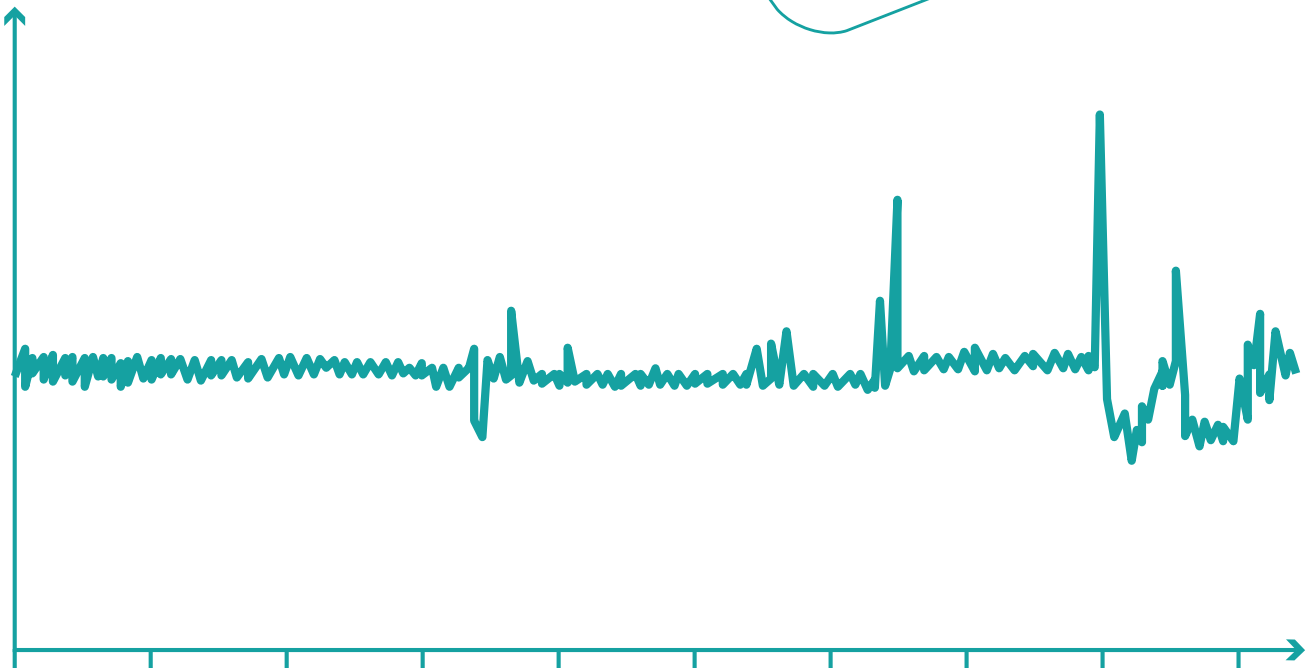
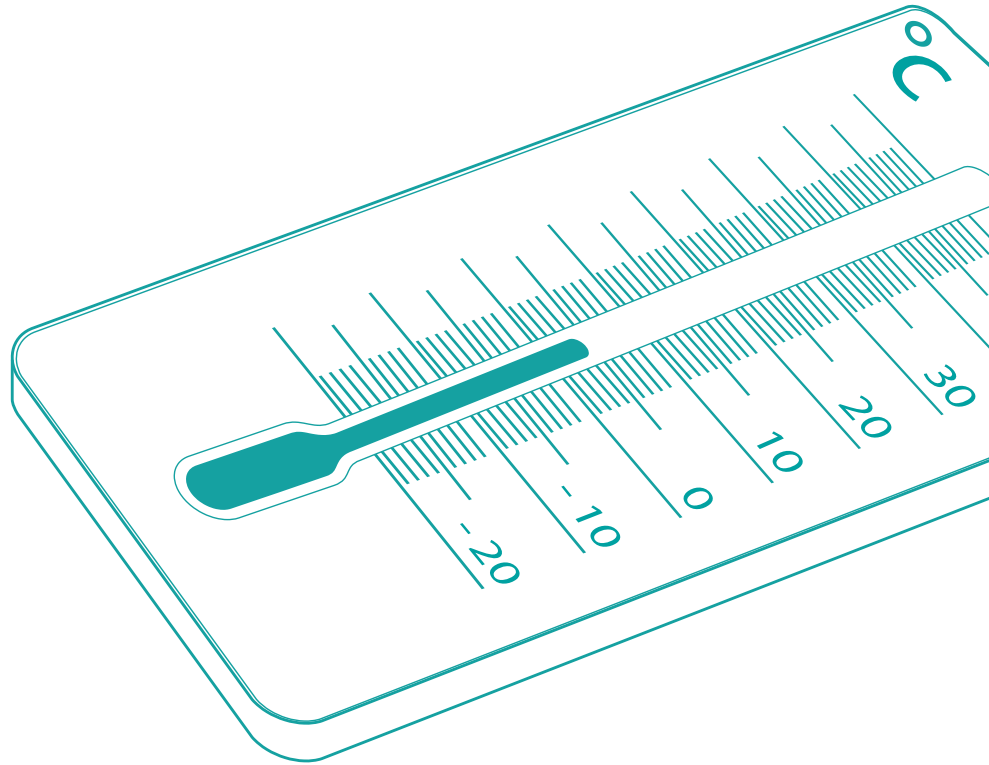




