



Effective Vaccine  
Management (EVM)

## GUIDANCE NOTE

# How to Develop a Continuous Improvement Plan (cIP)

Version 1.0  
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Guidance note: how to develop a continuous improvement plan (CIP)

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# Supplemental resources

- SUPPLEMENT 1:** *Establishing or strengthening a National Logistics Working Group*  
[www.technet-21.org/en/library/explore/supply-chain-and-logistics/3735](http://www.technet-21.org/en/library/explore/supply-chain-and-logistics/3735)
- SUPPLEMENT 2:** *Situation analysis*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4800&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4800&pid=57&Itemid=2586)
- SUPPLEMENT 3:** *cIP workshop agenda repository*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4819&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4819&pid=57&Itemid=2586)
- SUPPLEMENT 4:** *Collaborative workshop techniques*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4801&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4801&pid=57&Itemid=2586)
- SUPPLEMENT 5:** *WHO Framework for National Health Policies, Strategies and Plans*  
[www.who.int/nationalpolicies/FrameworkNHPSF\\_final\\_en.pdf](http://www.who.int/nationalpolicies/FrameworkNHPSF_final_en.pdf)
- SUPPLEMENT 6:** *Root-cause analysis*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4802&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4802&pid=57&Itemid=2586)
- SUPPLEMENT 7:** *Human-centred design methodologies and toolkit*  
[www.hcd4i.org](http://www.hcd4i.org)
- SUPPLEMENT 8:** *Guidance on Dashboards for Immunization Supply Chain*  
[www.technet-21.org/iscstrengthening/index.php/en/data-for-management-documents-and-downloads/guidance-on-dashboards](http://www.technet-21.org/iscstrengthening/index.php/en/data-for-management-documents-and-downloads/guidance-on-dashboards)
- SUPPLEMENT 9:** *Activity and monitoring plan template (cMYP Guidelines, page 69)*  
[apps.who.int/iris/bitstream/10665/100618/1/WHO\\_IVB\\_14.01\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/100618/1/WHO_IVB_14.01_eng.pdf)
- SUPPLEMENT 10:** *cMYP costing tool*  
[www.who.int/immunization/programmes\\_systems/financing/tools/cmyp/en/](http://www.who.int/immunization/programmes_systems/financing/tools/cmyp/en/)
- SUPPLEMENT 11:** *WHO/UNICEF Joint Statement: Achieving immunization targets with the comprehensive Effective Vaccine Management (EVM) framework*  
[www.who.int/immunization/programmes\\_systems/supply\\_chain/EVM-JS\\_final.pdf](http://www.who.int/immunization/programmes_systems/supply_chain/EVM-JS_final.pdf)

# Acronyms and abbreviations

<b>CCE</b>	Cold Chain Equipment
<b>CCE OP</b>	Cold Chain Equipment Optimization Platform
<b>cIP</b>	Continuous Improvement Plan
<b>cMYP</b>	Comprehensive Multi-Year Plan
<b>DISC</b>	Dashboard for Immunization Supply Chain
<b>EPI</b>	Expanded Programme on Immunization
<b>EVM</b>	Effective Vaccine Management
<b>EVMA</b>	Effective Vaccine Management Assessment
<b>GAVI</b>	Gavi, The Vaccine Alliance
<b>GF</b>	Global Fund
<b>GFF</b>	Global Financing Facility
<b>GVAP</b>	Global Vaccine Action Plan
<b>HR</b>	Human Resources
<b>HSIS</b>	Health Sector Improvement Strategy
<b>HSS</b>	Health System Strengthening
<b>HSSP</b>	Health Sector Strategic Programme
<b>ICC</b>	Inter-agency Coordinating Committee for immunization
<b>IP</b>	Improvement Plan
<b>iSC</b>	Immunization Supply Chain
<b>KPI</b>	Key Performance Indicator
<b>LMIS</b>	Logistics Management and Information System
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MoH</b>	Ministry of Health
<b>NGO</b>	Nongovernmental Organization
<b>NHSP</b>	National Health Sector Plan
<b>NITAG</b>	National Immunization Technical Advisory Group
<b>NLWG</b>	National Logistics Working Group
<b>SOP</b>	Standard Operating Procedure
<b>TA</b>	Technical Assistance
<b>UNICEF</b>	United Nation Children's Fund
<b>WHO</b>	World Health Organization

# About this Guidance Note

**This document provides guidance to countries on how to develop a continuous immunization supply chain (ISC) improvement plan.** Its purpose is to help countries build a case for supply chain investments and develop an improvement plan that engages relevant stakeholders, thus setting the immunization programme on a path for successful implementation.

This Guidance Note includes:

- An **OVERVIEW OF THE CONTINUOUS IMPROVEMENT PLAN (CIP) DEVELOPMENT PROCESS**, including who should be involved, when the plan should be drafted, and how best to gather the required inputs and feedback.
- **STRATEGIES FOR ALIGNING EFFECTIVE VACCINE MANAGEMENT (EVM) ASSESSMENT OUTPUTS** with national immunization and health sector planning and financing mechanisms, such as the comprehensive multi-year plan for immunization (cMYP); application for support from Gavi for health system strengthening (HSS); the national health sector improvement strategy (HSIS), and other health sector strategies and plans.
- **GUIDANCE ON PREPARING A CIP**, to include a five-year strategy and a yearly operational plan that can be used to allocate responsibilities and map progress towards a common vision.
- **SUGGESTIONS ON HOW TO DEVELOP A BUDGET** and finance the CIP to ensure sustainability and identify resource gaps.

Countries may be familiar with the previous EVM improvement plan process that immediately followed an EVM assessment (EVMA). Whereas the previous EVM improvement plan was designed to address certain short-term supply chain deficiencies, the new, continuous EVM improvement plan described here is designed to be more strategic and inclusive of a wider set of stakeholders who can help reveal the root causes of supply chain problems and mobilize human and financial resources to address them.

**SUPPLEMENTAL RESOURCES** for each step of the EVM improvement planning process are also provided.

# Foreword

In the context of renewed global efforts to increase immunization coverage and leave no child unvaccinated, the role of strong national immunization supply chains is hard to overstate. Supply chains are complex and include many elements – people, technologies, systems – that need to be brought together through a plan of continuous action. Such a plan can catalyse not only the immunization supply chain professionals working in the national Expanded Programme of Immunization (EPI), but also their colleagues from the ministries of finance, planning, human resource management departments, senior leadership, development assistance partners, funders and academia. Without this commitment and support, the immunization supply chain professionals are unlikely to succeed in addressing existing gaps in performance and setting up the programme on a path to a sustained, country-driven excellence in ensuring continued vaccine availability, quality and systems efficiency.

The purpose of this guidance is to help make the plan of action robust and credible. A robust plan is based on evidence and a strong programming logic, i.e. it focuses investments on activities that together add up to a defined set of objectives and thus help realize the vision of the future and address the deficiencies of the past. The plan is credible when it responds to country needs, and represents a shared vision of the stakeholders who have bought into the plan of action and have a way to track implementation progress against predefined performance targets.

These attributes elevate the plan to a powerful investment case for iSC improvement – an advocacy tool for ministries of finance to include and retain iSC activities in their national budget, and for partners to continuously support the cause. These are also the prerequisites of the “holy grail” of institutionalization: the programme putting iSC improvement activities on the radar of national leadership by linking them to the annual operational plans and budget performance metrics.

However, even a fully funded plan is at risk of remaining a piece of paper unless it touches the hearts and minds of those whose mission is its implementation. Aligning continuous growth – continuous learning – of the EPI workforce at all levels with the process of continuous improvement of the iSC system, is the essential element that makes the coalition for sustained excellence in iSC whole. The EPI workforce is the first to learn what does not work, and often has the clearest insights on how to make it work in the programme context. Participatory models that empower and give implementers a stake in the design and implementation of iSC improvement plans are being embraced increasingly by countries, centralized and devolved contexts alike.

The EVM initiative has progressed significantly from being associated with an assessment tool. It has been transformed to help national programmes make major health systems strengthening investments work as intended – to address the underlying systemic bottlenecks to iSC performance. WHO and UNICEF hope that this guidance can inspire and equip you with the knowledge and skills on how to make this initiative work for you.



# Introduction

1

## 1.1

### What is the Effective Vaccine Management (EVM) initiative?

The EVM initiative was launched in 2010 to raise global and national attention to immunization supply chain performance metrics and identify areas where supply chain improvements might positively impact immunization and health outcomes.<sup>1</sup> It is geared towards the six essentials of immunization supply chain:



#### SYSTEM DESIGN

Immunization supply chains are not only limited to equipment and distribution: they are dynamic systems that are flexible, adaptable to changing needs and changing contexts and reactive to ensure vaccine availability in all conditions. A well-designed strategy allows countries to holistically model their supply chains to improve supply chain performance and resilience.



#### COLD CHAIN EQUIPMENT

Reliable, well-maintained and cost-effective cold chain equipment is vital to ensure that there is adequate, sustainable vaccine storage for current and planned vaccines, that maintenance requirements are kept low, and running costs are reduced. A virtuous cold chain equipment strategy allows countries to access existing guidance and technical assistance, and allocate financial support to better plan for, select, install, manage and maintain their cold chain equipment.



#### TEMPERATURE MANAGEMENT

Vaccine quality needs to be maintained throughout the immunization supply chain to avoid vaccine wastage due to exposure to heat or freezing temperatures, whether at fixed storage location or during transport. A valuable temperature management strategy helps countries ensure good storage and distribution practices; effective, well-managed temperature monitoring and record-keeping procedures.



#### DISTRIBUTION

Countries need effective transport of vaccines between each level of their supply chain to ensure vaccine potency is not compromised by a weak distribution system. A productive distribution strategy includes adequate use of passive containers, satisfactory packing practices with coolant packs, temperature indicators, and accessible transport contingency plans.

<sup>1</sup> In 2016, WHO and UNICEF issued a joint statement on the EVM initiative and the vital role that immunization supply chains play in achieving immunization targets set by the Global Vaccine Action Plan (GVAP). This was preceded by a Call to Action issued by the Immunization Practices Advisory Committee in 2014 that recommended a process of assessment, planning, implementation and monitoring to improve immunization supply chains.



**HUMAN RESOURCES**

Next generation supply chains require dedicated and competent managers as well as adequate numbers of skilled, accountable, motivated and empowered personnel at all levels of the supply chain. An efficient iSC human resources (HR) strategy helps countries strengthen and build capacity for their supply chain managers by providing access to training, encourage collaboration, positive supervision and professional development opportunities.



