

Freeze free vaccine carrier proposal

To save vaccine for the last mile transportation



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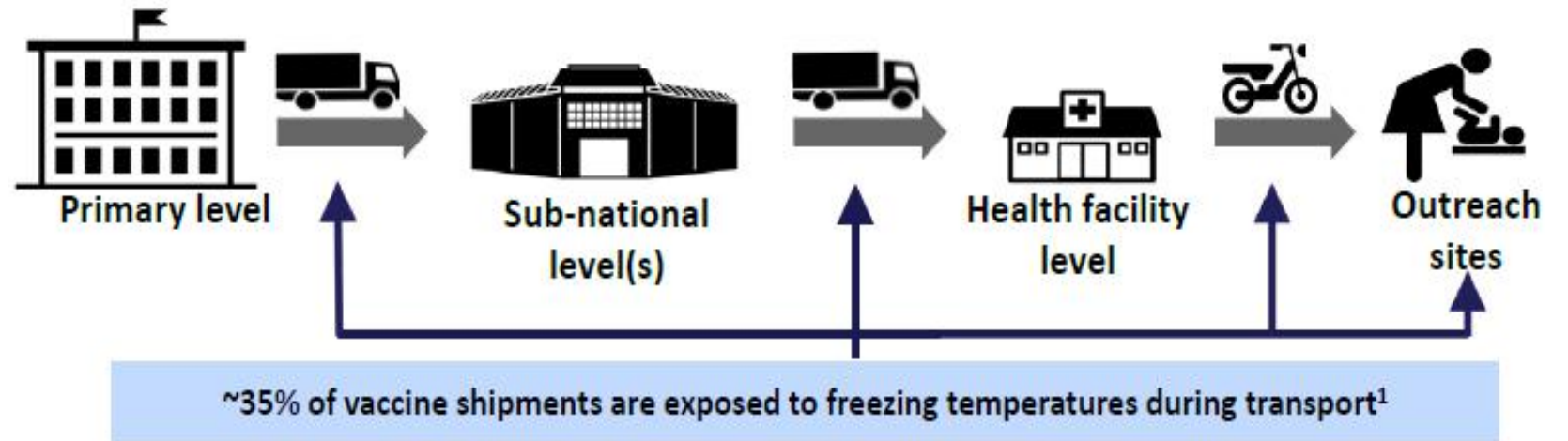
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What is next?

We are always dedicated to be innovated to improve the cold chain solution for vaccine storage and transportation.

01

Why freeze free



High Freezing risk

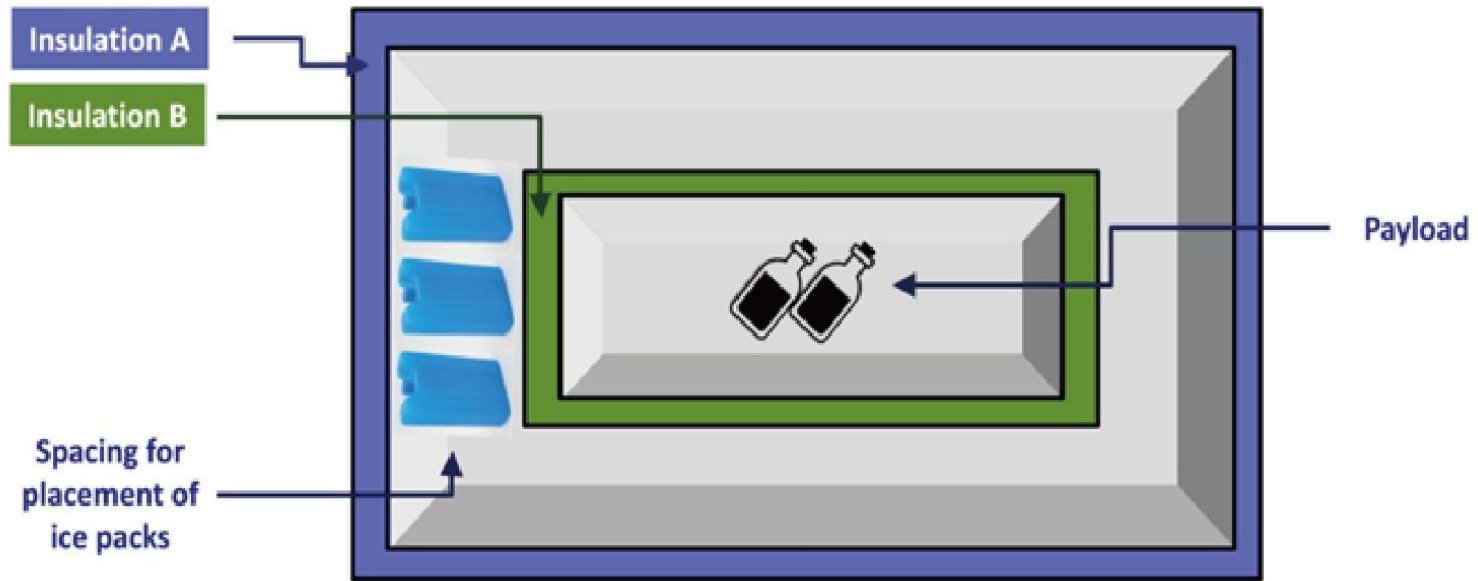
According to WHO research, approx. 35% of vaccines in transport exposed to freeze excursions, due to:

