Effective Vaccine Management (EVM) – How to develop a Continuous Improvement Plan (cIP)?

Guidance Note Version 1.0 - February 2018

Supplement 4: Collaborative Workshop Techniques

As mentioned in the cIP Guidance Note, the cIP workshop is a multi-day, interactive process where relevant 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 immunization supply chain (iSC) performance to achieve broader immunization goals.

The process of collaboration with a workshop at its center, is a valuable 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. The cIP workshop is the occasion to:

- Create a common understanding and language around iSC, and increase outreach, by cocreating and spreading important ideas among stakeholders.
- Exchange knowledge and synthesise ideas: iSC experts educate those who know less and
 raise awareness of global iSC best practices and evidence. Equally, it is the occasion for
 country stakeholders to share good practices and experiences that may not have been
 widely publicized. Sharing of knowledge helps synthesise new ideas and visions.
- Network and build alliances: the workshop can create or reinforce social connections that can be instrumental to iSC improvements.
- Cross-pollinate: participants involved in one part of the system, or at different levels find out what is happening elsewhere and can understand and help with potential bottlenecks or replicate good practices.
- Strategize and scenario-plan: the workshop can help generate solutions to dilemmas held by multiple participants, and envision possible futures and how to respond.
- Commit: your workshop is likely to create goodwill for action! It is therefore key to build the momentum.

Why cIP workshops should be built on and encourage collaboration?

A shared vision is arrived at through a collaborative, participatory approach. This helps to diffuse potential conflict of visions, and creates a sense of shared ownership of the cIP and its purpose within the country at all levels. There are multiple collaborative techniques available, which can be used to develop cIP content with positive engagement of key stakeholders. In designing your cIP workshop and choosing the appropriate technique, careful consideration should be given to the level of participation required to apply that technique and its suitability to the culture and context.

The cIP workshop should occur after the situation analysis is available, and prior to the development of a new cMYP, a new national health plan, or a new investment case for funding support (such as GAVI Country Engagement Framework / HSIS grant application). 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.

Get ready to design your workshop

- Set up a workshop design team and governance structure, engaging key stakeholders and managerial 'sponsors' of the event whose sign-off on key decisions affecting the scope and format of the workshop is required.
- Start with alignment of stakeholders and sponsors of the process on the objectives and expected deliverables of the workshop. Do not take for granted that all concerned implicitly share the definitions.
- Develop a short concept note for the workshop that will capture the key elements any stakeholder will have to keep in mind throughout the process (see Annex Facilitation Design template).
- Consider whether the workshop can be designed, produced and facilitated using inhouse talent, or whether professional process designers and/or facilitator(s) should be hired. Each route has its benefits and draw-backs so these need to be weighed and an informed decision made.

A framework for an impactful cIP workshop

You will find below in Figure 1 a simple yet powerful framework to create the conditions of success at your cIP workshop, inspired by the Value Web methodology¹. It has 6 basic elements:

¹ Source: https://thevalueweb.org/

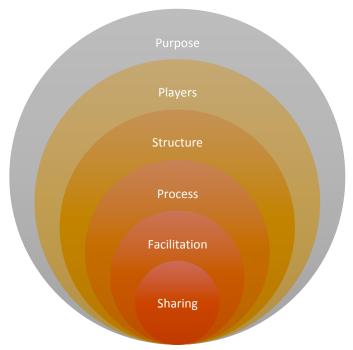


Figure 1: a framework for an impactful cIP workshop

For each of these elements, basic questions to consider are listed below, to help your thought process to start designing your workshop.

1. About your PURPOSE

Purpose orients the stakeholders and helps unleash their collaborative potential during workshops.

Questions to consider:

- What is the context of the gathering?
- → context provides the landscape for clarity. Your first design attempt and related conversation needs to establish and explore that landscape
- What is the purpose?
- What are the objectives and givens?
 - → objectives often identify key expected outcomes; givens are the things that are already decided and are non-negotiable during the workshop.
- Who will this serve?
- What value will it provide?
- What impact do you hope to achieve?

2. About PLAYERS

Workshop organizers, designers, participants and facilitators collectively are stakeholders of the process.