# HOW TO MONITOR TEMPERATURES IN THE VACCINE SUPPLY CHAIN

July 2015

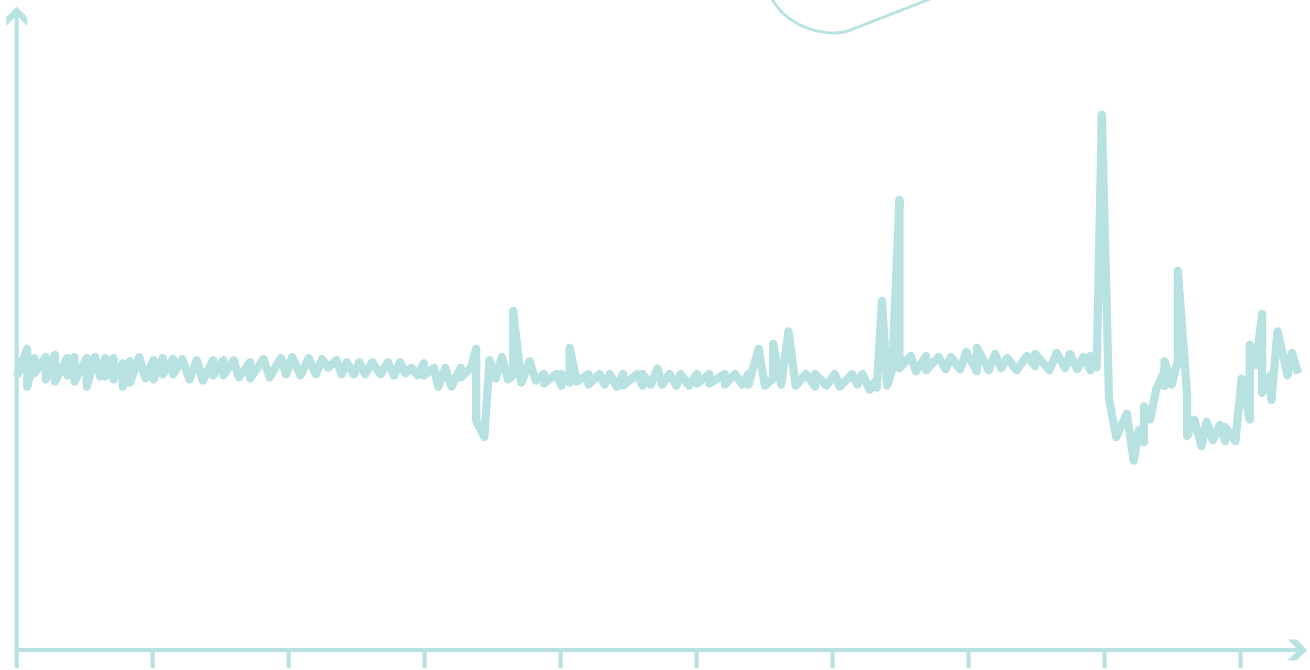
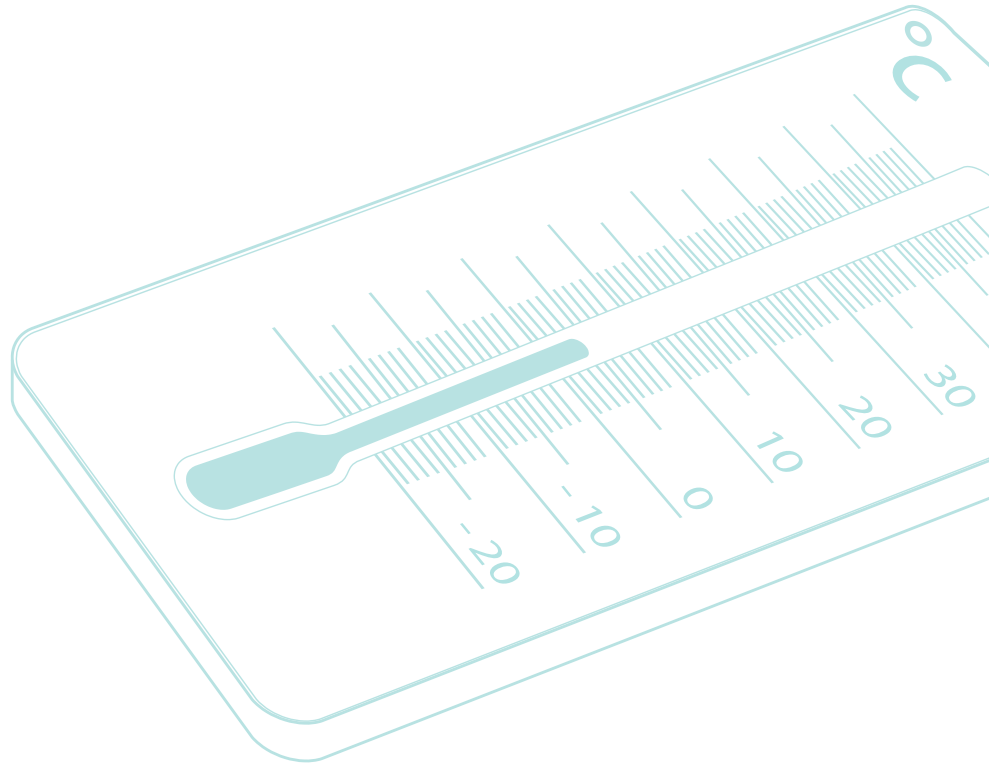






