In Myanmar, UNICEF is supporting the Ministry of Health and Sports (MoHS) in their efforts to improve supply chain performance by strengthening the collection, sharing and use of paper-based supply chain data at all levels. This case study discusses the process that the MoHS and UNICEF took to assess and improve data collection, data visualization, and data use, which will enable managers and healthcare workers at all levels of the immunization supply chain to make better informed operational and strategic decisions.

**Situation Analysis**

In recent years, the Ministry of Health and Sports (MoHS) has steadily increased its own financing of vaccine procurement. This requires an efficient supply chain performance to ensure domestic funds are used as effectively as possible. The Effective Vaccine Management (EVM) assessment of May 2015 noted a high level of reporting of data at every level of the supply chain. However, data was not used by managers to monitor their supply chain or to make procurement/management decisions.

It is within this context that MoHS/cEPI approached UNICEF to seek ways of improving supply chain performance. As part of its commitment to the global Strategic Framework of the GAVI Alliance, 2016-2020, UNICEF agreed in May 2016 to provide cEPI with technical support to improve the use of data for management of the supply chain by specifically reviewing the use of data at each level and to adapt the global approach to improving use of EPI supply chain data to the specific needs of Myanmar.

The process gained momentum with a detailed UNICEF assessment, undertaken in close collaboration with cEPI, in mid-2016. The joint assessment identified issues inhibiting improvements to supply chain performance and made recommendations based on the standard components for increased use of data but adapted to the specific needs of Myanmar.
Challenges to the current system

The logistics management information system (LMIS) used by the EPI programme in Myanmar is fully paper-based, except for an Excel spreadsheet used to monitor stock at the central store. For the most part, this system is carefully maintained at all levels of the supply chain with accurate and prompt reporting. However, the data was not prioritized; Central EPI’s (cEPI) priority in the past has focused on programme performance – the number of children vaccinated – rather than data on wastage, vaccine pipeline, or other supply chain data. cEPI viewed data on the management of the supply chain as important but little attention was paid to addressing a range of challenges.

For example, there were no standardized guidelines on collecting, analysing, and using supply chain data. Data was not shared systematically between the different levels of the supply chain. Myanmar did not have key performance indicators (KPIs) for monitoring the supply chain, so staff at different levels and regions monitored different indicators, and the MoHS did not have a consistent way to assess supply chain performance. Staff were unable to identify performance issues that inhibit the supply chain from responding in a timely way to program demands. Ultimately, this has had a negative impact on the timely availability of potent vaccines in communities where they are needed.

Other challenges included a lack of compliance with procedures and processes, such as inventory management, no culture of supervisory visits to review staff and system performance, and duplication and redundancy of forms and data.

Data for Management intervention

Initial discussions between the UNICEF Supply Division, the UNICEF Country Office and the MoHS/cEPI culminated in an agreement to undertake:

- An assessment of the current iSC and the revision of forms, procedures and processes.
- Identification of key indicators to be used and the parameters of a standard dashboard for the visualization of data.
- The development of a Supply Chain Data Use Manual to guide on using updated tools, calculate indicators and use dashboards based on the assessment recommendations.
- Pilot testing of the Manual and its implementation in a select number of locations nationwide for a period of 6-8 months.
- Roll-out/scale-up of the D4M approach across the country.

UNICEF recruited consultants to undertake a detailed assessment of the iSC in collaboration with a focal point from cEPI. As UNICEF does not lead the development process but rather provides technical assistance to the Ministry, it was essential to have full and meaningful ownership by the MoHS to ensure buy-in and sustainability in the longer term.

The specific areas of intervention are detailed below.

I. Data tools and report templates

To ensure that data can be consolidated at the central level, it was important to have standardized data tools and report templates. UNICEF and the MoHS...
to have standardized data tools and report templates. UNICEF and the MoHS reviewed the key forms used at each level of the supply chain, and standardized and simplified the tools and templates. This served to simplify data collection and avoid duplicate reporting to facilitate staff time, and ensured all relevant data is collected.

A summary of key forms and the change taken can be found in Annex 2.

II. Supply chain data use manual
UNICEF, in collaboration with cEPI, developed a supply chain data use manual for staff at all levels of the supply chain. The manual provided guidance on standard procedures related to forms and data flow, as well as outlined processes for using supply chain data to review reports and determine order quantities. The manual outlined how to use data to monitor supply chain performance, visualize performance in dashboards, and how to use data in supply chain data review meetings.

The Manual also enabled all healthcare workers to understand the rationale for collecting each type of data and the benefits in monitoring supply chain performance and in using data to take remedial action when needed.