**DATA**

Data are essential to supply chain managers for managing all aspects of the immunization supply chains, be they vaccine availability, or stock management efficiency. A sound iSC data strategy allows countries to align with data standards, and develop useful tools such as dashboards to monitor effectively their supply chain and make data-informed decisions.

Since 2015, the EVM initiative has evolved to become a robust process helping countries build flexible and responsive supply chains for immunization and health programmes. There are four steps to the comprehensive EVM approach: assess, plan, implement and monitor, which repeat in a cycle of continuous learning and innovation (see **FIGURE 1**).

As a preliminary step, Expanded Programmes on Immunization are encouraged to mobilize national commitment to continuous improvement by bringing stakeholders together to adapt the comprehensive approach to EVM and its four steps, and establish the mechanisms for continuous iSC improvement. Organizing a consultation with key stakeholders is recommended to secure commitment to the EVM initiative, assign clear roles and responsibilities, and agree on an implementation and monitoring process. If schedules allow, a short learning visit for participants to another country that has implemented the EVM process would be beneficial. The key elements of the comprehensive EVM approach are summarized in **TABLE 1**.

**FIGURE 1** **COMPREHENSIVE APPROACH TO EVM**

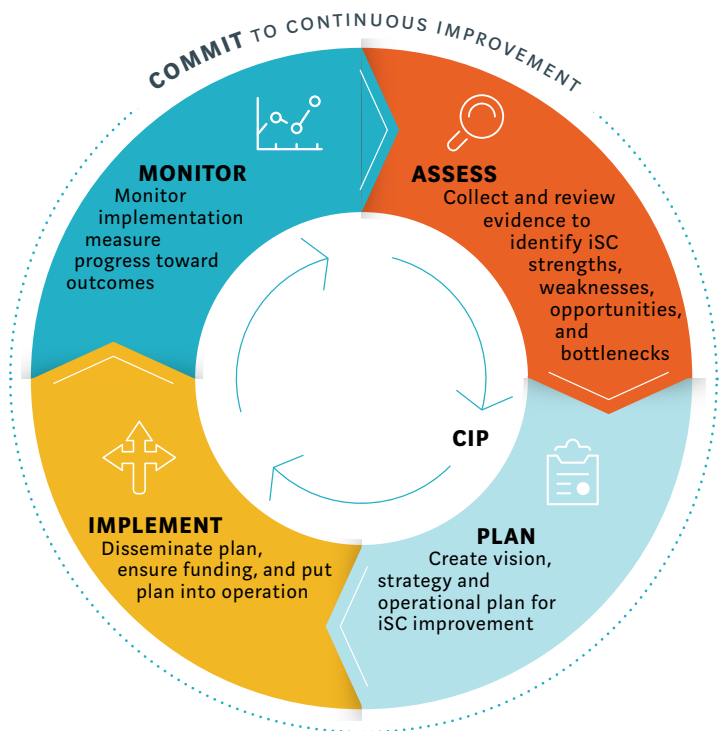






TABLE 1 SUGGESTED TIMETABLE FOR THE EVM APPROACH

STEP	ESTIMATED DURATION (in days)	PROCESS	FORMAT	COST TYPES
<b>PREPARATION</b>	0.5–2	Orientation of in-country stakeholders on EVM initiative	Workshop	Operational costs, facilitation
 <b>ASSESS</b>	5–10	Preliminary learning visit of select representatives of the Ministry of Health (MoH) and national institutions to participate in EVMA in another country	Visit	Travel costs
	15–20	EVM assessment planning; training and implementation; sharing and validating findings/results with EPI and MoH	Workshop, Assessment	Individual or institutional contract for EVMA management; operational costs; facilitation
	5–10	Situation analysis from the EVMA, plus other assessments and studies that are available (see Table 3)	Review	Individual or institutional contract
 <b>PLAN</b>	1–2	Preparation of the materials for a second workshop and explore how the six iSC essentials can be used to improve the nine EVM criteria <sup>2</sup>		Staff time
	3–5	<b>cIP development workshop:</b> <ul style="list-style-type: none"> <li>Establish appropriate oversight and project management mechanisms (through the National Logistics Working Group (NLWG) or other continuous improvement group).</li> <li>Review situation analysis and identify root-causes.</li> <li>Define five-year iSC vision, strategic goals, key performance indicators (KPIs) and tactics based on evidence from the performance assessments.</li> <li>Determine additional technical assistance (TA) needed to complete the cIP (e.g. for planning and budgeting or developing a monitoring and evaluation (M&amp;E) framework).</li> <li>Discuss how to achieve the three iSC objectives of availability, quality and efficiency by using the six supply chain essentials to improve the nine EVM criteria (see Figure 2)</li> </ul>	Workshop	Operational costs; facilitation
	5–15	Alignment with cMYP, national health sector plan (NHSP), funding proposals (e.g. health strengthening systems (HSS) and cold chain equipment optimization procedures (CCE OP).	Working group	Staff time
	15–25	<b>cIP drafting and budgeting:</b> Secure endorsement of the cIP from the Inter-Agency Coordinating Committee (ICC), its development timelines, roles and responsibilities, and dissemination plan.	Working group	Staff time; operational costs; possibly individual or institutional contract
 <b>IMPLEMENT</b>	15–25	<ul style="list-style-type: none"> <li>Share cIP with all stakeholders, including EPI workforce at subnational level.</li> <li>Ensure that national HR plans reflect the HR needs of supply chains / if no national HR plan, translate the cIP objectives/tactics into an iSC specific HR plan</li> <li>Engage a national institution to support M&amp;E</li> <li>Mobilize funding sources as per your budgeting plan.</li> </ul>	Working group	Staff time
 <b>MONITOR</b>	On a yearly basis	<ul style="list-style-type: none"> <li>Monitor implementation progress according to plan.</li> <li>Evaluate key performance indicators for dynamic, data-driven management.</li> <li>Ensure timely availability and use of resources.</li> </ul>	Working group	Staff time

2 The nine EVM criteria: E1 – Vaccine arrival; E2 – Temperature control; E3 – Storage capacity; E4 – Infrastructure; E5 – Maintenance; E6 – Stock Management; E7 – Distribution; E8 – Vaccine Management; E9 – Information Systems. Further information is available at: [http://www.who.int/immunization/programmes\\_systems/supply\\_chain/evm/en/](http://www.who.int/immunization/programmes_systems/supply_chain/evm/en/)

## 1.2

### The immunization supply chain continuous Improvement Plan (cIP)

**An evidence-based continuous improvement plan (cIP) is a new element** of the revised EVM initiative. The plan fulfills a critical function of providing the national EPI programme with an opportunity to use the EVM initiative as it was intended—as a continuous process for iSC improvement, rather than an assessment that occurs every three to five years without influencing policies or practice. The cIP looks holistically at the six essentials of immunization supply chains and considers strategic changes that can be made to achieve greater availability, quality and efficiency of services offered in the immunization programme. By raising awareness of iSC challenges and potential solutions, the cIP can be used as an investment case to advocate for funding.

#### 1.2.1 *Why develop a cIP?*

Considerable progress has been made to improve EPI programmes in recent years, partly due to increased investments in supply chains. Immunization supply chain investment cases are now more likely to contain robust situation analyses, be more focused on strategic and evidence-based interventions, and more likely to be costed in a rigorous manner. The cIP builds on these developments and addresses shortcomings of previous planning requirements.

#### **STRATEGIC AND ACTIONABLE**

Many countries develop multiple plans to address the iSC system at different levels, often in response to short-term funding or technical assistance (TA) opportunities and split between national budgets, donor grants, and partner commitments. The planning process may thus be reduced to annual incremental exercises at the expense of a longer-term, strategic planning effort that accounts for contextual changes and changing priorities. As a result, some highly effective (and cost-effective) interventions are neglected in favour of other interventions or may be redundant or programmed inefficiently.

The cIP is part of a comprehensive EVM process that enables countries and development assistance partners (where these are present) to learn together which strategies and interventions work and do not work in the country. By using the cIP as an investment case for iSC, immunization staff can pool government and donor resources and TA from partners to address country priorities that already have strong links to multi-year national EPI programme and national health sector plans. In this way, the cIP benefits the country directly, beyond any donor-related consideration.

### **INTEGRATED WITH THE BROADER HEALTH SYSTEM**

One of the consequences of fragmented iSC planning is that it seldom explores problems that should be addressed at a health systems level, as this often requires political collaboration with other departments (such as human resources, management information systems, and financing). Donor HSS grants targeting immunization outcomes are often planned separately from iSC until it is time to cost procurement needs for cold chain equipment and infrastructure. This leads to missed opportunities and redundant programming (for example ineffective ad-hoc training for iSC in lieu of embedding recurring iSC training needs in the HR capacity development plan for health).

The cIP development process takes an HSS perspective and ensures that planning for iSC is not carried out in isolation but in conjunction with the EPI programme and other government stakeholders at all levels, including subnational governance bodies, ministries of finance, departments responsible for human resources, and information and communication technologies. Relevant stakeholders are invited to contribute to an analysis of health systems bottlenecks that contribute to, or exacerbate, deficiencies revealed in EVMA. This exercise builds a powerful advocacy case for systems-level support to iSC.

### **PRIORITIZED BASED ON EVIDENCE AND AVAILABLE FUNDING**

Many countries face considerable discrepancies between the cost of proposed interventions and available resources. When plans are not explicitly prioritized, they are implicitly prioritized when resources are insufficient. Sometimes all interventions are only partially funded (for example, at 60% of the full cost requirement) and sometimes a few interventions “win” full financing while others “lose” and receive far less support. Win/lose scenarios are often based on vested interests, status quo, or donor preferences, rather than a transparent assessment of evidence and cost-effectiveness and can undermine efforts to conduct evidence-based planning.

The cIP helps prioritize explicitly iSC investments at two levels. First, it delivers a costed annual work plan linked to the pooled funding available or anticipated (for example the specific envelope of the GAVI HSS grant in development). Second, it prioritizes strategies that address the root causes of problems identified through the EVM and function-specific assessments (for example, iSC human resources capacity assessment, iSC system design assessment, temperature monitoring studies, cold chain equipment inventory and expansion needs assessment). In addition, the EVM process has built-in continuous performance review cycles that allow flexibility to adjust the plans based on the same rigour that contributed to the initial development of the cIP.