Questions to consider:

- Do the design and facilitation team has the necessary mix of talent, experience, expertise and resources?
- Are they familiar with facilitated process?
 - → you will need to guide them through what you are trying to achieve with this workshop and how each block of your agenda will help you get there.
- What kind of workshops these participants have been to before? What would they feel comfortable doing? What would be a change? What would not be acceptable?
 - → make sure you combine workshop techniques that they feel comfortable with (for example a plenary presentation with Q&A) and techniques that would encourage more interactions, more collaboration and more active behaviors (for example a group brainstorming, with a selected facilitator and rapporteur).
- Which contributors (moderators, facilitators for breakout groups, speakers, panelists etc.) should be invited? Which stakeholder representatives should participate in the workshop?
 - → make sure you adapt your design if there is high-level interest in the workshop (for example a visit from the Minister or senior representatives would call for a protocol time that allows speeches to be made at some point).
- How and when should the stakeholders be engaged? What expectations should the invitation to contribute to the workshop set?
- → you will also need to make sure that you share all the relevant information with stakeholders in due time, such as the agenda, the list of participants and any supporting documents.

3. About STRUCTURE

Structure defines the critical elements of planning and the workshop venue.

Questions to consider:

- When will the workshop take place?
- → make sure the date will not clash with other important meetings or during travel periods for key process stakeholders (for example during a regional EPI meeting)
- What is its appropriate duration?
- → As a rule of thumb, assume that participants' energy is reduced drastically beyond the first 3 days of collaboration as a group. 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.
- What would be an optimal venue? Why?
- Where is the meeting venue vis a vis where participants are staying? When are they arriving/leaving?
 - → you may need to make sure the days start and end flexibly to allow delays in arrival/early departure
- Can the venue accommodate your workshop set up (chairs, table, boards etc.)?
- Are there any catering limitations (serving times, special diet etc.)?
- What inputs must be prepared? By whom and when?
- How will content be displayed and interacted with (posters, gallery etc.)?
- What facilities and logistics must be secured? By whom and when?
- Is there any assistance that should be sought to coordinate logistics?

4. About PROCESS

Process is the steps you will take during the cIP workshop journey, and it will need to be planned to ensure constructive engagement of the participants.

Questions to consider:

- What combination of learning modalities (listening, seeing, moving, reflecting) will be most engaging?
- What modules/activities can enable the experience you want to create? How should they be sequenced?
- Who are the contributors you need for each module/activity (facilitator, moderator, panelists, knowledge capturer etc.)?
- What are the key activities and tasks before the workshop commences, and who is responsible for what?

TIP: Roles during the workshop

People will rely on someone guiding them through the process (the facilitator), someone noting what they say and able to summarise key takeaways at any point (the rapporteur), someone able to keep time (the process manager), and someone able to make decisions when things are blocked and allow the group to move on (process sponsors).

- → make sure you have people available for each of these functions (it can be the same person for several functions but either way make sure there are at least two people involved in supporting the delivery of the workshop).
- → where participants work in smaller groups, it is good practice to formulate group work exercises so that the groups produce well-structured outputs (e.g. a list of prioritized cIP activities). It is good practice to task the groups to summarize their work in a pre-defined format designed so that it can be useful as input into subsequent work without the need for additional explanations. This would also make the work of rapporteurs much easier.

TIP: how human beings' physiology informs your design

- Genuine collaboration requires interactivity which cannot be achieved with everyone sitting around one big table, or in a theatre facing speakers on stage. In order to enable workshop designs that are considerate of these constraints, workshop facilities must be set up in such a way that the meeting venue can be easily transformed to accommodate a variety of workshop techniques (see some in their descriptions below).
 - → as a minimum, ensure tables are chairs can be moved around, clustered, and removed as necessary; and that there are sufficient numbers of flip charts or white boards to support work of smaller break-out groups.
 - \rightarrow ensure that sufficient natural and artificial light is available to sustain the energy of participants throughout the day.
- People fall asleep after lunch if they are not actively engaged.
- → avoid a soporific speaker or screening of a video in the dark after lunch; avoid long sessions that leave participants passive. Do not hesitate to disrupt your agenda flow and break for a coffee or an energetic group exercise when energy is low in the room.
- Variety does a lot to keep people interested, so does surprise.
 - \rightarrow you can invite an unannounced quest, leave for a site visit, etc.
- It is important to change the set-up and vary engagement of participants every 60-90 minutes, to avoid loss of focus and productivity.

5. About FACILITATION

Facilitation brings out the best in individuals and groups by engaging them in a creative process. To ensure a smooth preparation and delivery of your workshop, you will rely heavily on facilitation. The approach must be grounded in service and aim to draw forth the best from individuals and the group.

Facilitation is usually delivered by an individual, supported by a team, whose responsibility is to drive the workshop, allowing participants to collaborate, feel comfortable with the dynamics of the workshop, and eventually deliver. This differs from moderation, as the facilitator will play a very active role in setting the tone of the meeting and creating dynamics for success, making the most of people's energy and contributing potential in the room.

