Bringing Data Review Teams to National Scale:

Insights and recommendations for the Gavi 5.0 period

November, 2020

1.0 Introduction

In recent years, improving the availability, quality and use of immunization data has emerged as a high-potential pathway for improving coverage and equity. Leveraging increased access to mobile data, smart devices and software, stakeholders at global and country level have been investing heavily to improve data systems.

Multiple interventions have been developed and tested to increase data use for improving immunization program performance. These interventions include developing and introducing logistics management information systems (LMISs), decision support systems, data quality assessments, peer learning networks and on-the-job trainings, to name a few.[1] Within the immunization supply chain space (iSC), many country level implementers are currently focused on how to best enable national and subnational logistics officers to take data-driven actions for improving supply chain performance and ensuring vaccines are available when needed-- with one major pathway being the creation and scale up of **data review teams (DRTs)**. DRTs are a sustainable approach and an opportunity for stakeholders from across supply chain tiers to review key supply chain performance indicators (KPIs), identify and assess performance issues, and develop actionable solutions for improving supply chain and program performance.[2] There is a growing body of strong quality evidence that links data review teams with increased data availability and analysis, supply and cold chain KPI improvements and increased immunization coverage rates.[1] DRTs work best when embedded in a broader performance management system and brought to scale nationwide.

This document aims to provide countries, donors and implementing partners with early insights into how to better ensure DRT scale-ups achieve high-quality adoption, keep to timelines, and contribute to the long-term sustainability of the data review team platform. This guidance treats scale-up as a discrete operational process, with key success drivers during the preparatory, implementation, and post-implementation periods. As such, it does not directly address questions of DRT design, which have been covered well in other resources.

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[1] Immunization Data: Evidence for Action. A Realist Review of What Works to Improve Data Use for Immunization, Evidence from Low- and Middle-Income Countries [précis]. Seattle: PATH, Pan American Health Organization; 2019.
[2] Please note that while the guidance provided in this document is widely applicable to all health commodity supply chains and health programs, it is largely based on the experiences of country teams supporting immunization programs and immunization supply chain (iSC) improvements.

The design and purpose of data review teams

While this paper will not provide explicit guidance for the initial design of data review team interventions, it is important to note that designing the ideal DRT model for a specific country's context is very important, as missteps in the design phase can lead to subsequent challenges with scaling and sustaining meetings in the long term. Examples of important design elements for making meetings effective and sustainable include:
- Including the right combination of DRT participants.
- Relying on pre-existing meetings and resources when possible.
- Building in accountability and motivation mechanisms.

CHAI, JSI and VillageReach are global leaders in public health supply chains and have collectively supported the implementation of data review team interventions in over 20 countries. Based on their experiences, these organizations have developed a list of recommendations and considerations for implementers looking to design DRTs in their countries (Figure 1).[3]

Figure 1: Key Components of Data Review Team Interventions

Decision Support Tools
Analysis and visualization tools to facilitate indicator tracking, performance measurement, etc.

Meeting Opportunities
Building on existing performance review and monitoring meetings.

Four Key Meeting Processes
Four key meeting activities: KPI review, problem identification, problem cause analysis and action planning supported by process tools.

Accountability & Motivation Mechanisms
Strategies such as positive affirmation, competition, financial mechanisms, etc. to motivate DRT members and keep them accountable.

Data Review Teams

Leadership & Commitment
Stewardship and vocal commitment from high-level leaders to DRT intervention and data use for supply chain improvement.

Data Review Team Composition
Team composition relevant to the context and goals of the data review team intervention.

Revealing Issues in Data
Use the data review meeting as an opportunity to highlight and address data quality issues.

Training
Orientations to build buy-in and build the capabilities of the data review team members.

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[3] "Data Review Teams: A promising practice to improve data use and strengthen immunization supply chains". John Snow Inc., VillageReach and Clinton Health Access Initiative. September 2019. Link: https://www.technet-21.org/media/com_resources/trl/5621/multi_upload/Data%20Review%20Teams%20for%20iSC%20Strengthening_Synthesis%20Report_2019-1568230736.pdf

When DRTs are designed to account for these recommendations, the evidence from these interventions suggests that data review teams can lead to improved data visibility, improved stock availability and reduced wastage rates (Figure 2). In addition, DRT interventions can lead to increased capacity of participants to analyze and use data, improved data quality (e.g., data completeness, timeliness, and accuracy of reporting), and increased use of data for operational decision making.

Figure 2: Outcomes of Data Review Team interventions implemented by CHAI, JSI and VillageReach

