

# COLD- CHAIN: THE LAST CHILD, THE LAST MILE



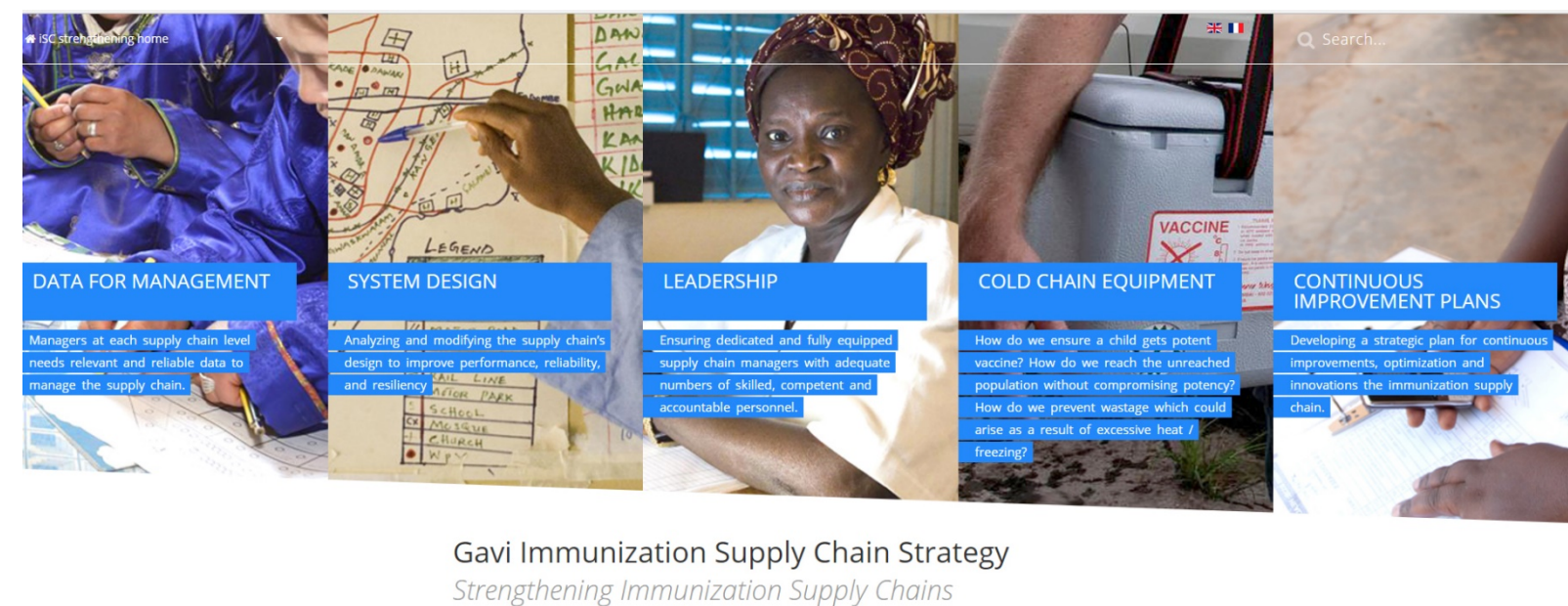
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## No cold chain, no immunization programme

### Introduction

- All vaccines must be kept at the appropriate temperature from the time they are manufactured up until the moment they are used. This uninterrupted temperature controlled supply chain is the vaccine cold chain, and is vital to keep vaccines from deteriorating when temperatures are too high or too low.
- In 2016, UNICEF procured \$32.7 million in cold chain equipment (CCE) on behalf of governments, partners and programmes. Each has a part in ensuring cold chains are functioning efficiently and effectively.



### Objective

- UNICEF Supply Division is continuously developing tools to support and help guide countries and partners in planning and strengthening cold chain systems. Two examples of such tools are:
  - Cold Chain Support Package (CCSP):** A procurement guideline which provides commercial and technical information for cold chain products and services.
  - Selection dashboard:** A new tool to identify the correct product profile to meet field requirements. This tool is making the selection of CCE more timely, effective and efficient.

## I. Cold Chain Support Package (CCSP)

This series of Procurement Guidelines consists of 7 modules in addition to the General Procurement Guideline and published on the UNICEF internet page ([https://www.unicef.org/supply/index\\_68367.html](https://www.unicef.org/supply/index_68367.html)). The modules are designed by product category and can be downloaded from the website. The recommended storage and transport equipment (cold/freezer rooms, refrigerators, freezers, cold boxes, vaccine carriers) comply with a set of performance, quality and safety standards defined by WHO. A summary of each module is shown below.

### Solar direct drive (SDD) refrigerators and freezers

- SDD equipment is used primarily in areas without electricity or where there is less than eight hours of reliable electricity over a typical day.



### Walk-in cold rooms and freezer rooms (WICs/WIFs)

- WICs/WIFs are used to store large quantities of vaccine vials, primarily at national level, before they are distributed in smaller quantities to subnational levels.
- WIC/WIFs are also found in district-level facilities serving a large population base.



### Voltage stabilisers

- Voltage stabilisers are recommended where the power supply is unstable and voltage fluctuations can damage valuable cold chain equipment.



### Temperature monitoring devices

- Different vaccines have different sensitivity to freezing and heat.
- To ensure the required temperature is maintained, the cold chain relies on temperature monitoring devices to track and record temperatures at every point of vaccine storage and transport, from national central stores to service delivery points.



### Vaccine carriers and cold boxes

- Vaccine carriers and cold boxes keep vaccines cold during transportation.
- They rely on ice packs and cool packs to keep their interior sufficiently cold for a limited time.