### **FOCUSED ON IMPLEMENTATION THROUGH JOINT OWNERSHIP**

A common planning oversight is a failure to articulate how implementation will be monitored or measured. Previously, lack of attention to implementation mechanisms and limited buy-in at the managerial (national and subnational) and workforce level, have been cited as key reasons for weak implementation of many national iSC plans.

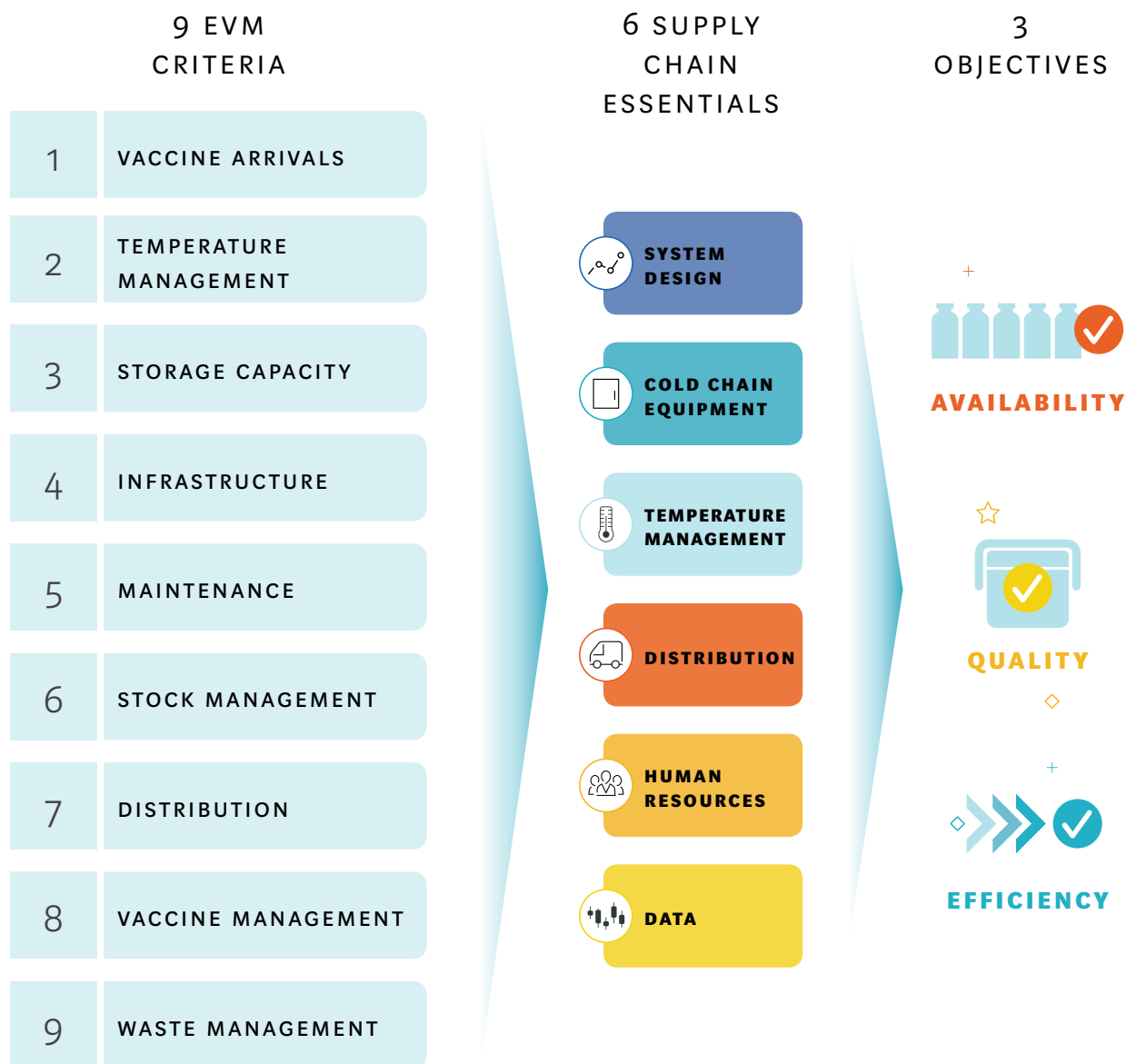
The cIP planning process is deliberately inclusive, starting with a joint review of up-to-date, locally-generated data, and a collective understanding of the contextual factors of the immunization and health system. This collaborative approach has shown to increase the likelihood that those involved will take ownership of the strategic and tactical decisions made, resulting in greater support for implementation. The EVM process also requires countries to identify coordination mechanisms (such as National Logistics Working Groups (NLWGs)) to monitor implementation along performance indicators and annual targets set by EPI and partners.

### **1.2.2 *Aligning EVM assessment results with the six supply chain essentials***

Historically, EVM assessments have focused on performance scores organized along the nine EVM criteria. While this helps the programme to focus on discrete tasks (for example, plan to develop a standard operating procedure (SOP) where that procedure was found missing), the same EVMA data can also be analysed to determine which of the six iSC essentials require more urgent focus, as well as giving a high-level benchmark on how the programme managers can achieve the three iSC objectives (availability, potency, efficiency). These new uses of EVM assessment data make for a powerful advocacy and communication tool which helps the EPI programme “manage upwards” by making a more nuanced case for support and resources. The analysis of the data generated by EVM assessments is illustrated in **FIGURE 2**.

FIGURE 2 **ALIGNING THE SIX SUPPLY CHAIN ESSENTIALS WITH THE NINE EVM CRITERIA**

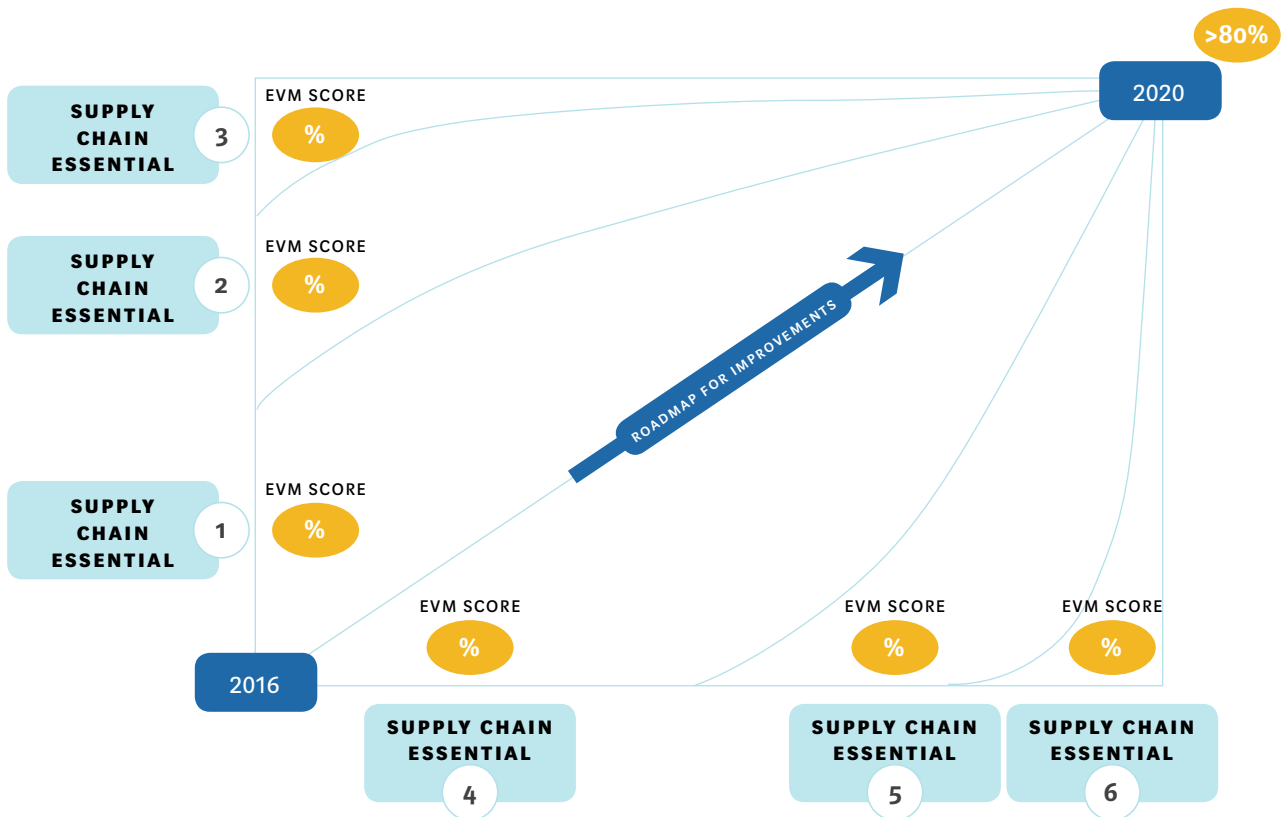
By focusing on the six supply chain essentials, countries can systematically increase scores along the nine EVM criteria, and more readily achieve the three objectives.



Analysis of EVM assessment data in terms of the three objectives and six iSC essentials enables the programme to frame its cIP as a roadmap to attaining not only compliance with the WHO technical standards, but also the iSC objectives. This helps the programme to build the cIP around a monitoring and evaluation (M&E) framework that measures the relative value and progress of the implementation of cIP activities in terms of their contribution to such established programme indicators as “no vaccine stock-outs at subnational level” (availability: for example, “0% health facilities reporting vaccine stock-outs”), uptime of cold chain equipment (quality: for example, “100% of facilities with functional cold chain equipment”; “100% instances of malfunctioning cold chain equipment reported within 48 hours and addressed within 72 hours”), EVM scores above 80% (efficiency), etc.

Once the high-level indicators have been decided, iSC systems performance, in terms of the six essentials, represents an intuitive and comprehensive way of organizing the cIP along the six corresponding strategies that contribute to the attainment of the above-mentioned performance indicators. **FIGURE 3** illustrates this logic.

**FIGURE 3** PROPOSED CIP FRAMEWORK





# The continuous Improvement Plan (cIP) development process

2

## 2.1

### When should the cIP be developed?

The cIP is one component of a many-layered planning process for the immunization programme. It cannot be developed without preparation and a baseline understanding of how the supply chain operates, the status of equipment and infrastructure, and a clear understanding of the situation in which the supply chain operates. To this end, the implementation of the EVM approach should be tailored to each country context as described in TABLE 2. Key assessments should be used to inform the development of a cIP, including the Effective Vaccine Management assessment, system optimization studies, EPI review, and HR assessments (see TABLE 3).