	VillageReach			CHAI			JSI		
	Mozambique Phase 1	Mozambique Phase 2	Mozambique Phase 3	Cameroon	Nigeria	Tanzania	Guinea	Kenya	Pakistan
Performance Year	2015	2017	2017	2018	2018	2017	2018	2017-2018	2017
Performance across key indicators	*Avg across 4 provinces* Distribution ❑ Direct delivery health facility visit rate: **74%** Stock availability ❑ Vaccine stock out rate at visited health facilities: **5%**	*Avg across 8 provinces* Distribution ❑ Direct delivery health facility visit rate decreased to **57%** Stock availability ❑ Vaccine stock out rates increased, but remained low at **24%** in visited health facilities	Reporting ❑ Health facilities DHIS-2 reporting rate: **89%** Data Quality ❑ Data consistency in DPT3 and PCV3 coverage: Most provinces stayed within the **33%** accuracy target set by WHO Stock availability ❑ Vaccine stock out rate: **24%**	Stock availability ❑ Central store stocked w/ 5 **out of 9** Vx above min. stock levels: **100%** ❑ Regional stores stocked w/ 6 **out of 9** Vx above min. stock levels: **100%**	Stock availability ❑ Kano State: Stock adequacy increased from 67% (2015) to **98%** ❑ Lagos State: Stockouts **eliminated** at LGA & state level (from 27% and 50% in 2016, respectively) ❑ Nasarawa State: Stock-outs were **eliminated** at State & LGA level ❑ Niger State: Stock adequacy improved from 30% (2016) to 68%	Stock availability ❑ Number of districts with adequate stock levels for more than 10 days per month increased from 6/33 (18%) in 2015 to 22/33 **(66%)** in 2017	Reporting ❑ Facility reporting rate: **100%** by mid-year ❑ On-time reporting improved from 78% (2016) to **91%** (avg across the 6 districts with all showing improvement) Stock availability ❑ Decreased stockouts and improved stocked according to plan rates in **most districts** *(depending on district and product category)	Reporting ❑ Total reporting rates improved from 86 to 90% on average ❑ Timely reporting rates improved from 74 to 83% Stock availability ❑ Reduced stockouts by up to 26% Stock storage ❑ % of time vaccines spent in correct temperature range **improved** for the three counties that implemented RTM devices and teams	Stock availability ❑ Avg % of UCs with all 7 primary routine vaccines in stock each month across the 3 QIT districts rose from 34% (Q1/Q2 2016) to **87%** in Q2 2017 ❑ Avg % of health facilities reporting on all vaccines each month increased from 36% (Q1/Q2 2016) to **91%** (Q2 2017) ❑ Avg stockouts **decreased** in all implementation districts

For more information on how to design and pilot DRT interventions, CHAI recommends reviewing the following resources (Box 1):

Box 1: Resources for the design and implementation of DRTs, including piloting
This document assumes that the country has identified a high-potential DRT model, evaluated it, and is now seeking to scale it nationwide. For guidance on how to develop a strong DRT model that is tailored to country needs, please see the following resources:
- [Data Review Teams: A Promising Practice to Improve Data Use and Strengthen Immunization Supply Chains;](#) 2019. CHAI, JSI & VillageReach.
- [A Realist Review of What Works to Improve Data Use for Immunization: Evidence from low- and middle-income countries](#); 2019. PATH, Pan American Health Organization. World Health Organization.

Focus of this document

While the design of DRTs has received significant attention in recent years, many interventions have been at "pilot" or sub-national scale, with only a few countries introducing the concept nationwide. Furthermore, the operational, technical and resource needs for rolling out a management process intervention can differ from more routine launches (e.g. new technologies, vaccines, clinical guidelines). This novelty can lead to scale-ups that are implemented unevenly across the country, experience recurrent delays, or are not sustained after the launch period.

This document aims to provide countries, donors and implementing partners with early insights into how countries can enable high quality adoption, timeline adherence, and long-term sustainability for DRT scale-ups. To do this, it draws on the experience of implementing partners-- CHAI, JSI, and VillageReach-- that have supported such efforts during the Gavi 4.0 period. Given the ongoing nature of many of these efforts, this document does not claim to be comprehensive, but rather aims to highlight initial lessons on what can drive greater success.

This remainder of this document will cover three major areas:

- A review of observed and expected challenges in bringing DRTs to scale.
- Lessons for implementing countries on how to overcome challenges and scale effectively.
- Specific activities that implementers can take to operationalize these lessons.

2.0 The Challenge of Scaling DRTs

For most countries, introducing DRTs will represent a significant change in how supply chain decisions are made -- particularly in areas where data has not been historically available in a consistent or high-quality format. Furthermore, there can be significant variation across a given country in terms of needs, starting capacity, and resources. How a country achieves this change at national scale while accounting for variation is what this document will define as the **national scale-up strategy**.

In general, the goal of scale-up strategies is to ensure that every target group in the country receives sufficient support to incorporate DRTs as a routine decision-making process. This goal can be further broken down to define success along three axes:
- **Quality of Rollout Support:** Every targeted point in the country receives sufficient support (e.g. training, guidance, resources) to adopt the new DRT model.
- **Speed of Progress to Scale**: The DRT model is introduced in all target sites as quickly as possible, with minimal disruption to timelines.
- **Fostering Sustainability**: The scale strategy encourages and enables the sustained adoption of the DRT approach.

Achieving all these objectives at scale is challenging and resource intensive. Most EPI programs will need supplemental financial resources from donors, technical and implementation support from partners, and the active involvement of political leaders. In addition, depending on the size of the country and complexity of the new approach, some of this investment may need to be sustained for multiple years.

2.1 Review of Common Challenges

The table below summarizes some of the common drivers of operational challenges that can emerge as countries -- and the partners/donors supporting them -- attempt to conduct national scale up, as well as how they impact the objectives of quality, speed and sustainability. Below this summary, each of these elements is discussed in greater depth.

Table 1: Summary of common scale-up challenges

Common Challenge	Impact on Scale-up		
	Quality	**Speed**	**Sustain**
Lack of fixed scale-up package	⇩	⇩	⇩
Lack of coordination control over partners	⇩	⇩	
Insufficient resources to implement an effective package	⇩	⇩	⇩
Difficulty sustaining political attention	⇩	⇩	⇩
Absence of tail-support strategy	⇩		⇩
Missed opportunities to implement sustainability strategies			⇩

Lack of fixed scale-up package	Quality ⇩	Speed ⇩	Sustain ⇩

As with any intervention, it is important to be explicit about the exact nature of what is being introduced (e.g. tools, processes, skills) and the resources needed to introduce it effectively (e.g. training curriculum, data templates, seed funding).

DRT interventions usually emerge out of an initial pilot phase, which tends to be a dynamic and resource-intensive process. This is because the specific combination of support (e.g. training, mentorship, supervision visits, incentives) and associated materials (e.g. job aids, training tools) often evolve over the course of the pilot, as the implementing partners and government officers work to identify the most effective combination. While essential to developing a best-possible model, this kind of learning approach does increase the scope and costs of support provided during the pilot.