# HOW TO MONITOR TEMPERATURES IN THE VACCINE SUPPLY CHAIN

July 2015



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## How to use this module

This module of the WHO Vaccine Management Handbook (VMH) is a component of the World Health Organization/United Nations Children's Fund Effective Vaccine Management (EVM) initiative. The handbook is written for decision-makers at national and subnational levels; its purpose is to provide technical advice on key topics related to immunization logistics to help countries develop and refine national policies. For more detailed guidance on specific operational activities, readers should refer to the EVM Model Standard Operating Procedures.<sup>1</sup>

Advice in the VMH generally conforms to the guidance on good storage and distribution practice given in WHO Technical Report Series No. 961, 2011, Annex 9: Model guidance for the storage and transport of time- and temperature-sensitive pharmaceutical products.<sup>2</sup>

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<sup>1</sup> Effective Vaccine Management (EVM) Initiative Model Standard Operating Procedures. Geneva: World Health Organization, 2015 ([http://www.who.int/immunization/programmes\\_systems/supply\\_chain/eum/en/index2.html](http://www.who.int/immunization/programmes_systems/supply_chain/eum/en/index2.html), accessed 30 March 2015).

<sup>2</sup> WHO Expert Committee on Specifications for Pharmaceutical Preparations: forty-fifth report. Geneva: World Health Organization, 2011: Annex 9 (WHO Technical Report Series, No. 961; <http://apps.who.int/medicinedocs/documents/s18683en/s18683en.pdf>, accessed 30 March 2015).

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## Abbreviations

30 DTR	30-day temperature recorder
BCG	bacille Calmette–Guérin vaccine
CCM	cold chain monitor [cards]
CTC	controlled temperature chain
DT	diphtheria and tetanus toxoid vaccine
DTaP	diphtheria, tetanus, and [acellular] pertussis vaccine
DTP	diphtheria, tetanus, and pertussis vaccine
DTwP	diphtheria and tetanus toxoid [whole cell] and pertussis vaccine
EPI	Expanded Programme on Immunization [WHO]
EVM	Effective Vaccine Management [initiative]
HepA	hepatitis A vaccine
HepB	hepatitis B vaccine
Hib	Haemophilus influenzae type b vaccine
HPV	human papillomavirus vaccine
IPV	inactivated poliovirus vaccine
KPI	key performance indicator
MDVP	multi-dose vial policy
OPV	oral polio vaccine
PAHO	Pan American Health Organization
PQS	Performance, Quality and Safety [WHO]
SD	Supply Division [UNICEF]
SMS	short-message service
SOP	standard operating procedure
Td	tetanus and diphtheria vaccine with reduced diphtheria content for adults
TT	tetanus toxoid
UNICEF	United Nations Children’s Fund

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