Questions to consider:

- Who will be part of the facilitation team, alongside the main facilitator?
- What facilitation approach do you need before, during and after the workshop?
 - -> remember that preparations for, and debrief after the workshop, are important parts of the collaborative engagement process that require skillful facilitation and steering.
- How will the team manage the workshop's energy, venue, environment, technology, documentation and sharing of outputs?

TIP: Good practices from facilitators

1. The facilitator should plan

Even very talented individuals that are at ease with facilitation need to plan and work on a solid agenda that can also accommodate last minute changes.

The facilitator should:

- foster open participation with respect for participants' energy and expertise
- engage the participation of those with varied learning/thinking styles
- achieve a high quality outcome that leads to the expected results in our case here, all the elements necessary to the cIP.

The facilitator will also prepare time and space to support group process, conducive to effective atmosphere during sessions. Ideally, the facilitator would script each of the sessions.

2. The facilitator creates and sustains a participatory environment

To do so, the facilitator will:

- demonstrate effective participatory and interpersonal communication skills, applying a variety of participatory processes (see some examples of techniques used during cIP workshops below), practice active listening and demonstrate ability to observe participants and adapt the process to make the most of the dynamics at play.
- ensure inclusiveness, by encouraging positive regard for the experience and perception of all the participants and creating a climate of safety and trust.
- manage group conflict. Perhaps one of the most feared responsibility, the facilitator has the capacity to navigate through tensions to get the group to overcome them, by helping individuals to identify and review underlying assumptions ("making sure everyone is on the same page"), recognize conflict and its role as part of the group's maturity process, provide a safe environment for conflict to surface and be acknowledged, manage disruptive group behavior and supporting the group of participants through resolution of conflicts.
- encourage group creativity by drawing out participants of all learning and thinking styles, encouraging creative thinking, being open to all ideas, stimulating and tapping group energy.

3. The facilitator guides the group to appropriate and useful outcomes

The facilitator will guide the group with clear methods and processes (giving clear context for the session, outcomes, listen and summarize interventions when needed, recognize tangents and redirect to the tasks).

It is crucial that the group has self-awareness about its task, so that they own the workshop, and what comes out of it – the cIP! To do so, the facilitator can:

- vary the pace of activities according to the group,
- identify information the group needs and draw out data and insight from the group,
- help the group synthesize patterns, trends, root causes and framework for action,
- use a variety of approaches to achieve group consensus and meet group objectives,
- adapt processes to changing situations and needs of the groups,

- foster task completion.

6. About SHARING

A successful cIP workshop depends upon sharing its outcomes and outputs to build on the momentum and see change happening.

Questions to consider:

- How will the team organize to document and share the output after the workshop?
- How will you synthesize the output to identify and share what is relevant?
- What deliverables will you produce?
- With whom will you share the workshop's deliverables?
- How will you use sharing to advance the purpose of the event?
- Which next steps can you already foresee to share at the workshop that will require commitment and/or support from participants?

Key points to consider to plan and deliver your cIP workshop

1. Build time into the agenda to generate the information you need to work effectively with the group

To do this, you might need to build in several introductory activities that let participants describe their background, express their expectations, share their views and current understanding of the situation.

2. Be explicit about workshop norms

Create your work environment with the group and set norms: be explicit about the purpose of the workshop, deliverables, responsibilities, and expectations from the participants and from you as organizer. The facilitator (maybe yourself if you consider yourself qualified for that role) should clarify the mission of the group and the work for everyone. In other words, never work on assumptions, always make sure everything has been said, clarified if needed to leave no stone unturned.

3. Adopt a more facilitative approach and include ample time for discussion

Avoid the presentation-heavy workshops and make sure the participants have opportunities to participate more actively in the delivery of the content of the workshop. Discussions will always take longer as people will feel the need to raise issues or express points of view that were not addressed by you or other participants. There should be enough time to allow this, as this can also be the richest learning opportunity of the day.

4. Use a variety of facilitation methods

In some settings, people do not openly question a plenary speaker; they sit in silence to listen to presentations and there is little or no discussion following the presentation. In other settings, people cannot wait to make points against the presenter and will feel comfortable interrupting a speaker. Participation in a plenary session can also be affected by people's own perceptions of their language abilities. For all of these reasons, there is a strong argument to mix different workshop techniques during the workshop. Don't rely heavily on the "presentation followed by Q&A" model of delivery. Instead, frequently change activities to reflect the differences in learning and participation styles. Introduce small group work, paired activities (see some examples of techniques used during cIP workshops below). Also use brainstorming techniques, games and problem-solving activities that put everyone in a participatory role. Some people will want structure, some others will need more open sessions (that should still be lightly structured!), so make sure you change your delivery methods frequently.