During the scale-up of DRTs, however, it becomes important to be as cost- and time-efficient as possible, as countries need to ensure their investment in the rollout is fully effective without compromising other priorities. Unfortunately, many countries move to scale-up quickly after the pilot phase and miss opportunities to identify the most essential combination of support elements or refine associated materials to a best-possible model. This can lead to delays in scaling, suboptimal outcomes, inconsistency across sites/partners, and higher-than-necessary rollout costs. In some cases, the pilot model is determined unscalable because the magnitude of resources required is too high; in these cases, this is a problem with the initial pilot design and should be considered early on.

Lack of coordination between partners	Quality ⇩	Speed ⇩	Sustain --

National scale rollouts often involve the participation of multiple implementing partners. These partners provide the 'surge' of capacity needed to roll out the intervention at scale, oftentimes operating in parallel across multiple regions.
The coordination of these parallel efforts is critical to ensuring high quality and timely implementation. With good coordination, the government will have visibility into the approach being used, the progress towards uptake, and knowledge of any course corrections that need to be taken.

Unfortunately, many countries find their coordination measures lacking during national scale-ups efforts. For example, countries may lack a clear schedule for measuring progress; or existing coordination forums may not offer enough time to review progress and problem solve. This can reduce the government's visibility into progress, and lead to deviations in the approach taken (reducing quality) or delays (increasing time taken). In other cases, partners may have competing intervention approaches or funding timelines, which can create friction within the implementation group.

Insufficient resources to implement an effective package	Quality ⇩	Speed ⇩	Sustain ⇩

Similar to implementation support, countries usually require a significant surge of funding in order to bring a DRT intervention to national scale. This may be used to cover costs such as training sessions, publication of resources, coordination meetings, capital products (e.g. projectors, computers), or incentives for attending DRT meetings. In addition, this funding will often be consumed over an extended period -- often, 1-2 years.

Countries may struggle to access this funding in sufficient and timely ways, leading to constrained or fragmented rollouts. Driving factors can include:
● Lack of clarity into full costs over the duration of the scale-up; lack of business case to help donors and/or domestic funders to prioritize sufficient resources amid competing priorities; difficulty securing scale-up funds after a successful period, especially when occurring mid-funding cycle.
● Funding instability in the face of acute and/or competing priorities.

Difficulty sustaining political attention	Quality ⇩	Speed ⇩	Sustain ⇩

One area that has been emphasized in previous documents about DRT interventions is the importance of political attention to the process. This is because DRTs often represent a major change in how decisions are made and require both political support and dedicated resources to facilitate changes and ensure actions are carried out.

In the context of a national scale-up, political will is even more important. For example, national and regional leaders may be responsible for establishing the expectation that the DRT model is used and hold sub-national teams accountable. Furthermore, they are also an important source of continuity, ensuring that the DRT model is continued after the "launch" period.
Unfortunately, the long duration of many national scale-ups can make it challenging to sustain this political will. Reasons can include:
● Political leaders at each level may be unclear on their role in and the specific benefits of establishing the DRT model, leading them to direct attention elsewhere.
● Countries may lack the platforms to demonstrate and align decision makers on the importance of adhering to the new model.
● Reliance on a small number of political champions can make the model sensitive to staff turnover / attrition.

Absence of tail-support strategy	Quality ⇩	Speed --	Sustain ⇩

For many national scale-ups, the initial 'surge' period of the national-scale up -- where resource demand is at its highest -- will be followed by a 'tailing off period'. Activities that often occur during this period can include:

- Conducting ongoing light-touch support for all target groups to ensure adherence to the model and tweak accordingly.
- The progressive withdrawal of surge resources (e.g. funding for meetings, analytical support), which must be taken up by local governments as soon as possible.
- Targeted training, mentorship, or other support for groups that are struggling to introduce the DRT as planned, which can be provided by government actors and/or local institutions.

While this tailing off does happen somewhat naturally as surge resources are consumed, it can be complicated by several different factors that risk sustainability and quality. These can include:

- In the absence of a clearly articulated plan, the withdrawal of surge resources can seem sudden, leaving local DRTs struggling to maintain the model.
- If the strategy did not budget or plan for targeted supplemental support, it can be challenging to find resources to respond to needs.

Missed opportunities to implement sustainability strategies	Quality --	Speed --	Sustain ⇩

Eventually, the national scale-up period will end, and the country will have transitioned to the DRT model as its standard data management approach -- hopefully, seeing an increase in supply chain and coverage performance as a result.

To support the sustainability of this model, there are a number of actions that can be taken in parallel to the active scale-up. Often, these are targeted efforts that create an enabling environment for the DRT model, rather than explicitly supporting scale, and can include:

- Identifying and implementing changes to core training curriculum for new immunization officers to address high levels of staff attrition and better reinforce the DRT system.
- Providing budget planning or other supportive tools to help ensure DRTs are maintained and prioritized within local governments.
- Identifying and defining national and subnational monitoring and reporting communication structures, which are necessary for sustaining DRTs within a broader performance management system.
- Building DRT outputs or approaches into routine meetings, helping to maintain political visibility and attention on the model after the rollout period.

Unfortunately, because these types of actions deliver value in the longer term, their development may be neglected during the rollout period. This can lead to missed opportunities to combine this support with scale-up activities or, they are neglected altogether when attention shifts post-rollout.

3.0 Lessons Learned in Bringing DRTs to Scale

The challenges described above demonstrate common and meaningful risks to the success of both the rollout and the DRT platform itself. While there is no comprehensive and universally-applicable set of solutions to these issues, partners with early experience in DRT scale-up (CHAI, JSI and VillageReach) have identified several relevant lessons that can help avoid or mitigate some major issues.