Using available baseline assessments as a starting point, the cIP can be developed at any time. It is designed to feed into the national immunization planning process, becoming a section, for example, in the cMYP for immunization or health sector strategy. Ideally, a cIP should be developed immediately following the completion of an EVM assessment, and serve as an input to a new (or updated) cMYP or health sector strategy.

The timing and format of cIPs will differ between countries according to context and familiarity with the EVM process. (TABLE 2 proposes several scenarios; TABLE 4 can also be referred to for more detailed information on preparing the plan.)

TABLE 2 IMPLEMENTING THE EVM APPROACH IN DIFFERENT COUNTRY CONTEXTS

SCENARIO	HOW TO IMPLEMENT THE COMPREHENSIVE EVM APPROACH	WHEN
1 Your country has been actively and successfully using a previous EVM improvement plan to determine strategy and implement improvements throughout the EVM cycle (3–5 years)	Develop the following cIP based on the present Guidance Note. Socialize the next cIP with all EPI staff and embed it into the next cMYP or health sector strategy.	Schedule your next EVM assessment to occur prior to the next cMYP or health sector strategy plan process, as this will allow the cIP to be integrated into the larger immunization planning process.
2 Your country has a strong iSC component already embedded in the cMYP or health sector strategy, which constitutes your country's iSC plan	Develop your next cIP based on the present Guidance Note. Design the cIP to become an annex to the health sector strategy or Section Five of the cMYP <sup>3</sup> : "Vaccine, cold-chain and logistics."	<b>Option 1:</b> If the cIP is being developed close to and prior to the revision of the cMYP or health sector strategy, then the cIP should be integrated and endorsed as part of that document. <b>Option 2:</b> If the timing of the cIP does not allow an integration into either your cMYP or health sector strategy, develop a stand-alone cIP until the next revision cycle and use it as the main iSC component for your next plan.
3 Your country has no iSC strategy or a weak iSC improvement plan.	Develop the next cIP based on this Guidance Note. Mobilize technical assistance, as needed, to establish a mechanism that can manage the cIP development process.	Contact your WHO or UNICEF country office to start the EVM initiative, and begin planning your next EVM assessment.

<sup>3</sup> See p.28 WHO-UNICEF Guidelines for cMYP for Immunization – Update September 2013. Available at: [http://apps.who.int/iris/bitstream/10665/100618/1/WHO\\_IVB\\_14.01\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/100618/1/WHO_IVB_14.01_eng.pdf?ua=1)

## 2.2

### Who is responsible for developing the cIP?

**The national EPI team is responsible for developing the cIP.** The process, however, should be supported by a permanent subgroup of the Inter-Agency Coordination Committee (ICC) for immunization, for example a NLWG or supply chain coordinating committee. In countries lacking such mechanisms, engaging with national learning institutions (such as universities) to complement the work of or be a substitute for the NLWG is strongly recommended. Beyond the development of the document itself, the coordinating committee in your country (for example, the NLWG) will play an essential role in monitoring implementation progress and outcomes. Strong leadership from these groups has proven a key success factor for substantial improvement of national iSCs.

The cIP itself should be assigned to a specific individual or a small "secretariat" responsible for drafting the plan, soliciting input, making changes, and seeing the plan through to finalization.



**SUPPLEMENT 1** *Establishing or strengthening a National Logistics Working Group*  
[www.technet-21.org/en/library/explore/supply-chain-and-logistics/3735](http://www.technet-21.org/en/library/explore/supply-chain-and-logistics/3735)

#### TIP



**HALF-DAY COMMITMENT WORKSHOP.** It is critical that all EPI team members, NLWG members, and ICC members understand the EVM initiative and their roles and responsibilities. We recommend that every five years the EPI team organize a half-day orientation to the EVM initiative prior to the EVM assessment.

#### LAUNCHING THE COMPREHENSIVE EVM APPROACH IN SIERRA LEONE AND NIGERIA

BOX 1

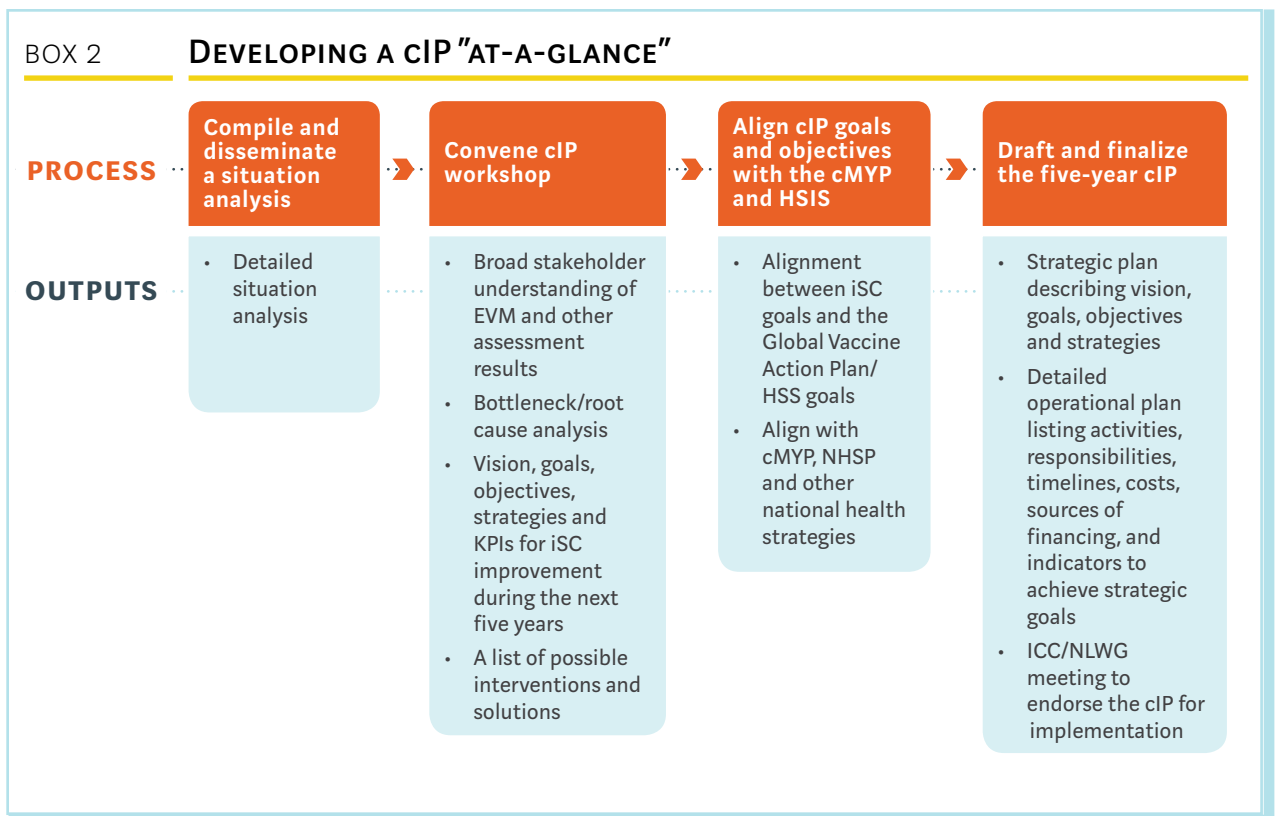
**In Sierra Leone, the EPI organized a half-day workshop in Freetown** for national and subnational MoH and administrative chiefs from all districts. During the workshop, participants examined past EVM performance and discussed how improvements along the six iSC essentials could improve availability, quality, and efficiency of the immunization programme. In the end, participants had a clear vision and a shared understanding of the EVM approach. The decision to include administrative district chiefs was critical to onboarding them in the discussions of priorities, strategies, and performance indicators, particularly in this context where subnational EPI staff are subordinate to the administrative district chain of command. A month later, after a new EVM assessment report was presented, there was already a broad consensus – and a momentum – for developing a cIP that was subsequently linked to the Gavi HSS financing process.

## 2.3

### What is the best way to develop a cIP?

After orienting stakeholders to the EVM initiative and the EVM assessment has been carried out, the EPI, with support from the NLWG and WHO and/or UNICEF, can launch the cIP development process to address observed iSC challenges in a strategic manner (see **BOX 2** ).

Once the cIP has been approved by the ICC and NLWG, the EPI can disseminate and socialize the plan, integrate it into the cMYP or health sector strategic plan, and begin implementation and monitoring activities.



#### 2.3.1 *Compile and disseminate a situation analysis*

**WHAT:**

A situation analysis is a summary of the recent EVM assessment report as well as other available assessments, including the EPI review, cold chain inventory, new vaccine readiness, and HR capacity assessment. It should provide a succinct analysis of the strengths and weaknesses of the supply chain and opportunities for improvement. It should also show changes from past EVMA scores, the implementation status of previous improvement plans, and the overarching context of the immunization programme and the health system.

- WHY:** A situation analysis provides a starting point for discussion and ensures that all participants at the cIP workshop (described in **SUBSECTION 2.3.2**) are working with up-to-date evidence on the status of the supply chain and can devise improvement target, strategies and activities for the cIP, based on a common understanding of the current context.
- WHEN:** The situation analysis should be conducted after the EVMA has been completed. It should be disseminated to cIP workshop participants at least one week prior to the cIP workshop.
- WHO:** Some countries have asked the EVM assessor to summarize the situation analysis on behalf of the EPI team and the members of the NLWG. Other countries have asked a local technical assistance partner or academic institution to summarize the situation analysis, as these institutions are sometimes tapped to do the same for HSS proposals.



**SUPPLEMENT 2** *Situation analysis*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4800&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4800&pid=57&Itemid=2586)

### 2.3.2 Convene a cIP workshop

- WHAT:** The cIP workshop is a multi-day, interactive meeting where relevant supply chain stakeholders can collaborate to review the situation analysis in depth, conduct a rapid assessment of root causes, and define the five-year vision, goals, objectives, strategies and KPIs for improving supply chain performance to achieve broader immunization goals.
- WHY:** The workshop serves as an opportunity to align supply chain stakeholders around a common understanding of the challenges in the immunization supply chain and a long-term vision and goals for its improvement.
- WHEN:** The cIP workshop should occur after the situation analysis is available, and prior to the development of a new cMYP or a new national health plan. Effective collaborative workshops can be resource-intensive and time-consuming. It is therefore crucial to allocate adequate time for each session to avoid compromising the quality of collaboration, which is a predictor of the quality of the cIP.