- ✓ Ice packs not properly preconditioned
- ✓ Ice packs improperly packed in box
- ✓ Ice packs in direct contact with antigens

So WHO PQS has issued new specifications for carriers with freeze prevention technology to encourage manufacturers to develop and the users to select the upgraded models: WHO/PQS/E004/VC02-VP.1

It is the time to make a change.

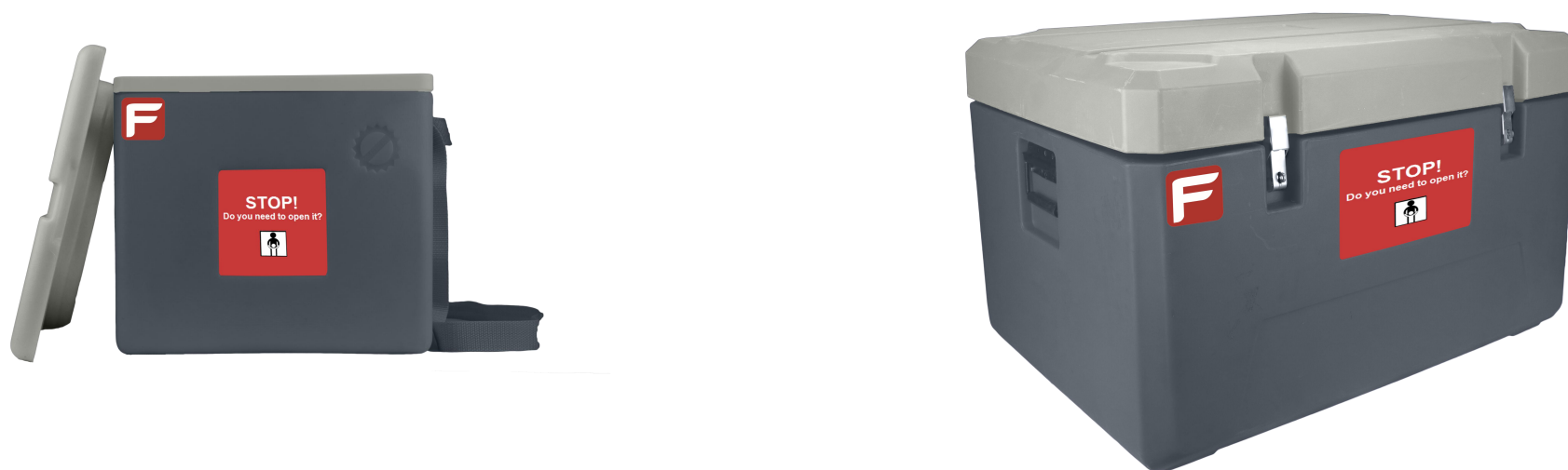
Fortunately, specialists from some organizations have been developed new technology to make new standard carrier and box to avoid vaccine freezing during transportation, it is named Freeze Free Vaccine Carrier and Freeze Free Cold box.