These lessons are presented to be most useful to **planning and strategy leads** within country EPI and MoH, as well as the **technical partners** and **donor liaisons** supporting the country. As such, they are expected to be used at the start of the **planning phase** for DRT scale-up -- that is, after a high-potential model has been piloted and refined in-country, and before broader national scale-up begins.

Below, the reader will find lessons supported by countries' experiences scaling up DRT-type interventions, along with practical suggestions on how to act on these insights. Furthermore, to help strategy leads incorporate these lessons into their plans, they are organized under three major phases of the rollout -- described here and depicted in Figure 3.

- **Pre-Implementation Phase**: The period before national scale-up but after a pilot, when a country is deciding how to best bring the DRT intervention to scale.
- **Implementation Phase**: The period of most active intervention, including the (i) the primary rollout, often defined by capacity-building and hands-on support, and (ii) the phase-out period when those resources are progressively withdrawn.
- **Post-Implementation Phase:** The period after the national scale-up has been completed, and DRTs are becoming an institutionalized and routine process.

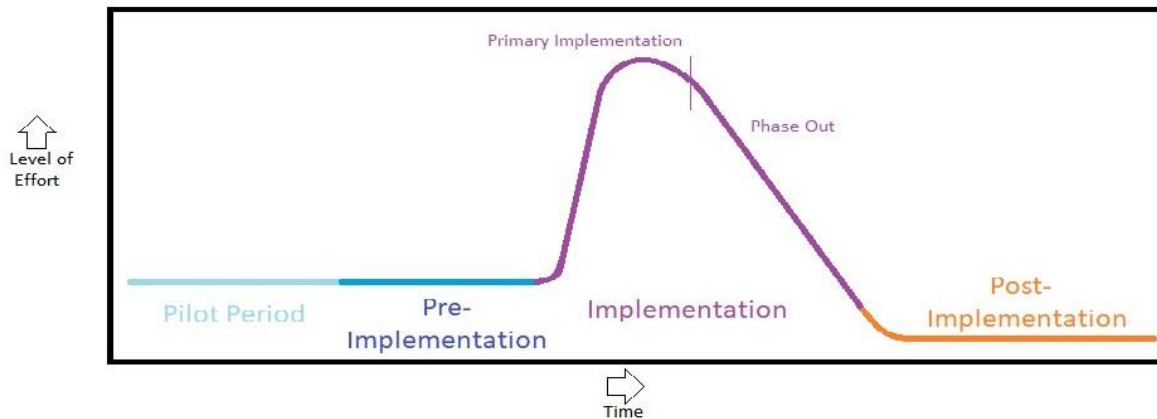*Figure 3: Phases of National Scale-up Efforts for Implementers*

Table 2: Summary of Lessons in this Document

Phase	Lesson	Page
Pre-Implementation Period	Clearly document and standardize each element of the DRT model that will be scaled	10
	Formalize the support materials and capacity building approach that will be used in each region	11
	Identify opportunities to leverage existing and new sources of funding	12
Implementation & Phase-Out Period	Implement a routine system for tracking progress, monitoring partner activities, and problem-solving challenges	14
	Expect some regions to face extra challenges, and position resources for supporting them	15
	Emphasize DRT ownership and continuity when transitioning from hands-on support	16
Post-Implementation Period	Sustain attention and value by incorporating DRT KPIs into major meetings	18
	Update pre- and in-service training resources for DRT-related skills	20

3.1 Preparatory Phase

The preparatory phase is concerned with ensuring all the materials, resources and plans are in place to execute the rollout. This often includes a combination of (i) refining the materials and approaches used in the pilot, along with (ii) establishing the strategy that will bring the DRT model to scale as effectively as possible. Reflecting those elements, this document spotlights three key areas for attention during this period:

Lesson	Impact on Scale-up		
	Quality	**Speed**	**Sustain**
Clearly document and standardize each element of the DRT model that will be scaled	⇧	⇧	⇧
Formalize the support materials and capacity building approach that will be used in each region	⇧	⇧	
Identify opportunities to leverage existing and new sources of funding	⇧	⇧	⇧

Clearly document and standardize each element of the DRT model that will be scaled	Quality ⇧	Speed ⇧	Sustain ⇧

When adapting a pilot intervention for scale, it is valuable to invest time in documenting and standardizing key elements. This can include the list of which KPIs are reviewed, the template for presenting/summarizing data, the frequency of the meeting, and who leads/attends the DRT.

This approach will deliver value both during the rollout and afterwards. Initially, this standardization helps ensure that all supporting partners -- some of whom may have not been part of the pilot -- are introducing the same tools. Following the rollout, this will help to align practices across the country, which allows countries to leverage these models at both regional and national scale.

For example, when Tanzania began introducing DRT approaches alongside its new stock management platform (VIMS), the implementing partners (JSI, CHAI) worked with the government to create standardized KPIs and presentation templates. The result of this collaboration, in addition to reinforcing VIMS utilization, was scaled-up use of KPIs for decision making that now occurs across national and subnational level meetings. CHAI teams in Nigeria took a similar approach and found that this standardization helped state leaders enforce accountability for populating summaries, as they knew all LGA officers had received the same tools. In Mozambique, VillageReach introduced the Visibility and Analytics Network (VAN) toolkit, which provides a standardized approach to iSC data review and response. This toolkit enabled cascade trainings at the provincial and district level, eventually leading to the further scaling of DRTs without partner support.

Potential activities to implement this lesson

- ❏ **Assign the pilot leads to create standard versions** of each essential element of the DRT model. At minimum, this is likely to include:
    - ❏ The list of KPIs that should be presented at each meeting.
    - ❏ The template for summarizing data ahead of the meeting, and the person(s) responsible for populating it.
    - ❏ The persons responsible for attending, convening and leading the meeting.
    - ❏ The expected frequency of the meeting at each level of the supply chain.
    - ❏ The expected mechanism for feedback and reporting to the relevant supervising supply chain level and/or national level.
    - ❏ For more information, please see DRT design resources in Box 1.