**TIP**



**LENGTH OF CIP WORKSHOP.** Many countries have reported that four days is adequate for a cIP workshop. However, some countries may require more than one workshop to agree on a vision and a set of viable goals and objectives. EPI managers should plan accordingly.

**WHO:**

The EPI, with support from national institutions (such as NLWG, academia) and WHO and/or UNICEF, is responsible for organizing the cIP workshop, developing the cIP document, and monitoring its implementation. Following the cIP workshop, a single individual or “secretariat” should be assigned responsibility for drafting the plan, soliciting inputs, making changes, and facilitating the necessary buy-in and approvals.

Core participants should include EPI and iSC staff representing different levels of the health system as well as regional and district administrators. If the iSC is integrated with, or overseen by, another government department, relevant staff from that department must also be involved. Stakeholders who are involved in the development of other national plans (for example cMYP, HSIS, NHSP) should be included as a priority. Representatives from other ministries, including human resources and infrastructure, as well as the National Regulatory Authority (NRA) or other regulatory bodies when applicable should be invited, as they can recommend solutions to problems that the MoH cannot solve directly, as well as champion investments in these solutions at key junctures of the political process during national budget negotiations.

Other participants may be considered, and should be included based on their ability to contribute to the technical discussion on the supply chain. This includes nongovernmental stakeholders such as outside consultants, donors (World Bank, Japanese International Cooperation Agency, the Bill & Melinda Gates Foundation, the US Agency for International Development, and others as applicable), technical partners (UNICEF and/or WHO Country Offices, the US Centres for Disease Control and Prevention, International Development Research Centre, PATH, John Snow, Inc., and others as applicable).

**WHERE:**

Conducting workshops off-site has been shown to notably reduce distractions and elevate the engagement level of participants; however, this may not always be feasible. The location must have adequate space for both plenary and breakout discussions.

**TIP**

**INCLUDE NON-SUPPLY CHAIN EXPERTS IN THE WORKSHOP. By including non-supply chain experts in the workshop, the EPI team can explore a greater array of choices on how to solve supply chain problems. For example, with input from officials from ministries of finance, education, infrastructure, and the MoH department of human resources, EPI staff may suggest solutions that the EPI team had not previously considered.**

**How:**

Advanced planning is critical to ensure a productive workshop. An agenda and supporting documents must be produced and shared in advance (for example a succinct note summarizing the situation analysis and five to six strategic options to discuss). Several countries have developed cIP workshop agendas that can be followed or adapted.

**SUPPLEMENT 3** *cIP workshop agenda repository*

[www.technet-21.org/en/?option=com\\_sobipro&sid=4819&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4819&pid=57&Itemid=2586)

Most workshops start with a discussion on the status of the supply chain (situation analysis) and the ways in which the supply chain supports, or fails to support, immunization objectives. This discussion naturally brings up the question of benchmarks: what the performance should be (vision), and how it can be measured (KPIs defined for each iSC level). From there, participants can explore root causes of existing challenges and propose strategies, goals and objectives that would progress the programme to where it would like to be in five years.

**TIP**

**COLLABORATIVE WORKSHOP TECHNIQUES.** Many countries have adopted collaborative workshop techniques to generate productive stakeholder conversation during the workshop (see **SUPPLEMENT 4**). Experience has shown that breaking cIP workshop participants into groups – with each group focused on one of the six supply chain essentials – can be highly effective. Each group then presents goals, objectives, strategies and activities, along with an estimated budget and any additional tasks required to operationalize activity. It is important, however, during this focused process to also allow for an exploration of strategies that take on a broader system view. One suggestion is to assign one group to focus on a problem that does not necessarily fit into a single strategic area (such as polio transition or staff shortages). It is also advisable to examine best practices, or examples of “positive deviance”, within the country to identify possible solutions that are already working.

**OUTPUT:**

The output of the cIP workshop should be a five-year vision, a set of six goals (one for each supply chain essential) with high-level performance indicators, and the corresponding objectives and strategies that should come out of the root-causes analysis carried out during the cIP workshop (see **SECTION 3**). Because members of other planning groups (for example NHSP; cMYP; Gavi, the Global Fund (GF) or Global Financing Facility (GFF) grant applications; health commodity supply chain) are included in the cIP workshop, the cIP should already reflect the highest priorities of other programme and planning instruments.

**EVM assessments identify the flaws of the iSC system** which then become the focus of the cIP. The associated tools and processes, including the bottleneck analysis, are designed to identify and correct problems, not to identify or understand when and why things work well. The consequence is a lack of motivation and engagement from countries, who may feel threatened by the process as it highlights the deficiencies without recognizing the specific drivers of achievements.

The purpose of positive deviance is to enable communities<sup>4</sup> of practitioners to discover their successful behaviours and strategies, and transform them into plans of action to promote sustainable change. The approach is based on the following principles:

- Communities of practitioners have solutions and “know-how”
- Communities of practitioners can organize themselves to solve an agreed problem
- Collective intelligence to solve a specific problem is more effective than solutions imposed by external experts
- Sustainability is at the core of the response

**The methodology of positive deviance consists of five basic steps:**

1. Define the problem, current perceived causes, challenges and constraints, common practices, and desired outcomes.
2. Determine the presence of positive deviant individuals or groups.
3. Discover uncommon but successful behaviours and strategies through inquiry and observation.
4. Design activities to allow community members to practice the discovered behaviours.
5. Monitor and evaluate the resulting project or initiative, which further fuels change by documenting and sharing improvements as they occur, and helps the community discern the effectiveness of the initiative.

In the context of EVM, the health workforce involved in iSC would constitute communities at each iSC level.

Ideally, a positive deviance approach should be an intricate part of the EVM process, reflecting itself in the additional qualitative information collected during the EVM assessment and, most importantly, in ensuring that reiterating feedback loops capture the perspectives, solutions and know-how of the iSC workforce throughout the assessment, planning and implementation processes.

This approach can help ensure that the cIP is derived from local needs, contextualized through generating deviance from community. In addition, the approach can offer a reality check on the EVM assessment process, including evidence that could help improve the EVM approach in future.

The recent cIP development process in Sierra Leone used elements of this approach in two ways: (i) national EVM assessors were encouraged to collect structured notes on the background to any good practices they observed during their assessment visits; and (ii) the cIP development workshop encouraged the participants – some of whom were elected district representatives who could bring in community perspectives – to discuss whether any districts may have “got it right” contrary to the nation-wide EVM assessment findings. One such conversation identified a district that paid performance-based incentives that had a positive impact on core iSC performance indicators; this was a revelation to representatives from some other districts and provoked genuine reflections on the strategies available.

<sup>4</sup> For definitions and components of successful communities please refer to <https://community-canvas.org/>

## BOX 4 **NIGERIA**

**Nigeria designed a four-day cIP workshop** to enable EPI managers from 36 states and the Federal Capital Territory to reflect on the results from the recent EVMA and jointly examine the causes of insufficient improvement and inadequate implementation of previous plans. This event differed notably from typical training workshops and planning meetings. It was designed to be highly dynamic, iterative, and engaging to maximize substantive contributions from all participants and secure maximum buy-in for the cIP, particularly from the state-level government EPI managers. The approach enabled the new cIP to bring measurable and sustainable improvement to the country's iSC, and ensured that the cIP was appropriate in the context of Nigeria's devolved health sector.



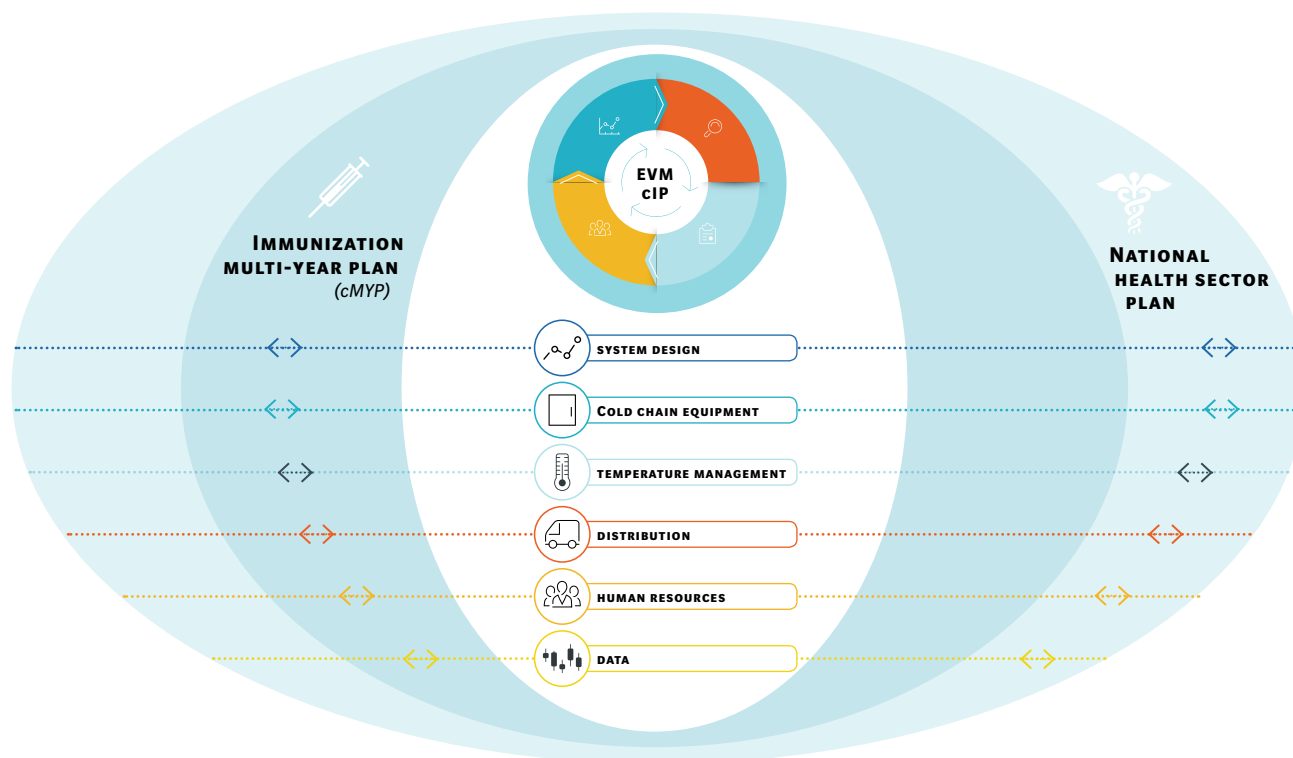
**SUPPLEMENT 4** *Collaborative workshop techniques*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4801&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4801&pid=57&Itemid=2586)

### 2.3.3 *Align cIP goals and objectives with broader national health plans*

**WHAT:** With cIP goals and objectives in hand, EPI staff should participate in relevant, parallel planning efforts (such as the NHSP, cMYP and HSS investment cases) and discuss how the cIP and its implementation can contribute to immunization and health system goals, EPI equity analysis, and EPI reviews. **FIGURE 4** illustrates how the cIP can be fully incorporated into broader national and other health plans, cutting across the six essentials of the immunization supply chain.