5. Adjust your language to the group

This is a very context-dependent tip, but be aware of the different languages used by your participants to assess how comfortable they will be using the main language in which the workshop will be held, particularly if the facilitator is fluent in that language. In such cases, try to adjust your language as much as you can, and check in with your participants to make sure everything is understood, for example by asking them if they have any questions after you set a task or make yourself available to tour to each group and check they're confortable with the exercise's instructions in case of a breakout group session.

6. Incorporate team-building, group development and joint problem-solving activities

Team-building or group development activities of all kinds help people move from the "norming" stage (very polite and not very committal) to a "performing" stage, where they feel like they are a team and engaged together in a shared outcome. Team-building activities also enhance peer learning, as the focus of interactions is between participants themselves rather than between the facilitator and the group as a whole. It is, however, necessary to monitor the acceptability of games proposed or activities (be culturally sensitive for example avoid activities that involve physical proximity if this is not culturally acceptable).

Some examples of collaborative techniques used during cIP workshops

When you design your cIP workshop, it is useful to combine a range of facilitation techniques designed to produce different outcomes, and find the right balance to foster problem solving and decision-making models (among the group and also to an extent among the organizations from which the participants come from). It is therefore critical to master a variety of facilitation

methods and techniques (and understand when not to use some of these methods, too). The idea is really to engage with your players: instead of talking at them, talk WITH them!

1. The Sierra Leone cIP workshop experience

The following techniques were used during EMP/cIP workshops in Sierra Leone (2016) and Lao PDR (2015):

Jigsaw

A cooperative-learning strategy that encourages people to develop their own understanding and then, share knowledge with the group as a whole. It is a powerful learning method that embeds lessons when participants teach peers in the report-back round. Working groups are each assigned a particular part of a problem, or puzzle piece. The pieces are then put together and shared with the group to create a deeper understanding and a common knowledge

Expert Panel

A group of expert speakers present pertinent information to participants. It may convey technical knowledge, engage in debate and/or answer questions. It is a formal synthesis method, which can be used as a balanced- and open-evaluation tool.

Group brainstorming

Participants work as a group to define a problem and find, through creative thinking, the best group decision for a plan of action to solve it. These basic guidelines will help you lead a group to making a decision by consensus. The technique can be used in a variety of settings and is a way to facilitate creative group decision-making.

World Café

This activity is designed to spread ideas and expand insights through sharing experience on the iSC fundamentals around a table. Replicating a café environment encourages an open and creative dialogue. Each round allows participants to rotate tables, creating a web of collective knowledge around the subject matter. The method assumes that people themselves are sources of wisdom

In Sierra Leone, a participative approach of workshop places the participant at the center because experience shows that professionals work best when they are actively involved in new strategies and solutions shaping, when they experiment and take responsibility. Participants need to be involved; during the workshop, they improved analytic and prospective skills by sharing knowledge/experience and building strategies. In this workshop, the collaborative approach enabled participants to formulate vision and translate it into concrete solutions and activities. They were engaged intellectually and effectively to think out-of-the-box. The activities of the workshop were organized through seven sessions. Workshop facilitation used interactive approaches: Jigsaw, expert panel, brainstorming, world café, and small group work.

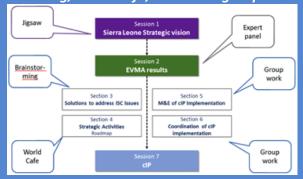


Figure 1: logical flow of cIP workshop and techniques

and that creating a constructive context around a table can draw valuable lessons to the surface. EPI staff is used as host or Subject Matter Expert (SME).

Individual and Small-Group Work

In order to minimize the inhibitions caused by deference to age and hierarchy, it is required to allocate almost no time in plenary (except for Introductions and a brief presentation) and keep all discussions in small groups.

Synthesis Conversation

This is a large-group discussion format – all chairs in a circle – to provide participants with the opportunity to re-visit all the work so far and structure a coherent approach that made sense for the whole group.

2. Participatory formats that could be added at the middle or end of an informal presentation

Pause for pairs

Have participants turn to each other in pairs, and share for a few minutes each what their feelings and thoughts are in response to what's been presented so far.

Small group sharing

After an informational presentation, instruct the attendees to break into groups of 3-5 people. (More than 5 is no longer a small group!) Ask them to discuss one or more questions, such as:

- If you had all the means necessary, how can you solve this problem?
- What would it take to fully transform this issue?
- What can you do as an individual or in your community about this issue?
- What is one concrete, specific, do-able next step that you could take on this after the conference?
- If this issue were resolved, what would our iSC look like?