- ❏ **Conduct a workshop with the government and implementing partners** to present the standardized versions. This provides the opportunity to ask questions, provide feedback, and propose changes (as needed).
    - ❏ As applicable, include subnational stakeholders for additional perspective.

Formalize the support materials and capacity building approach that will be used in each region	Quality ⇧	Speed ⇧	Sustain --

In addition to deciding what elements will be scaled, it can also be valuable to align on what support that each region will receive during the scale-up. This includes defining the kinds of support to be provided (e.g. training, mentorship, funding), as well as any supportive materials (e.g. computers, job aids). This will help ensure each region gets all necessary support, funding needs can be fully modeled, and creates a foundation for holding partners and regions accountable. It is also important for this support package to be efficient in order to minimize costs -- prioritizing the types of support that were most effective and essential during the pilot period.

The first task is to formalize the types of support each region will receive over the course of the implementation period. This is usually informed by the pilot, with every country likely to tailor the support package to best fit the target regions' needs while also ensuring it is sufficiently cost-effective to be scaled nationally. Common elements include:
- **Primary orientation**: Large trainings/meetings to introduce the DRT model, workshops with EPI and regional leaders to set expectations.
- **Hands-on support:** DRT meeting facilitation and in-person skill mentorship (e.g. data analysis, data presentation).
- **Resource support:** Capital purchases (computers, projectors), travel allowances for meeting attendance.

In addition to defining an overall package of support, this is also an opportunity to standardize the capacity building materials. For example, this may include printed job aids, presentation materials for use in training sessions, or guidelines on how to mentor effectively.

In Tanzania, CHAI found that hands-on mentorship was essential to DRT uptake, as it demonstrated to users how the approach helped them manage real-world problems. To help share this experience, CHAI co-hosted a workshop with JSI that allowed both the government and partner attendees to learn about the mentorship approach. In Nigeria, CHAI found that engaging national and state level EPI managers to help conduct hands-on training and subsequent mentorship for DRT participants was an especially effective approach, as it helped generate acceptance for the DRT tools and capacity building process.

Potential activities to implement this lesson

❏ **Conduct a national workshop to define the support each region will receive.** Target outputs from this workshop can include:
- ❏ A list of the support each region should receive, and the expected timeline to provide that support.
- ❏ (If applicable) Review the experience and ability of partners to support different regions / topic areas, and delegate responsibility.

❏ **Assign responsibility for developing and printing/publishing training (or similar) materials.**
- ❏ As applicable, include subnational stakeholders for additional perspective.

Identify opportunities to leverage existing and new sources of funding	Quality ⇧	Speed ⇧	Sustain ⇧

Scaling a DRT model nationwide can be resource-intensive, requiring significant human resources (national/regional officers' time, partner support), activities (training sessions, meetings, travel costs) and often capital expenses (computers, projectors). Securing sufficient funding can help a country implement the best-possible rollout strategy -- helping it occur quickly and with good results.

Leveraging existing partner funding is one approach to securing sufficient funds. In many countries, the National Logistics Working Group (NLWG) can serve as a primary forum for partners to share what resources can be committed. However, it is important to confirm the funds can be applied to the appropriate support model. For example, in Tanzania, one source of UNICEF funding could only be used to fund DRT meetings. As these meetings were scaled, subnational meeting coordinators were not able to access the technical support needed, which limited their flexibility to fully support the reviews.

Where current partner funding is insufficient, it can be supplemented with Gavi Targeted Country Assistance (TCA) and Health Systems Strengthening (HSS) requests. These allow partners to provide human resource support (training, mentorship, coordination) and cover some operational costs. However, it is important to apply for TCA early -- securing a contract can often take between 6 and 12 months. As well, many TCA contracts are only one year in length -- if the full project is likely to extend over this period, an exceptional length and/or multiple contracts may be needed.

It is also valuable to be highly proactive in planning how operational costs (e.g. meetings, travel, training), capital purchases (e.g. computers), and the support of government officers will be covered. For most countries, Gavi HSS will be the primary source of such funding, with disbursements generally structured in five-year blocks that are difficult to reallocate once assigned. However, this can be avoided by provisionally allocating funds for a post-pilot scale-up, which Gavi allows so long as potential costs are mapped and justified. In the event the pilot does not generate results, these funds can either be repurposed for an additional pilot or reprogrammed to other parts of the program (in some cases, requiring Gavi approval).

Potential activities to implement this lesson

❏ **Conduct a review of currently available partner funding to support DRT rollout**
    ❏ Confirm that the funding is sufficient for all elements of the support package (see preceding lesson)
    ❏ Where funding is insufficient or cannot be applied to all support needs, prepare Gavi TCA requests at minimum 9-12 months in advance of target rollout date.
 	
❏ **Proactively set aside funding for both pilot and expected scale-up costs within a single HSS proposal**
    ❏ Scale-up costs can be estimated based on broad estimates, which can be refined once the results of the pilot are available.
    ❏ In the event that the pilot is unsuccessful, smaller scale-funding reallocations (e.g. for an additional pilot) may be possible without resubmission, while larger scale reprogramming may require Gavi Secretariat or Independent Review Committee (IRC) approval.

3.2 Implementation Phase

The implementation phase is the most active period in a national scale-up. In many countries, government officers and partners will be supporting multiple regions to adopt the DRT intervention at the same time, while also maintaining attention on routine priorities. This means that any problems or delays can have significant negative effects, both to the progress of the rollout and other EPI program obligations.

As a result, many of the lessons in this period focus on **enabling effective coordination** across implementers, as well as **rapid response to any issues that arise.** In addition, there are some early findings on how to help the **intervention period transition smoothly into routine operations** for each region, especially as enabling resources (e.g. data analysis support, meeting coordination) are withdrawn.