FIGURE 4 INTEGRATING THE CIP TO BROADER HEALTH PLAN PROCESSES



- WHY:** Incorporating the cIP into the NHSP, cMYP and other relevant plans will make those plans stronger and more specific. The more integrated the planning efforts become, the easier it will be to eliminate duplicate efforts and identify opportunities for efficiencies (such as a shared set of indicators or outcomes) with other plans.
- WHO:** Key EPI staff should attend relevant planning committee meetings to present the cIP and discuss how the plan supports the NHSP, cMYP (and other relevant plans). By attending these meetings, planning participants can look for redundancies as well as opportunities for efficiencies.

**WHEN:** During the cIP workshop, relevant stakeholders involved in other planning processes (for example NHSP; Gavi, GF or GFF grant application, health commodity supply chain plan) should already be participating in the development of overarching goals, strategies and activities for the supply chain. After the cIP workshop, EPI staff and external planning participants should share the draft vision, goals, objectives and strategies with committees working on relevant immunization and health strategies and brief them on the cIP workshop discussions and outcomes.

**OUTPUT:** The primary output of this step should be the welcome inclusion of the cIP into the cMYP, NHSP, and other planning documents. A secondary output could be a list of suggested revisions that will further align the cIP with other planning instruments based on discussions with relevant planning groups. As needed, these recommendations should be used to adjust the goals, objectives, and strategies developed during the cIP workshop.

**TIP**



**MAKING THE MOST OF HSS PROGRAMMING.** When considering iSC improvements through the HSS lens, EPI staff should ask: which specific health systems need to be strengthened to help us resolve the most urgent iSC bottlenecks facing our programme?

The answers will likely relate to the HSS "building blocks": health sector governance, human resources, information systems, financing. Building alliances with stakeholders outside the EPI chain of command may be key to resolving problems and is a worthy investment of effort. Donors often encourage (for example through Gavi HSS grants) national EPI programmes to enlist support from other government departments to address urgent EPI problems.

### 2.3.4 Draft the five-year strategic cIP, including annual operational plan

- WHAT:** The cIP should be written in two parts (see [SECTION 4](#)). First, a strategic section stating the vision, goals, objectives, KPIs, and estimated costs<sup>5</sup> for activities identified and developed during the cIP workshop. Second, the plan should include an annual operational plan with associated costs, sources of financing, and implementation indicators. Once completed, the full cIP becomes the cMYP section on cold chain and logistics (see [SECTION 5](#)) or an annex to the health sector strategy.
- WHY:** The five-year cIP aligns all stakeholders, including TA providers, to a common set of goals that improves immunization efficiency, quality and availability. The cIP is a continuous learning tool that links EVMA results with the overall strategic vision for immunization.
- WHEN:** The time required to develop the cIP will vary by country. The EPI team should agree on a reasonable deadline, given available staff resources. If a new cMYP or NHSP are being developed, the cIP should be finalized within the development timeframe of these plans. Sufficient time should be allocated to the budgeting and financing component of the cIP, as this will improve the viability of the plan (see [SUBSECTION 3.4](#)).
- WHO:** The cIP should be developed by (or in close partnership with) senior EPI staff, as EPI will be primarily responsible for executing the plan. Working groups formed during the cIP workshop may be willing to draft sections of the plans relating to strategic focus areas, but the EPI team is responsible for integrating those sections into a complete plan. There may be exceptions in some contexts where cIP drafting may need to be carried out externally, particularly when there is insufficient relevant capacity in-country.
- OUTPUT:** The cIP includes a five-year strategic plan, and an annual operational plan that can be presented to the NLWG and the ICC for endorsement.

<sup>5</sup> WHO and UNICEF recommend conducting a full planning and budgeting exercise for the cIP, and linking it to the cMYP budget.

### 2.3.5 Conduct a planning and budgeting exercise

#### WHAT:

A planning and budgeting exercise is an effort to identify all costs and sources of funding associated with activities listed in the cIP during the five-year period. Associated costs can include:

- Personnel (e.g. staff assigned to reporting)
- Capital expenditures on equipment and infrastructure (e.g. acquisition of vehicles, cold chain equipment)
- Operational expenditures (e.g. cold chain repair or maintenance)
- Transport
- Outsourced services
- Workshops and international exchanges
- Technical assistance needs (e.g. system design technical support, NLWG set-up support)

#### WHY:

As with all plans, the cIP is only useful to the extent that it is supported and funded. A planning and budgeting exercise defines the costs associated with cIP implementation and monitoring, and enables EPI managers and logistics coordinating committees to identify sources of funds to meet the needs of the programme.

#### WHEN:

The planning and budgeting exercise should be conducted as soon as the draft cIP plan is completed and before it is approved by the ICC.

#### WHO:

The EPI is responsible for completing a planning and budgeting exercise, whether by identifying a TA partner to conduct the planning and budgeting exercise or a private agency.

#### TIP



#### INVOLVE THE MINISTRY OF FINANCE EARLY.

**Countries that involve colleagues from their Ministry of Finance during the planning and budgeting exercise generally have greater success raising funds and implementing their cIP. The presence of Ministry of Finance staff not only increases the accuracy of the cost estimates and sources of funds, but also accelerates the timeline for signing the budget and dispersing funds.**

# The continuous Improvement Plan (cIP) content

3

**As previously mentioned in this Guidance Note, the cIP will consist of two main parts:** (i) the strategic plan which describes the vision, goals and key strategies for the supply chain during the next five years; and (ii) the operational plan – an annual work plan detailing activities, timelines, responsibilities, costs, and indicators.

## The strategic plan should be:

- a clear description of what the country wants to achieve: the vision, goals, and anticipated outcomes for the iSC, which can serve as a rallying point for all relevant stakeholders;
- logical and strategic – answering what, why, and when specific activities should occur, who is responsible, and how progress will be measured using KPIs;
- based on a systematic, evidence-based analysis of the root causes of poor iSC performance, as well as an analysis of the enablers of strong iSC performance;
- created as part of a participatory planning process with relevant stakeholders from other ministries and levels of the health system so it responds to, and is supported by, broader national planning processes for immunization (such as cMYP) and health; used to raise awareness and advocate for investment and oversight from higher management levels of the MoH.

## The operational plan should be:

- either a stand-alone document or directly integrated into existing annual work plans;
- a tool to track implementation progress of the annual work plan with direct links to outcomes described in the strategic plan that can be reported during yearly reviews;
- developed annually with a description of objectives and activities, timelines, responsibilities, costs, and indicators to monitor progress;
- reviewed and endorsed by the ICC and a supply chain working group or committee;
- reviewed at least quarterly by EPI managers and reported at least annually to the ICC and NLWG where it exists.

### 1. Situation and root-cause analyses

- See above subsection 2.3.1

### 2. The CIP strategic plan

#### A. LONG-TERM VISION

- Describes the desired future state of the immunization supply chain
- Describes how the CIP vision and goals support the objectives of the immunization programme and the health sector

#### B. GOALS, OBJECTIVES, STRATEGIES, KPIS, AND ESTIMATED COSTS

- Describes high-level goals to improve availability, quality and efficiency of the ISC
- Describes key objective for each goal with indicators that show progress toward them
- Describes strategies based on the root-cause analysis that will move the country closer to achieving the goals within the next five years
- Describes selected KPIs that will allow progress measurement throughout the continuous improvement cycle
- Provides estimated costs for all activities within the five-year plan and describes possible and confirmed sources of funding (including partner-supported activities)

### 3. The CIP operational plan

#### A. ACTIVITY AND MONITORING PLAN FOR YEAR 1

- Describes the key activities and progress indicators that will be used to track implementation
- Describes governance of the CIP (e.g. roles of NLWG, partner, TA providers, etc.), as well as timelines, and responsibilities

#### B. ASSOCIATED COSTS AND SOURCES OF FUNDING

- Calculates the specific costs associated with the operational plan
- Identifies sources (and timing) of funding from partners, donors, and government budgets

## TIP



**USE THE WHO FRAMEWORK FOR NATIONAL HEALTH POLICIES, STRATEGIES AND PLANS TO STRENGTHEN YOUR PLAN.** Experience shows that the policy dialogue for building comprehensive national health policies, strategies and plans is as much a political as a technical process. It requires attention for the inspirational side of defining vision and policy; it also requires attention for operational detail. The balance between vision, policy, strategic planning and consistency in implementation varies considerably from country to country. You are encouraged to consult the WHO Framework for National Health Policies, Strategies and Plans (see Supplement 1 below) on prerequisites for sound planning documents that match your country's overall national health strategies.



**SUPPLEMENT 5** *WHO Framework for National Health Policies, Strategies and Plans*  
[www.who.int/nationalpolicies/FrameworkNHPSP\\_final\\_en.pdf](http://www.who.int/nationalpolicies/FrameworkNHPSP_final_en.pdf)

## 3.1

### Situation and root-cause analyses

**The situation analysis (see SUPPLEMENT 2 ) is the first section of the CIP.** It describes the status and current performance of the supply chain and its components by summarizing the key results and recommendations from the EVMA and other relevant assessments.

**TABLE 3** below lists the assessments, plans and situations that may be analysed as part of the situation analysis. The right-hand column shows suggestions of where inputs, information and data can be found.

