ca.gov

#### Vaccine Storage Excursion Report ID: 1104

#### Thank You - Report Submitted on 03/03/2016 12:41pm

If the manufacturers have determined that vaccines cannot be used, remove the vaccines from your vaccine storage unit(s) and return to <a href="MyVFCVaccines">MyVFCVaccines</a> to complete a VFC Return Form.

Provided that you have accurately reported details of your excursion to the vaccine manufacturers, and if the vaccine manufacturers have determined that your vaccines are OK to use, your clinic may resume vaccination services.

Your storage and handling incident has been submitted successfully. Please <u>print a copy of this confirmation</u> for your records. A follow up communication for the incident will also be emailed to the Provider of Record and to the email address provided in this report. If upon VFC Program review, information is incomplete or not reported correctly, you may need to contact vaccine manufacturers again for an updated vaccine resolution.

If you have not uploaded copies of your practice's temperature logs for the current month with this report, please fax a copy of the temperature logs to 1-877-329-9832 attention "Storage and Handling Incident" with your Vaccine Storage Excursion Report ID #. Your incident cannot be fully reviewed until corresponding temperature logs have been received.

Your incident will be reviewed and a communication regarding your incident will be emailed to the Provider of Record and at email address provided within 2 business days.

Name of person reporting: Megan Brunner, Provider of Record

How was temperature excursion discovered: Discovered by provider staff (Reporting)

Date and time of discovery: 02/15/2016 10:38 AM

Refrigerator: Kenmore - Location: Room B24

Cause of Excursion	Min	Max	Temp	Date & Time OOR	Total Time Out	Describe Corrective Actions
	Temperature	Temperature	Scale	Temp Occurred 🚺	of Range 🚺	Taken
Broken Thermometer	30.00	46.00	F	03/03/2016 12:26 am	02:00:00	test

Refrigerator: Kenmore - Location: front

Cause of Excursion	Min Temperature	Max Temperature	Temp Scale	Date & Time OOR Temp Occurred	Date & Time of Last In-Range Temp 🚹	Describe Corrective Actions Taken
Conducting Vaccine Inventory/Receiving Vaccines	31.00	46.00	F	03/03/2016 12:26 am	03/02/2016 12:26 am	test

Were any of the vaccines affected in this storage excursion involved in previous temperature excursion? No











#### Vaccine Temperature Excursions for PIN 888888, Izzy the Bear- Pediatrics MD

Listed below are the incomplete, re-opened and completed excursion reports.

Before starting a new report review incomplete reports to ensure that excursion has not already been documented.

Incomplete and re-opened reports must be completed prior to submitting a vaccine order. Vaccine orders will not be processed if there is an incomplete or re-opened report.

#### **View Temperature Excursion History**

	Incomplet	e Reports
03/02/2016	1104: Kenmore	Finish & Submit
01/26/2016	694: no freezer on site	Finish & Submit

#### Start New Report

#### Re-opened Reports

	Completed Rep	orts
01/28/2016	769: Kenmore	View
01/25/2016	648: Kenmore	View







Vaccine Coordinator:		0-620-2626					
Choose Date Range	Select month and year  January ▼ 2016	Choose Unit					
Submit  No excursions were reported during the timeframe selected.							

Supervisors Review log and sign when completed. Keep logs and excursion reports for 3	3 years.
I certify that temperatures recorded on this log are correct. All temperatures that were TOO WARM or TOO COLD are circled and corrective action that falsifying logs will result in vaccines being unusable—patients may need to be revaccinated and provider may need to replace vaccines.	was taken. I understand
On-site Supervisor's Name & Signature:	Date:
Staff Names with Initials:	
California Vaccines for Children Program Questions? Call 1-877-243-8832. MyVFCvaccines.org	IMM-1125 Page 1 (12/15)

CDPH



## Follow-Up Letters

IMPORTANT - Please do not reply directly to this e-mail.
It has been sent from an automated system