Lesson	Impact on Scale-up		
	Quality	**Speed**	**Sustain**
Implement a routine system for tracking progress, monitoring partner activities, and problem-solving challenges	⇧	⇧	
Expect some regions to face extra challenges, and position resources for supporting them	⇧	⇧	⇧
Emphasize DRT ownership and continuity when transitioning from hands-on support	⇧	⇧	⇧

Implement a routine system for tracking progress, monitoring partner activities, and problem-solving challenges	Quality ⇧	Speed ⇧	Sustain --

During a large-scale rollout, coordination mechanisms can help make sure the implementing group stay apprised of progress, challenges, and opportunities. This is particularly important when implementing across multiple regions or districts at the same time, as experiences may differ location-to-location.

Often, this type of coordination can be incorporated into existing meetings. For example, in Nigeria, partners have used the national logistics working group (NLWG) meetings, state logistics working group (SLWG) meetings and M&E working groups to facilitate this kind of activity. This was further enabled by a standardized reporting template for describing progress across each partner. In places where the NLWG is not as established or has limited additional bandwidth, countries may wish to request TCA for coordination support. However, even where the group is TCA-funded, it is best for the government to chair the meeting. This allows them to act as the final decision maker and ensure alignment and collective action across partners.

It can also be valuable to establish a 'terms of reference (TOR)' or other mechanism to align partner roles and activities. In another CHAI program country, this lesson was learned the hard way, as a lack of clear coordination mechanisms during LMIS rollout led to uneven progress and low visibility across regions and partners. In response, the government convened partners to develop a TOR that laid out expectations and mechanisms (i.e., meetings and workplans) to better facilitate coordinated activities.

Potential activities to implement this lesson

❏ **Establish regular updates within the NLWG (or equivalent) for coordinating the rollout**
  ❏ Early in the process, develop a workplan that establishes timelines, milestones, roles, and responsibilities, KPIs for measuring program improvements and accountability frameworks for each region;
  ❏ Develop a standardized template for reporting progress.
  ❏ (Optional) If there is no existing coordination platform to leverage, consider seeking TCA to fund a dedicated secretarial position.

❏ **For rollouts with multiple supporting partners, establish a TOR or other document that lays out expectations and obligations.**

Expect some regions to face extra challenges, and position resources for supporting them	Quality ⇧	Speed ⇧	Sustain ⇧

In almost all national scale-up efforts, there will be some regions that require an above-average amount of support in order to adopt the new system. If these needs are significant and unexpected, they can cause significant delays and may undercut the likelihood that the DRT model will be adopted well -- or at all -- in that region.

Types of supplemental support provided by CHAI in Nigeria, Tanzania and Cameroon included:
- Additional hands-on support / mentorship to develop data analysis and presentation skills.
- Dedicated training on foundational technology platforms (e.g. LMIS, presentation software, desktop computing)
- Additional meeting facilitation to orient all participants on how to apply KPIs and problem-solving methods to their particular circumstances.

To help mitigate these risks, CHAI program teams suggested two potential strategies:
- Calibrate the expected level of support to higher than the average region/district will require -- that is, a level which could be expected to meet the needs of 80% of sites. While this will increase costs, it will help ensure that most sites do not need supplemental support.
- Through either TCA or HSS funding, set aside supplemental resources for sites that need additional capacity building or resources to fully adopt the model. If they are not needed, these resources can be reprogrammed to a more useful approach.

Potential activities to implement this lesson

- ❏ **When designing and budgeting the rollout plan, incorporate effort assumptions and buffers into the proposal**
    - ❏ When developing the support package, calibrate the level of support to what was required in the most-supported pilot site.
        - ❏ Develop a system for categorizing the anticipated level of support (i.e., high touch, moderate, low touch) per focal geography
        - ❏ For geographies where there are pre-existing relationships, implementers can categorize based on previous experience working together
        - ❏ In new focal geographies with no previous working relationship has been established, a rapid needs assessment may be sufficient to categorize the level of support required. Relevant questions include:
            - ❏ Do you currently review data for your facility?
            - ❏ If so, what KPIs do you review?
            - ❏ How do you measure impact?
    - ❏ Identify partners or other funding sources that can be set aside in case of additional support needs.
    - ❏ Be realistic when outlining project timelines, as the most-supported sites may also require more time for project uptake and results generation.

Emphasize DRT ownership and continuity when transitioning from hands-on support	Quality ⇧	Speed ⇧	Sustain ⇧

When transitioning-out support resources, one of the greatest drivers of success is ownership, and ensuring that the subnational officers who will take the DRT forward have accepted their role and associated accountability. Based on experience from CHAI program countries, the following strategies can help to support this handover:

- **Set clear expectations:** From the beginning of the rollout in the given region, it should be clear what support will be provided, when it will end, and what expectation the national and subnational government will have going forward. This can also be combined with setting post-rollout milestones -- such as presenting regional data in the DRT format at an annual meeting or facilitating workshops for DRT participants to share their successes and failures with each other and national level staff.
- **Clearly establish DRT management as a role with individuals and leadership:** It is also important that the people leading the DRT understand that this is now a formal responsibility of their role. As well, it is important to align on that expectation with their direct manager (e.g. regional or district health officer) to reduce any conflicting priorities.

It is also valuable for the central government to maintain visibility into DRTs as active support phases out. This helps ensure that the meetings continue and that -- if needed -- additional support is made available.

- In Cameroon, this was achieved by having a member of the central EPI attend quarterly DRTs at the regional level.
- For larger rollouts, this can be managed through an online meeting reporting form. This can help to confirm attendance, what data was reviewed, and that actions were generated. JSI developed a tool for this in Tanzania, which is currently being completed by partner attendees after each meeting (see details below).