TABLE 3 **ASSESSMENTS, INVENTORIES, AND REPORTS TO INCLUDE IN A SITUATION ANALYSIS**

<b>ASSESSMENTS, INVENTORIES AND REPORTS</b>	<b>WHERE TO FIND THEM</b>
<i>National EPI review</i>	<ul style="list-style-type: none"> <li>• National EPI programme</li> </ul>
<i>EVMA reports and EVM improvement plans (IPs), including details of EVM implementation</i>	<ul style="list-style-type: none"> <li>• National EPI programme, or WHO and UNICEF country offices</li> </ul>
<i>Up-to-date cold chain equipment inventory (CCEI), including expansion and equipment rehabilitation requirements</i>	<ul style="list-style-type: none"> <li>• National CCEI, if available</li> <li>• CCE OP application</li> <li>• EVMA reports</li> <li>• Logistics management and information system (LMIS)</li> <li>• Procurement plans and records</li> </ul>
<i>New vaccine supply chain readiness assessment</i>	<ul style="list-style-type: none"> <li>• EVMA reports</li> <li>• Applications for introduction of new vaccine to Gavi, WHO, UNICEF, etc.</li> <li>• cMYP</li> <li>• Gavi HSS applications</li> </ul>
<i>HR capacity assessment</i>	<ul style="list-style-type: none"> <li>• EVMA reports</li> <li>• Gavi HSS applications</li> <li>• cMYP</li> <li>• Health sector HR assessments</li> </ul>
<i>Temperature monitoring assessment of the cold chain</i>	<ul style="list-style-type: none"> <li>• Recent temperature monitoring study</li> <li>• Temperature monitoring system data</li> </ul>
<i>Transportation network design assessment</i>	<ul style="list-style-type: none"> <li>• EVMA reports</li> <li>• Supply chain assessments (USAID, etc.) and strategic plans</li> </ul>
<i>National immunization and health sector strategies, policies and priorities</i>	<ul style="list-style-type: none"> <li>• EPI annual plan</li> <li>• EPI multi-year plan</li> <li>• National health sector multi-year strategy</li> <li>• cMYP</li> <li>• Gavi HSS strategy</li> <li>• Other health commodity supply chains strategies/assessments</li> </ul>
<i>Equity assessments</i>	<ul style="list-style-type: none"> <li>• National EPI programme</li> </ul>



A root-cause analysis examines why supply chain performance is low in certain areas. The root-cause analysis is an opportunity to resolve challenges that result from failures. There are many ways to conduct a root-cause analysis (see **SUPPLEMENT 6** below); the approach can be determined by the EPI team. Three components are essential to a root-cause analysis: problem statement, root-causes, and possible strategies to address the root causes. Some countries have successfully used the human-centred design methodologies toolkit (see **SUPPLEMENT 7** below) to guide the root-cause discussion in cIP workshops.

Taken together, the situation and root-cause analyses provide national policy-makers with an overview of the strengths, opportunities, weaknesses, and threats of the immunization supply chain and help prioritize activities so that investments can be focused accordingly.

+  
➔ **SUPPLEMENT 6** *Root cause analysis*  
[www.technet-21.org/en/?option=com\\_sobipro&sid=4802&pid=57&Itemid=2586](http://www.technet-21.org/en/?option=com_sobipro&sid=4802&pid=57&Itemid=2586)

+  
➔ **SUPPLEMENT 7** *Human-centred design methodologies and toolkit*  
[www.hcd4i.org](http://www.hcd4i.org)

## 3.2

### The cIP strategic plan

The strategic plan should be concise and easy to read. It should display the long-term vision for the supply chain, and the high-level goals, objectives and strategies that have been identified for the next five years (including indicators to measure outcomes and progress toward those outcomes). A one- to two-page summary of the strategic plan should be widely disseminated and used as a tool to track progress.

#### 3.2.1 *Long-term vision for the immunization supply chain*

The long-term vision should describe how the iSC supports the immunization programme: how it performs, how it is organized, and what it contributes to the immunization programme and to the national health sector. The vision should describe a resilient iSC that can accommodate changes to health system priorities (for example health security, polio transition, electronic records), as well as anticipated changes to the general infrastructure and the political climate (such as investments in rural electrification, infrastructure and roads, and increased internet access). Most importantly, it reflects the goal of supply chains to improve availability, efficiency, and the quality of vaccines and immunization supplies across the country.

**EXAMPLE:** *"We envision a supply chain that reliably delivers sufficient quantities of vaccines and immunization supplies directly to all fixed immunization posts (including new posts that are opening during the next five years) and does so without compromising quality due to exposure to heat or freezing temperatures. By doing so, the supply chain will support the EPI goal of 90% vaccination coverage by xxxx, and decrease child mortality by xxx."*

### 3.2.2 Goals, objectives, strategies, key performance indicators, and costs

**GOALS** describe the medium- and long-term outcomes that are necessary to achieve the vision. In the case of supply chains, goals are easy to write when they are aligned with core supply chain objectives of increasing availability, quality, and efficiency. A manageable strategic plan usually lists between three and five goals that are achievable within five years. Each goal should have at least one KPI that can be measured and reported over the course of the year.

**EXAMPLE:**     **Goal #1:** Increase immunization coverage by ensuring all EPI vaccines and immunization supplies are available at the point of vaccination in at least 20 high-priority districts by 2023.

**KPI:** Number of priority districts achieving 12 months of full stock availability (see below).

**OBJECTIVES** are quantitative measures of the goals that are time-bound. They often start with the words “increase” or “decrease” or “establish”. It is a country’s discretion to select any number of objectives per goal that are realistically achievable within the timeframe and budget available. Typically, a country would select relevant iSC performance indicators from the Guidance on Dashboards for Immunization Supply Chain (DISC) (see **SUPPLEMENT 8** below).

**EXAMPLE:**     **Objective #1:** Increase the number of facilities in high-priority districts achieving full stock availability<sup>6</sup> within a 12-month period.



**SUPPLEMENT 8** *Guidance on Dashboards for Immunization Supply Chain (DISC)*  
[www.technet-21.org/iscstrengthening/index.php/en/data-for-management-documents-and-downloads/guidance-on-dashboards](http://www.technet-21.org/iscstrengthening/index.php/en/data-for-management-documents-and-downloads/guidance-on-dashboards)

<sup>6</sup> Full stock availability (from DISC indicators) is the percentage of storage points with full availability of all or selected set of tracer vaccines and immunization supplies over a resupply period. Full availability is defined as no stock-out in the store or health facility at any point during the period.

**TIP**

**LET AVAILABILITY, QUALITY AND EFFICIENCY DRIVE YOUR PLAN.** Introducing the iSC objectives of availability, quality and efficiency at the start of the cIP design workshop is an excellent way to focus the conversation – and the resulting cIP – on what matters most. EVMA data can be presented graphically to show how iSC performance meets (or fails to meet) three objectives across the distribution levels. Workshop discussions can then be steered to discuss and quantify desired performance levels for each of the three objectives, which in turn would clarify investments required to meet the objectives.

For example, a discussion of what it takes to assure vaccine quality at the service delivery level will lead to a discussion on two DISC indicators: (i) functional status of cold-chain equipment; and (ii) temperature alarm rate. Participants can then agree on minimum performance levels (for example, all failed cold chain equipment units are reported/logged within two days, and repaired or replaced within five days), which will clarify investments required to capture and monitor these data and to ensure compliance with the agreed performance levels.

**STRATEGIES** describe the approach that will be used to achieve the goal or objective. Strategies usually answer questions that emerge when faced with choices or constraints, and for this reason, strategies can differ significantly depending on who is involved in the discussion. For example, when new refrigerators are needed, does it make more sense to buy solar-direct drive refrigerators or invest in micro-grids for rural electrification? When health workers need to be trained on basic refrigerator maintenance, would it be more effective to offer refresher training, supportive supervision, or develop and include the relevant curricula into MoH-accredited pre-service training linked to career progression of the relevant workforce? Consultations should be held with a broad range of stakeholders, not just immunization supply chain professionals, to identify the best strategic options. Depending on the situation, some countries may find it easiest to form cIP strategies around the six supply chain essentials (see **SUBSECTION 1.1**). The sample strategy below leverages two supply chain essentials: Distribution and System Design to improve overall iSC performance.

**EXAMPLE:** **Strategy #1:** Implement a pull-based (demand driven) distribution system for vaccine and cold chain with reliable transportation system based on efficient network design and route planning.

**Outcome indicator:** Number of districts with a functioning pull-based distribution system based on efficient network design and route planning in [specific] districts.


# 3.3

## The cIP annual operational plan

### 3.3.1 Operational plan

The operational plan is the part of the cIP that translates goals, objectives, and strategies into a set of activities that can be assigned and accomplished within a 12-month period (for example, Activity #1: "List the functional requirements for a stock management system for each major user group"). Because activity-level planning can be dynamic and dependent on external factors, it is not necessary to articulate specific activities beyond 12– 14 months. The recommendation is to develop a plan that can be used by those managing the iSC, in a format that feeds into existing EPI annual work plans.

Each activity should have an associated measurable process or completion indicator and estimated cost. The activity plan also should specify the governance structure for implementation oversight (i.e. roles/responsibilities of NLWG, partner agencies, and TA providers) and a timeline for monitoring indicators.

<p><b>TIP</b></p>  <p><b>INCLUDE A MONITORING PROCESS AND SCHEDULE.</b> Countries have emphasized the importance of including a schedule for monitoring (e.g. dates when the KPIs are reviewed and discussed) and indicating which person or team will be responsible for collecting and reviewing KPIs according to the schedule.</p>	<p><b>TIP</b></p>  <p><b>INCLUDE PARTNER ACTIVITIES IN OPERATIONAL PLAN.</b> To ensure accountability of all stakeholders, the operational part of the cIP should include both activities (and implementation indicators) supported from within the EPI programme plan, and activities (and implementation indicators) supported by TA partners.</p>
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**SUPPLEMENT 9** Activity and monitoring plan template (cMYP Guidelines, page 69) [apps.who.int/iris/bitstream/10665/100618/1/WHO\\_IVB\\_14.01\\_eng.pdf](https://apps.who.int/iris/bitstream/10665/100618/1/WHO_IVB_14.01_eng.pdf)

To ensure the cIP operational plan is useful, countries are encouraged to tailor the format of the plan to match their needs, integrating it into any annual planning tool(s) the EPI is already using. **TABLE 4** below describes different scenarios and suggestions for formatting the cIP to best fit a country's needs.