California Vaccines for Children (VFC) Program



California Department of Public Health, Immunization Branch 850 Marina Bay Parkway, Building P, Richmond CA 94804 Toll Free Phone: 877-2GET-VFC (877-249-8832) Toll Free Fax: 877-FAXX-VFC (877-239-9832)



Date.	March	1, 2016	

To: MD, Provider of Record

From: California Vaccines for Children (VFC) Program

Re: Storage and Handling Incident Report ID# February 9 & 26, 2016

This communication is in response to your recent Storage and Handling Incident report submitted to the California Vaccines for Children Program. Upon review of your incident report and manufacturer recommended resolution, the following actions must be implemented for your practice. Note that items marked as Required must be implemented before a vaccine order can be processed for your practice:

According to Manufacturer recommendations, all of the affected vaccines in your inventory were deemed non-usable.

- Please ensure the affected non-usable vaccines have been immediately removed from your vaccine storage unit and labeled "do not use".
- Complete a VFC Return/Transfer Form to report non-usable doses and to request mailing labels
  for returning vaccines. Return non-usable doses to the VFC Program's vaccine distributor,
  McKesson Specialty and include a copy of the submitted VFC Return/Transfer Form in the box of
  returned doses. (Required) Completed
- If any affected vaccines deemed non-usable were administered to patients, please note that the
  federal Advisory Committee on Immunization Practices (ACIP) and the Centers for Disease
  Control and Prevention (CDC) recommend that any vaccines given after exposure to
  inappropriate temperatures should generally be repeated. Please consult with the manufacturer
  of vaccines deemed unusable for additional vaccine stability studies and other information to
  determine your revaccination plans.

Based on the incident report and temperature log review, please make sure the following required actions are immediately implemented:

- Repair or replace vaccine storage unit (Green Pod) with a unit that currently meets <u>VFC Program Requirements</u>. If after repair, the vaccine storage unit is still not maintaining proper temperatures, then it must be replaced. (Required)
- If your vaccine storage unit frequently has out of range temperatures, consider purchasing a data logger to better monitor the length of time an excursion may have occurred. http://www2.aap.org/immunization/pediatricians/pdf/DataLoggers.pdf
- · Place more water bottles in the refrigerator for temperature stability.
- Ensure that all clinic staff involved in the storage and handling of vaccines are properly trained.
   Online training modules are available on EZIZ.org.
- Begin using current versions of the freezer and refrigerator temperature logs available on
   <u>EZIZ.org</u>. Temperatures must be documented on VFC-provided temperature logs, even if using a
   continuous temperature-recording device (digital data logger).
- Take immediate action and follow temperature log instructions in response to out of range temperatures.
- Document Current, MIN, and MAX temperatures twice daily in the correct log spaces.
- Document temperatures twice daily, at the beginning and towards the end of each business day.
- . Document names and initials of all staff members recording temperatures on temperature log.
- · On site supervisor must review, sign and date temperature log when complete.

Your field representative may follow up with you on this incident to provide further guidance. If you have additional questions, please contact the California VFC Program at 1-877-243-8832 or your VFC Program Field Representative.

cc: Brenton Louie, Sr. Immunization Branch Field Representative

CONFIDENTIALITY NOTICE WARNING: This transmission may contain confidential and proprietary information intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you have received this transmission in error, any disclosure, copying, distribution, downloading, uploading or the taking of any action in reliance on the contents of this information is strictly prohibited, and you are requested to immediately notify the above sender.



# IMPLEMENTATION OF VACCINE STORAGE BEST PRACTICES AT THE CLINIC LEVEL





- The requirements and best practices that the VFC Program has put in place is applicable to <u>all</u> vaccines, regardless of its funding source
- Ensure that your patients are receiving vaccines that have been stored and handled properly, for protection against vaccine preventable diseases





## Questions?

#### **Christina Sapad, MPA**

Assistant Chief, Vaccine Management and VFC Program Section Immunization Branch - Division of Communicable Disease Control California Department of Public Health

Phone: (510) 620-2642 Fax: (877) 329-9832

Christina.Sapad@cdph.ca.gov

www.eziz.org