Potential activities to implement this lesson

- ❏ **Convene a workshop with participating regional leadership to communicate the rollout process and post-rollout expectations.**
    - ❏ Ensure all relevant regional and district level leaders and key stakeholders are invited to an opening workshop in which the expectations for the beginning, middle and end of the rollout process are very clearly communicated.

- ❏ **Engage both DRT participants and regional leadership on ongoing roles and responsibilities**
    - ❏ Key roles to consider are who will be (i) collecting data and placing it in the template, (ii) convening the meeting on schedule, and (iii) conducting reporting and follow-up actions.

- ❏ **Implement a reporting system for tracking the occurrence of meetings and their outcome.**

> ❏ The JSI-developed reporting template from Tanzania is an online resource that enables participants to enter meeting information and automatically generate a meeting report. Questions cover various elements including:
>   - ❏ Meeting logistics: geographic region, date, number, and title of participants
>   - ❏ Meeting planning and preparation: invitations and agendas sent in a timely manner, meeting materials prepared in advance
>   - ❏ Decisions made and actions taken: action items from previous meeting reviewed, root cause analysis conducted, action plans developed and executed
>   - ❏ Performance: members recognized for good performance

3.3 Post-Implementation Phase

The post-implementation phase considers the 12 months following the rollout and is focused on supporting the sustainability of the DRT model. At this point, every region in the country should have been oriented to the new DRT approach, having received support that was high quality and on-schedule. While this means the major effort is complete, there are still actions that can be taken to help secure and maintain the progress that has been made.

Lesson	Impact on Scale-up		
	Quality	Speed	Sustain
Sustain the uptake of DRTs by incorporating KPIs into accountability systems and major meetings			⇧
Update pre- and in-service training resources for DRT-related skills			⇧

Sustain the uptake of DRTs by incorporating KPIs into accountability systems and major meetings	Quality --	Speed --	Sustain ⇧

One of the sources of value from DRTs is the collective review and accountability for immunization performance. This is usually reflected in a select set of key performance indicators (KPIs) - such as coverage, stock sufficiency and temperature excursion alarms – that enable data triangulation and which the DRT is responsible for improving. In some regions, this new accountability structure may not feel natural or be fully welcomed, which can lead regions to minimize the use of DRT.

As such, it is valuable to incorporate DRT-related KPIs into the visible and routine accountability systems within the EPI program. The logic is that by requiring subnational supply chain leaders to routinely present and explain their KPIs in larger forums, they will be encouraged to showcase better performance and problem solving. Ideally, this public form of accountability combined with the "assigned role" logic will incentive active involvement in the DRTs.

In practice, common areas for this accountability include large-scale meetings, such as EPI reviews and Gavi Joint Appraisals, as well as routine management platforms, such as supportive supervision and data reporting.

In **Tanzania**, the EPI team calls for National Data Reviews biannually as a way to review all of the program wide KPIs and use them to complete the WHO and UNICEF Joint Reporting Form (JRF). In Nigeria, iSC data from DRTs are routinely triangulated with data from other sources and any discrepancies are reviewed at National Logistics Working Group meetings for immediate feedback. Examples include:

- o Comparing reported stock data to service delivery KPIs using a routine template.
- o Comparing physical stock count data at the state level to national level data records.

In **Mozambique** and several other countries, subnational DRT data and meeting outcomes are a standing item on national and provincial/regional logistics working group meetings. Not only does this strengthen the feedback and reporting mechanisms necessary for a strong performance management system, but it also reinforces accountability for data review and follow up.

Potential activities to implement this lesson

❏ **Incorporate DRT presentations into major national meetings**
     ❏ Identify persistent, common challenges that arise during subnational DRTs and highlight them as country-wide problems to be addressed during Gavi Joint Appraisals and other national level meetings.
     ❏ Make subnational DRT data review and action items a standing item on national/regional EPI logistics working group meetings.
 ❏ **Implement formal or informal reward systems**
     ❏ Depending on size of the meetings and teams and the resources available, recognition of high-performing members can include:
         ❏ Selection to represent state/district at a professional conference
         ❏ Congratulatory call outs in DRT group WhatsApp or regular meetings
         ❏ National recognition for consistent excellent performance (Box 2)
         ❏ Performance-based appraisals for promotion and advancement
         ❏ Selection for additional tasks with more responsibility and additional benefits

Box 2: Creative system for recognition in Mozambique
Organization: VillageReach

In order to encourage provincial EPI managers in Mozambique to continue engaging with data and provincial data review teams, the Ministry of Health, with the support of VillageReach, is implementing a "VAN Champions League" strategy. This borrows from "UEFA Soccer Champions League" to instill competition on the basis of data quality and data use in three regions of Mozambique (South, Center, North). The VAN Champions League will have periodic performance evaluations to identify strong performers. At the end of the year, the central level M&E team will identify and reward the provinces with the best performance in data collection, data entry and data use through data review meetings. While the Champions League is still in the process of being implemented, it is hoped that a sense of competition can further unify data review teams and inspire them to work towards a common goal. The prospect of gaining national recognition for their efforts to improve the immunization supply chain may also instill a greater sense of pride and ownership over the work.