III. Key Performance Indicators (KPIs)
In discussion between cEPI and UNICEF, Key Performance Indicators (KPI) were identified to monitor performance at each level of the supply chain, both in terms of stock management and staff performance. Monitoring performance is helpful for healthcare staff in their daily work and supports overall improvements to the performance of immunization delivery at the point of care.

At each level of the supply chain, only the KPIs that are relevant to healthcare staff at that level - and that are possible to monitor - are monitored. This means more indicators will be monitored at higher levels of the supply chain (such as at the central level) than at lower levels (such as in the community).

KPIs are also used to both monitor the performance of a vaccine store or facility as well as the performance of health facilities and stores supervised by a vaccine store. The supervising manager of such a vaccine store will thereby have an overview of good and poor performing facilities which, in turn, will help identify where to focus support in case of limited resources for supervision and feedback.

A list of key KPIs adopted by cEPI are included in Annex 3.

IV. Visualization of KPIs using dashboards
Visualizing performance of the indicators makes it easier to understand data, identify challenges and support operational and strategic decision-making at each level of the supply chain. UNICEF and cEPI developed paper-based dashboards for the KPIs listed above, at all levels of the immunization supply chain.
V. Review meetings

Regular supply chain review meetings consider data and performance indicators, identify actions to improve the functioning of the supply chain, and present an opportunity to provide feedback. Such meetings are organized based on existing meeting structures and can take place between each level of the supply chain and also between multiple levels.

Typical points in the standard agenda for review meetings include:

- A review of essential supply chain data
- A review of submitted indent forms and compilation reports
- An update of supply chain performance indicators and dashboards
- Action planning in view of available essential supply chain data and performance indicators

An overview of types and participants of review meetings is included in Annex 4.

Next steps in improving supply chain data use in Myanmar

After design and finalization of new tools, dashboard templates and the Immunization Supply Chain Data Use Manual, the pilot phase – anticipated to last between 6-8 months – will begin with a training-of-trainers (ToT) who will implement trainings around the country. Trainers who receive the data use training will be drawn from staff involved in the immunization supply chain and include, for example, basic health staff, Cold Chain Key Persons (at all levels) and cEPI staff. Managers at each level of the supply chain will first be trained, followed later by other staff of each level.

Pilot implementation will also comprise of monitoring and supportive supervision – undertaken by cEPI, State/Region EPI team leaders and the UNICEF EPI team – to see that the skills gained by staff in the trainings are put into practice.

The findings from the pilot activities will inform updates to the tools and processes and the method for implementation before the scaling-up of improved data use, which is anticipated to begin in 2018 with a gradual roll-out to State/Regions and Townships. Scale-up will include use of the data use Manual, including use of all forms, processes and dashboard compilation.
relevant to the supply chain level where the training takes place, as well as support to establishing systematic review meetings and the standard agenda items to be discussed at such meetings. A Cold Chain Key Person (CCKP) in each Township will be the focal point for ongoing requests for assistance and the primary contact point for cEPI that will undertake supervision and monitoring of the scale-up activities with the technical assistance of UNICEF EPI staff.

Lessons learned

Whilst the piloting and scaling-up of improved data use has yet to commence, a number of lessons have already been identified in Myanmar:

- Improving data use is achievable with a paper-based system and can contribute to plans to develop a future electronic LMIS (eLMIS) for EPI. Selection of key performance indicators, the format of dashboards, and the flow of data within the supply chain should be first determined and implemented before embarking on an eLMIS.
- If there is insufficient capacity within the national EPI, longer term consultants may be the solution to supporting implementation of data improvements.
- Key stakeholders need to continually keep in mind what the final situation will look like – meaning the vision, or objective - as improvements to data use are implemented; each implementation step should contribute to the attainment of that vision or objective.
- Throughout the assessment stage and implementation of its recommendations, the high workload associated with these tasks required a UNICEF consultant and a focal point from cEPI to collaborate to ensure progress through each step of the process. In doing so, key individuals - or ‘champions’ – have been identified at various levels of the supply chain and elsewhere within the MoHS who play an important role in supporting the implementation process. Such individuals will be able to provide oversight of the improvement process throughout its pilot stage and facilitate its scale-up nationwide.

Contact your UNICEF country or regional office, or the UNICEF Supply Division in Denmark, to begin the process of improving the performance of your immunization supply chain: data4management@unicef.org.

Annex 1. Timeline for implementing improvements in EPI supply chain data use in Myanmar
Annex 2. Overview of the data tools that were simplified

Annex 3. Key Performance Indicators adopted

Annex 4. Examples of review meetings planned in Myanmar