### Compression system refrigerators and freezers

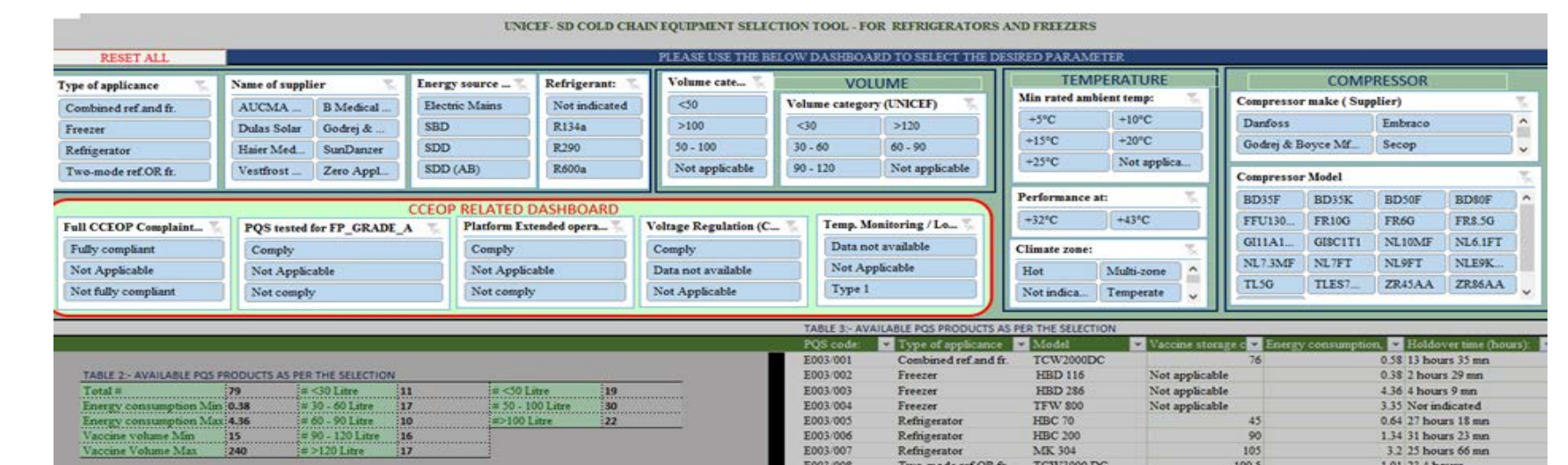
- Refrigerators and freezers are an important link in the temperature-controlled supply chain.
- In areas where electricity is available for at least eight per day, ice-lined refrigerators (ILRs) are particularly suitable because their interior can maintain cold temperatures beyond 24 hours.



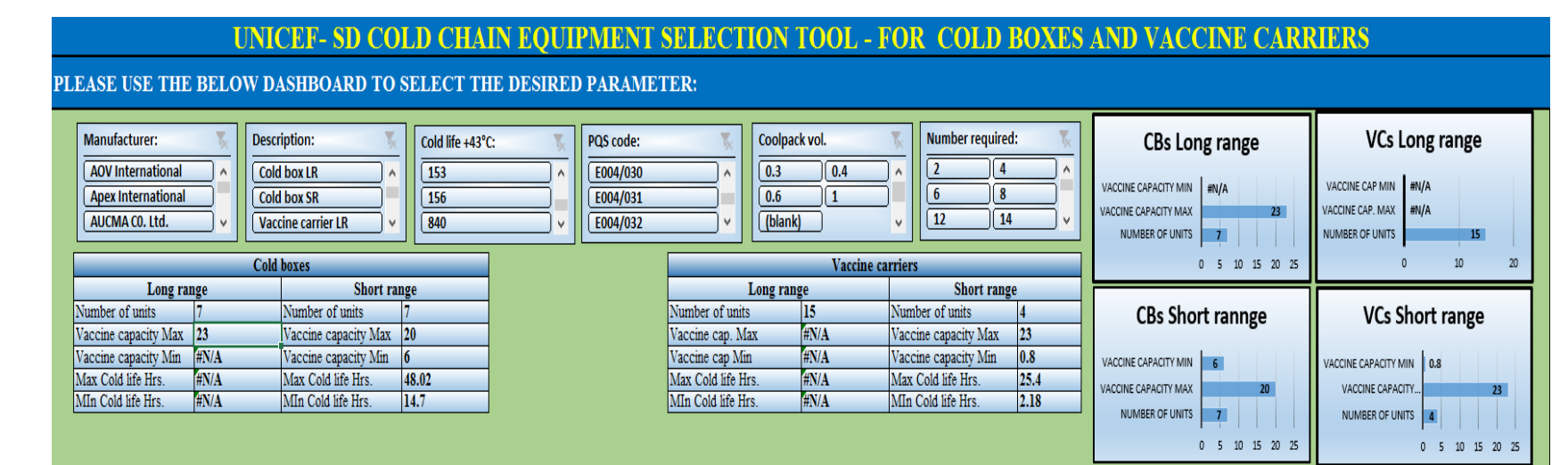
## II. Selection dashboard

- Currently two tools are available to support immunization managers in the selection and comparison of cold chain equipment based on various features.

### 1. Refrigerator selection tool



### 2. Vaccine carrier and cold box selection tool



## Conclusions

- The CCSP is a dynamic tool which UNICEF updates regularly in collaboration with suppliers, manufacturers and partners to ensure the latest CCE information is available.
- Selection dashboards for temperature monitoring devices and are currently under development and will be available soon.
- Gavi has approved the CCSP as one of the tools used for selection of cold chain optimization platform equipment and this is currently available on the immunization supply chain (ISC) strengthening tool published by Technet.