Figure 4: VillageReach VAN Champions League indicators and results
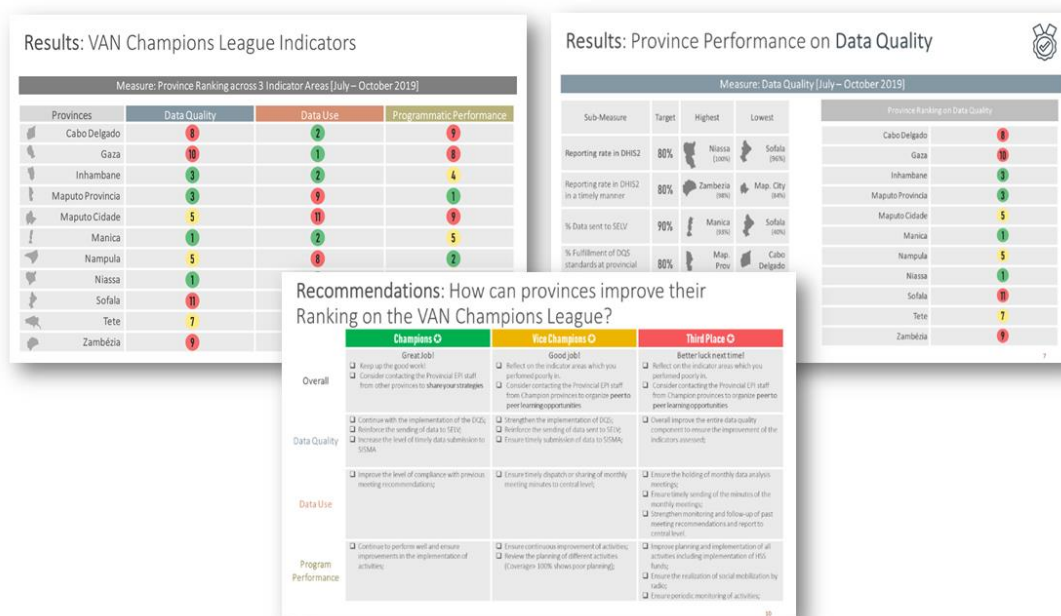
Box 3: Building a data culture
Organizations: JSI/inSupply, VillageReach, CHAI, BMGF, Cooper Smith

In 2020, a group of technical partners-- JSI/inSupply, VillageReach, CHAI, BMGF and others-- came together to develop a Theory of Change (TOC) and Theory of Action (TOA) for building a "data use culture". This joint framework describes the pathway and relevant activities, such as DRT meetings, for instilling and sustaining a culture of data use. For more information on these types of initiatives and how to apply them, please refer here.

Update pre- and in-service training resources for DRT-related skills	Quality --	Speed --	Sustain ⇧

While a successful rollout will build the capacity of current DRT participants, it can be helpful to develop resources for future cohorts. While many DRT skills will be learned on-the-job -- for example, problem solving -- some hard skills may be possible to develop through other teaching forms. These skills can include:

- How to calculate each of the standard KPIs.
- How to properly complete critical templates or reports.
- Basic skills for using key software (e.g. where to find certain data in the LMIS, how to use presentation software)

CHAI countries have implemented this in different ways:

- In Tanzania, one approach has been the development of an online resource called the Immunization Academy. This online platform provides short video tutorials on a range of topics, including some related to the LMIS and supply chain.
- In Nigeria, CHAI developed the "RI Flip Chart". This table-top job aid is designed to be kept on every table and desk where routine immunizations take place. This tool provides HCWs with a quick reference for basic supply chain and cold chain information, including SOPs and relevant calculations.

Potential activities to implement this lesson

❏ **Assess most pressing pre- and in-service training needs for DRT meetings and develop resources accordingly**
  - ❏ Identify greatest DRT-relevant needs based on (i) direct experience with DRT participant needs, (ii) a brief skills assessment during first few DRT meetings and/or (iii) the Data Use Competency Map developed by VillageReach (Box 4)
  - ❏ Determine which needs can be addressed through stand-alone resources and which will require additional in-person follow up (i.e., problem-solving, root cause analysis etc.)
  - ❏ Develop resources that can be used during and outside of DRT meetings for relevant activities, such as data reporting, calculation analysis

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Box 4: Data Use Competency Matrix
Organization: VillageReach

VillageReach recently developed a Data Use Competency Map for members of the Expanded Programme on Immunization (EPI). This matrix identifies the types of data use skills that are critical for each role within EPI (i.e., analysts, managers, directors, etc.) by job function (i.e., vaccines logistics, cold chain). The data use competency matrix is intended to support EPI programs in multiple countries to identify the types of skills required by job function, hire candidates to meet those needs and train to upskill where necessary. This tool can be used to identify opportunities for improved data use and other DRT-relevant skills.

4.0 Conclusion

CHAI, JSI and VillageReach believe this document provides guideposts that can enable national DRT scale-ups to deliver high-quality outcomes, proceed quickly, and lead to sustained adoption. With the combination of opportunities from new technologies and the demands of increasingly complex immunization supply chains, we also believe that these goals will have expanded importance in the Gavi 5.0 period.

However, it is important to recognize the limitations of these lessons. The recommendations presented here do not cover all aspects of the design and launch of DRTs, and some may not apply to a given context -- each country will need to adapt and expand on the findings in this document. In addition, data review teams and meetings are only one component of a successful data performance management review and response system and data use culture. Other critical processes and components are required to make these systems function well and yield tangible supply chain improvements. These include:

- Data systems that increase data visibility, improve data quality, and routinize data reporting.
- Established guidelines for using data to identify and appropriately respond to supply chain challenges.
- Clearly defined feedback and reporting mechanisms that are embedded within a performance management review and response system.

For these reasons, we encourage interested country officers and stakeholders to leverage this document alongside other recent materials in data system strengthening. As of writing, CHAI, JSI and VillageReach recommend the following resources:

- [Data Review Teams: A Promising Practice to Improve Data Use and Strengthen Immunization Supply Chains](#). 2019. CHAI, JSI & VillageReach.
- [A Realist Review of What Works to Improve Data Use for Immunization: Evidence from low- and middle-income countries](#). 2019. PATH, Pan American Health Organization. World Health Organization.
- [Theory of Change/Theory of Action for Supply Chain Data Use](#). 2020. JSI/inSupply, VillageReach, CHAI, BMGF, Cooper Smith.
- EPI Data Use Competency Matrix. 2020. VillageReach (publication pending)