Introduction of Fridge-tag

To ensure the optimal potency of vaccines, careful attention is needed in handling practices at all levels. These include storage and transport of vaccines from the primary vaccine store down to the end-user at the clinic level. WHO recommends that all vaccines should be stored at between +2°C and +8°C at all immunization points in the periphery.

In Sri Lanka all vaccine storage places including all Medical Officer of Health offices and vaccine storing hospitals are provided with an Iced Lined Refrigerator. For the purpose of monitoring the temperature in these refrigerators multiple temperature monitoring devices are used namely a thermometer, a Freeze-tag and a Log-tag or a Fridge-tag. The newest device introduced to monitor the temperature is the Fridge-tag, which is a continuous temperature monitoring device, by replacing the Log-tag. This series of articles is to provide a brief understanding on the functions of the Fridge-tag and how to handle it.

Parts of the Fridge-tag

Figure 1 Parts of the Fridge-tag

i. 30 days memory legend

Just above the upper margin of the fridge tag display, a 30 days memory legend has marked beginning from today to minus 29 days.

ii. Upper and lower preset alarm

The Fridge-tag has two preset temperature/time limits. If the Fridge tag gets exposed to the defined temperature limits, it indicates as alarms. High preset alarm has adjusted to more than +8°C continuously for more than 10 hours while the low preset alarm has to lower than 0.5°C continuously for more than one hour duration.

How to use the Fridge-tag

- LOC function

The fridge-tag will stop storing temperature in following situations

i. while pressing the buttons (READ or SET button)

ii. While fridge-tag connecting to the computer

After completion of these actions the Fridge-tag will not record temperature for 10 minutes from last button press and the in the display the “LOC” symbol will appear.

Figure 2 LOC function

- Current temperature reading

The screen displays as follows (Fig 3)

- Current temperature reading (4.1°C)
- Current date and the time(16.09.2016 12:54)
OK (√) symbol will be shown as long as the fridge tag is kept at the preset alarm levels (between +0.5°C to +8°C) and duration and this level is maintained throughout for the last 30 days (today to minus 29th day).

- The duration of out of the highest preset temperature limit (00:44)
  The OK (v) symbol is shown as there was no violation of the preset alarm levels in the corresponding day (more than +8°C but only for 44 minutes).

- max. sign to indicate the “maximum temperature”
  Figure 5 Fridge-tag with non-violated preset alarm levels - reading of highest temperature

Reading lowest temperature with non-violated preset alarm levels

After pressing the READ button again, following will be displayed on the screen
  Figure 5 Fridge-tag with non-violated preset alarm levels - reading of lowest temperature

- A blinking downward arrowhead (▼) for the corresponding day (today)
- Lowest temperature reading recorded for the corresponding day (2.4°C)
- The duration of out of the lowest preset temperature limit (00:44)(as the exposed lowest temperature was above the preset alarm level(-0.5°C) time duration shown as 00:00)
- The OK (v) symbol is shown as there was no violation of the preset alarm levels for the corresponding day.
- min. sign to indicate the “minimum temperature”

The functions of the fridge tag and its advantages will be discussed further in the next article in this series.

Compiled by
Dr. K M Senevirathne
Registrar in Community Medicine
Epidemiology Unit, Ministry of Health, Sri Lanka

The screen displays as follows (fig 4)

- Current temperature reading (6.1°C)
- Current date and time (16.09.2016 17:15)
- The warning symbol ⚠ which indicates that, there is/are new preset alarm level violation/s which reader has not visualize.
- Alarm (X) symbol has appeared as there are violations of the preset alarm levels which has occurred at least ones, within last 30 days (form today to minus 29th day)
- Arrow head/s (non-blinking) will indicate in the upper display area to show which alarm limit has been violated (upper and/or lower) and on which day/s.

Temperature reading in last 30 days

The user can visualize the highest and the lowest temperature recordings up to last 30 days. For this the user has to press the READ button accordingly.

Reading highest temperature non violated preset alarm levels

After pressing the READ button following will be displayed on the screen

- A blinking upward arrowhead (▲) for the corresponding day (today)
- Highest temperature reading for the corresponding day (10.2°C)
Table 1: Selected notifiable diseases reported by Medical Officers of Health 15th - 21st April 2017 (16th Week)

| Disease                      | Colombo | Gampaha | Kandy | Matara | Matale | Kataragama | Hambantota | Ratnapura | Monaragala | Kurunegala | Batticaloa | Vavuniya | Trincomalee | Badulla | Monaragala | Ratnapura | Kegalle | Kalmunai | Ratnapura | Ratnapura |
|------------------------------|---------|---------|-------|--------|--------|------------|------------|-----------|------------|------------|------------|----------|-----------|-----------|----------|----------|-----------|----------|----------|-----------|----------|
| Dengue Fever                | 823     | 627     | 213   | 48     | 17     | 90         | 134        | 216       | 92         | 94         | 14        | 205      | 205       | 41       | 1399     | 1664      | 93       | 87       | 14       | 82       |
| Encephalitis                | 90      | 51      | 0     | 0      | 0      | 0          | 0          | 0         | 27         | 0          | 0          | 0        | 0         | 0         | 0        | 14       | 0         | 0        | 0        | 0         | 0        |
| Enteric Fever               | 36      | 10      | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Haemorrhagic Fever          | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Rabies                      | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Leprosy                      | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Meningitis                  | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Chickenpox                  | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Typhus                      | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Hepatitis                   | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Leptospirosis               | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |
| Food Poisoning              | 0       | 0       | 0     | 0      | 0      | 0          | 0          | 0         | 0          | 0          | 0          | 0        | 0         | 0         | 0        | 0        | 0         | 0        | 0        | 0         | 0        |


Notes:
- T refers to returns received on or before 21st April, 2017.
- Number of reporting units 337.
- Total number of reporting units data provided for the current week: 297.
- Completeness of returns received as a percentage of total number of reporting units.
### Table 2: Vaccine-Preventable Diseases & AFP

<table>
<thead>
<tr>
<th>Disease</th>
<th>No. of Cases by Province</th>
<th>Number of cases during current week in 2017</th>
<th>Number of cases during same week in 2016</th>
<th>Total number of cases to date in 2017</th>
<th>Total number of cases to date in 2016</th>
<th>Difference between the number of cases to date in 2017 &amp; 2016</th>
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</thead>
<tbody>
<tr>
<td>W</td>
<td>C</td>
<td>S</td>
<td>N</td>
<td>E</td>
<td>NW</td>
<td>NC</td>
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<td>26</td>
<td>33</td>
<td>23</td>
<td>10</td>
<td>18</td>
</tr>
</tbody>
</table>

**Key to Table 1 & 2**

- **Provinces:** W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.

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**Number of Malaria Cases Up to End of April 2017,**

19

**All are Imported!!!**

PRINTING OF THIS PUBLICATION IS FUNDED BY THE WORLD HEALTH ORGANIZATION (WHO).

Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to chepid@sltnet.lk. Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication.

**ON STATE SERVICE**

Dr. P. PALIHAWADANA

CHIEF EPIDEMIOLOGIST

EPIDEMIOLOGY UNIT

231, DE SARAM PLACE

COLOMBO 10