TABLE 4 FINDING THE APPROPRIATE FORMAT FOR THE CIP OPERATIONAL PLAN

SCENARIO	SUGGESTED ACTION	RISK MITIGATION
1 The EPI team has been successfully using the current EVM IP to assign activities and measure progress on a yearly basis.	Use the cIP as the supply chain chapter of the cMYP and add cIP activities to the annual cMYP activity work plan template. [add link] Although the cIP work plan will be part of the cMYP, it must be socialized with all EPI as a stand-alone document.	The NLWG or other EPI coordination mechanism is responsible for tracking progress on the cIP, which should be reported by the EPI every 12 months, even if it is a section in the cMYP.
2 The EPI team uses the EPI annual work plan or cMYP to assign and track supply chain improvement activities.	<b>Option 1:</b> If the cIP is being developed close to and prior to the revision of the EPI annual work plan or cMYP, then the cIP operational plan should be integrated into the annual work plan or cMYP template. <b>Option 2:</b> If the timing of the cIP does not allow an integration into EPI annual work plan or cMYP, then use the annual work plan or cMYP template to develop a stand-alone cIP work plan until the next revision cycle.	Keep iSC activities in one section within the EPI annual work plan or cMYP, as this will make it easier for the NLWG or the designated coordination mechanism to conduct the yearly review of the cIP.
3 The EPI team needs a stand-alone cIP work plan because no other planning tool exists or because it makes it easier to track partner support to EPI activities.	Add the cIP as the supply chain section of the cMYP or health sector strategy and add cIP activities to the annual cMYP activity work plan template.	Include a supply chain professional in the cMYP monitoring team to ensure that iSC activities are indeed integrated to the overall cMYP. Keep cIP activities together in the cMYP, as this will make it easier to extract iSC activities for the yearly cIP review.

## 3.4

### Associated costs and sources of funding

The planning and budgeting section of the cIP plan has two parts: a cost estimate and a funding plan.

#### COST ESTIMATE

The planning and budgeting section should list a full estimate of costs associated with activities listed in the operational and strategic portions of the plan. A tool was developed for the cMYP costing exercise. Since the cIP plan was designed to become part of the cMYP, using the cMYP costing tool as a key resource is recommended.



**SUPPLEMENT 10** *cMYP costing tool*

[www.who.int/immunization/programmes\\_systems/financing/tools/cmyp/en/](http://www.who.int/immunization/programmes_systems/financing/tools/cmyp/en/)

As part of the planning and budgeting exercise, researching how budgeting is carried out in your country's immunization programme is recommended so that the cIP cost estimate is aligned with the usual budgetary cycle. If completed in isolation from other budgeting exercises, cIP costs are unlikely to be prioritized and met.

Budgeting research should answer:

- What is the budgeting process for the EPI, and who is responsible for it?
- When are budgets allocated? Annually? Biannually?
- Is it preferable to create a stand-alone cIP budget plan or to integrate cIP costs into an existing budget document?
- Who should be aware of or involved in the cIP planning and budgeting exercise, and who should review drafts for feedback and validation?

### FUNDING PLAN

The funding portion of the plan should indicate possible and reliable sources of funding for those costs and the estimated timing of funds availability. Few countries will rely on a single source of funding to maintain activities. Funding diversification is essential for the long-term sustainability of any programme or organization, including the supply chain. Generating in-kind and financial support from donors and other organizations (for example the private sector) should be included among fundraising strategies.

To identify possible grants and contributions, EPI teams should list donors currently involved in EPI (such as technical partners, members of the national immunization technical agency group (NITAG), UN agencies) and ask what they would be willing or able to fund. During these discussions, be clear about the type of financial and in-kind support you need (printing, meeting space, facilitation support, etc.) and when you need it, so that they can be responsive. For example, eligible countries that need to purchase cold chain equipment could identify Gavi as a potential source of funding and apply for support from the cold chain equipment optimization platform (CCE OP). To fundraise more efficiently, it may be useful to liaise with other programmes and ministries that already receive funds from these donors and make joint requests.

TIP



#### INVOLVE THE MINISTRY OF FINANCE EARLY.

**Countries that involve colleagues from their Ministry of Finance during the planning and budgeting exercise generally have greater success raising funds and implementing their cIP. The presence of Ministry of Finance staff not only increases the accuracy of the cost estimates and sources of funds, but also accelerates the timeline for signing the budget and dispersing funds.**

# Implementing and monitoring the continuous Improvement Plan (cIP)

## 4

One of the key reasons WHO/UNICEF decided to relaunch the EVM initiative is because EVM improvement plans were rarely implemented. The comprehensive EVM approach addresses some of the critical shortcomings of the original EVM process (see SUPPLEMENT 11 below). It establishes management mechanisms to support the lifecycle of continuous iSC improvement, improves the quality of cIP planning, and incorporates iSC planning and budgeting within broader national and partner financing processes. Most importantly, however, the comprehensive EVM approach understands the value of involving a wider range of relevant stakeholders from within and outside the immunization programme and seeking their commitment to support supply chain improvement.

**SUPPLEMENT 11** WHO/UNICEF Joint Statement. Achieving immunization targets with the comprehensive effective vaccine management (EVM) framework [www.who.int/immunization/programmes\\_systems/supply\\_chain/EVM-JS\\_final.pdf](http://www.who.int/immunization/programmes_systems/supply_chain/EVM-JS_final.pdf)

## 4.1

### Socialize and institutionalize the cIP

**WHAT:** Socializing and institutionalizing a plan is the process of engaging staff working on iSC at all levels of the health system, talking to them about the cIP, and explaining how it should be used to guide iSC-related activities in their work plans, and how they can contribute to the success of the programme. Copies of the plan should be shared and presented to relevant Ministry of Health and Ministry of Finance leaders and staff at all levels, as well as partners and donors so they can support implementation by contributing expertise, resources, and technical assistance as needed.

**WHY:** A frequent complaint of field level staff is never seeing a copy of the improvement plans they are responsible for implementing. Sharing the cIP or a summary of the cIP with all stakeholders who have participated in its development, and to all staff working to implement it, is recommended. Technical partners also need to understand the cIP so they can help with implementation and complement the cIP within their own plans.

- WHEN:** After the cIP has been formally endorsed by the ICC.
- WHO:** The EPI team (or a credible designee from the NLWG, or any coordinating mechanism you have put in charge) is responsible for disseminating the plan to all EPI staff and highlighting areas of the plan that will impact EPI staff, other health staff, partners, and agencies.
- OUTPUT:** All immunization and supply chain staff receive a copy of the cIP (in full or summary). Once all staff receive the cIP document and monitoring indicators, they should be referenced and consulted routinely, during supportive supervision and at EPI managers' meetings.

**TIP**



**HOLD A NATIONAL DISSEMINATION EVENT.** Some countries have successfully held a national cIP dissemination event, coinciding with the official endorsement of the cIP from the government and other stakeholders, paired with subnational meetings with district/regional health officers and EPI staff.

## 4.2

### Implement the cIP

- WHAT:** Once the cIP is endorsed and disseminated, cIP activities and objectives will need to be integrated and reflected in annual national, regional, and district level work plans and budgets, as well as review processes. Committed resources must also be made available in time for staff at all levels to implement activities and keep to the cIP's implementation timeframe.
- WHY:** Implementation of cIP activities allows stakeholders to transform the supply chain into a more efficient and effective function of the immunization programme.

**TIP**



**ENGAGE THE WORKFORCE AT ALL LEVELS IN MANAGING AND MONITORING ISC PERFORMANCE.** The cIP strategic plan and indicators should be widely disseminated and discussed at all levels of the immunization system, and staff should be encouraged to track and monitor iSC performance indicators as they make changes to the programme. EPIs can recognize and develop "champions" of iSC continuous improvement by documenting best practices and success stories and sharing them with relevant national, regional, and global initiatives.



- WHEN:** Implementation can begin as soon as the plan is finalized, with some activities being taken up earlier if they are already approved. The key to rapid implementation is clear and frequent communication with staff and managers who are responsible for different activities and sufficient resources, tools, and support to ensure that staff members are equipped to carry out their work.
- WHO:** While the EPI team is responsible for day-to-day oversight of cIP implementation, the NLWG is responsible for monitoring implementation progress and KPIs and addressing challenges as they occur.
- OUTPUT:** The EPI management team should have regular meetings with regional/district supply chain personnel to discuss implementation progress and problem-solve issues that may arise.

## 4.3

### Monitor implementation and outcomes

- WHAT:** The annual operational plan should include a set of monitoring indicators that can be used to track implementation progress for day-to-day activities. The strategic plan should include a set of key performance indicators that should be tracked at least yearly or on a schedule agreed with the NLWG or other coordination mechanism in charge.
- WHY:** Monitoring indicators and key performance indicators are helpful ways of holding accountable staff members, partners, and consultants for the quality and timeliness of their work. These indicators can also be used to report progress to donors in the Joint Assessment for Gavi and other donor reporting mechanisms.
- WHEN:** Ideally, cIP implementation is reported in regular NLWG (or similar) meetings on a monthly or quarterly basis. If this is not possible, the NLWG should organize at least one in-depth review meetings annually to review end-of-year progress and develop year-two activities.
- WHO:** The NLWG is responsible for monitoring iSC performance through KPIs, and the EPI is responsible for managing and monitoring cIP implementation.
- OUTPUT:** Routine monitoring reports or presentations should be shared with the NLWG, showing progress along the indicators agreed within the M&E section of the improvement plan.

# Continuous learning and improvement

# 5

**Implementing iSC improvement activities and using performance metrics** to improve management requires all EPI staff to understand iSC standards, procedures, and best practices. EPI and iSC managers must have the capability to design new iSC systems, choose new cold chain technologies, and adopt an HSS perspective to improve and sustain systems performance. This cadre of leaders requires advanced and comprehensive skills to manage change and adopt innovation. Mid-level managers must be able to handle complex processes such as planning, forecasting, budgeting and supervision across the iSC.

Front-line health workers require skills, capabilities, and support to help them diagnose poor iSC performance and resolve such problems as they arise. The need is urgent in remote and low-access areas (particularly in emergency settings) where front-line workers are largely autonomous; however the need is applicable everywhere that programmes rely on motivated, self-driven professionals to pursue continuous improvement.

The comprehensive EVM offers an opportunity to position capacity development and iSC professionalization at the centre of iSC improvement. EPI programmes are encouraged to engage national and regional training institutions – including those proficient in the use of information and communication technologies for health – to participate in the EVM process and adapt EVM standards into dynamic learning curricula and to develop robust M&E systems for the cIP and its implementation.

Improvement planning is a continuous process that requires ongoing investments of time, personnel, and planning. Not all supply chain problems will be solved in one cycle, and new problems and challenges will arise as immunization programmes continue to grow and change. For this reason, a continuous improvement mindset is needed to ensure supply chain performance over time.

## TIP



**BUILD A COALITION OF SUPPLY CHAIN SUPPORTERS.** By asking national and regional capacity development institutions – and their academic networks – to support the EPI and its supply chain, countries can translate the needs of the programme into a robust, continuous learning agenda.