Picture from PATH

What we have been doing in the process

Upon receiving the new standard, our technicians have been designed the FFVC and FFCB according to new PQS standard. As the first mover of freeze free vaccine packages, we have passed the WHO certified laboratory test and start to promote the new standard products. We believe that our products can help greatly reducing the going-bad rate during vaccine transportation and bring more benefits to people from vaccine big demand area.



02

What is the difference



VS



Freeze free type:

- ✓ Insulation between vaccine and the ice packs
- ✓ The insulation absorb the excess cool energy from ice pack
- ✓ No need to condition ice pack, direct use from freezer @-25C
- ✓ There is no point inside the vaccine compartment lower than 0C
- ✓ 100% safe even for unskilled user
- ✓ 0% waste of precious vaccine

Traditional type:

- ✓ Direct contacts of the vaccine and ice packs
- ✓ The raw ice packs temperature is around -15C
- ✓ Users must condition the ice pack before using by trained user
- ✓ vaccine will be influenced if the ices are not well conditioned
- ✓ High risk of spoil for vaccine during transportation
- ✓ around 35% precious vaccine with high risk to loss effect



VS



✓ No need condition, put ice pack directly

? Are you sure ice packs conditioned well already



VS



✓ 100% sure that no vaccine shall be frozen

? If you worry ice pack might freeze vaccines inside



VS

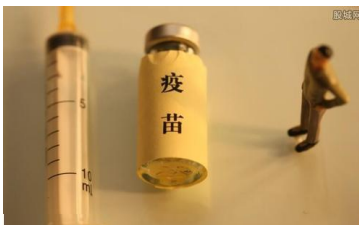


✓ Get immunization without pressure

? Are you sure my vaccine well kept during transportation



VS



✓ 100% vaccine completely for immunization

? How many frozen vaccine vials you have to throw today

03

What we propose

A safe Freeze Free Vaccine Carrier

PQS code: E004/051



Item Model	FFVC-1.7L
Type	Freeze free vaccine carrier
WHO standard compliance	E004/VC02.1 E004/VC02-VP.1
WHO code number	E004/051
Vaccine Storage Capacity	1.7L
Ambient temperature	-30°C to +55°C
Cold Life(at 43°C)	33h42min
Weight Fully Loaded	6.6 kgs
Weight Empty	4 kgs
No.of Ice Packs Required	4 x (0.6L)

What we propose



Our FFVC Advantage:

- ✓ With moulded strong and soft foam pad to hold different size vaccine vials which can be very conveniently to the nurse during immunization process;
- ✓ User friendly designed backpack to hold the carrier which is considerate for the nurse to carry for a long time walk.
- ✓ Furthermore, a light reflection belt can make the doctor much more visible and safer in the night walking;
- ✓ **Optional** chargeable mono-crystalline high efficient solar panel to charge the nurse's mobile or other electronic devices during vaccination.

What we propose

WHO/PQS Listed:



PERFORMANCE QUALITY SAFETY



E004: Insulated containers

PQS code:	E004/051
Description:	Freeze-Free Vaccine carrier Long range
Manufacturer's reference:	FFVC-1.7L
Manufactured in:	China; People's Republic of
Company:	Qingdao Leff International Trading Co Ltd
Address:	C204, #222, Shenzhen Road Qingdao, China
Telephone:	+ 86 532 88961819
Email:	david@lefftrade.org
Web address:	www.lefftrade.org

04

What is next

To be WHO proved in Q2 2019



在探索冷链安全的道路上, 我们必将砥
砺前行, 永无止境...

we are on the road to achieve a
safer immunization, and sincerely
wish you joining us ...