Leave time at the end for people to share their favorite ideas with the whole group.

Attendees interview each other

Ask attendees to pair up. One person will speak while the other person listens and asks questions. Present an initial question that will allow each person to probe their feelings or deeply held values about an issue, such as:

- What's important to you about this issue?
- What do you think is at the heart of the matter?
- What do you think needs to change here?

Then invite the listening partner to ask follow-up questions. Signal at the halfway point so that people can switch roles and share the airtime. Emphasize that the role of listeners is to witness and reflect, not to analyze or judge. This is great for allowing people to tune in with their feelings around the issue or bring to life creative ideas they may have brewing.

• Presenters learn from participants

What is the problem that most challenges your presenters? What is the greatest barrier to their work? Present that challenge to the attendees and encourage them to come up with solutions,

perhaps in small groups. Allow adequate time for conversation and for sharing conclusions in the large group.

Fishbowl

In this format, a small group of people speak together while others listen and witness.

Panelist Fishbowl: Give panelists an opportunity to talk with each other, in front of the whole group, about their responses to each other's presentations. They may be bubbling over with things to say, or the moderator can ask them a few questions to get started

Participant Fishbowl: Invite a small group of attendees to discuss what they just heard, and then ask panelists to respond. This allows panelists an interesting window into the thoughts of their potential allies.

Interview the panelists

As the moderator, you interview panelists with the intention of allowing them time to go in depth on an issue. Questions can come from the interviewer or from the attendees. As contrasted with your typical Q & A session where the intention is to get through as many questions as possible, take the time to probe panelists for deeper answers if the question inspires. This could even turn into a facilitated conversation among panelists. Follow the energy as the conversation evolves.

3. Participatory formats to supplement or replace one-way presentations

The following formats can be used at times when a large group is gathered in one space. In addition, of course, there are all the interactive methods available at workshop breakouts, such as roleplays, practice sessions, extended question and answer periods, discussion, etc. See the Sierra Leone cIP workshop experience below for further example.

Storytelling

Stories connect us across barriers and differences, making us human to each other. There's a famous Native American proverb about how we shouldn't judge another person until we've walked a mile in their shoes; well, stories are a vehicle for making that journey. Here are some ideas for storytelling seed questions:

- What expectations do you have for this event?
- Please share something about your experience as iSC professional that you think shaped your perspective on, or commitment to the cIP process.
- Are there any dilemmas or gray areas that you have on this issue that you'd be willing to share?
- What is the most effective action you ever witnessed regarding iSC? What do you think made it work so well? How did it inspire you?

World café

Rotating small group discussions. Typically 2-3 rounds of 20-35 min. each. In between rounds, one person stays at the same location to be "table host" and welcome travellers, while the rest of the group breaks up and travels to form new groups at other tables. Table hosts are *not* experts nor facilitators, simply volunteers in the moment. Facilitator may ask for highlights to share with the whole group between rounds, or wait until after several rounds. May change

focus question on each round, or stay with the same question and go deeper. See http://www.theworldcafe.com for more information.

Representative fishbowls

This can be a really interesting way to explore a controversial issue on the table. As mentioned above, a fishbowl consists of a subgroup discussing an issue in the center, while the rest of the full group sits in an outer circle offering silent witness and support. Sometimes the outer group is invited to share their impressions at the end. Many variations are possible.

Heterogeneous Fishbowl: One representative from each main viewpoint is invited to sit in the center group.

Homogeneous Fishbowl: People in a particular category (for example representatives of a level of the iSC) sit in the middle and talk about their experience; then people in the next category (for example national level) go into the middle while the previous group sits out. Having two or more rounds for each group allows for a lot more depth and responsiveness, which is especially important if you have picked a hot topic to explore.

• Kinetic spectrum

For issues that have a natural continuum of opinion. Lay out a spectrum line in the room, e.g. "Which strategy should we prioritise for the next 5 years?" Ask people to stand at one end if their answer is "Cold Chain Equipment acquisition" and the other end if their answer is "Investment in people and capacity development," and so on through the middle. Everyone places themselves along the line, providing an immediate visual snapshot of the group's opinion on the subject. You can then ask a different line-up question, or invite a few people from different places on the line to say more about their opinion.

Speed dating

A great activity to get people to know each other. Have everyone stand in two concentric circles: one facing inward and one facing outward. Get the same number of people in each circle so that everyone is paired up. Give people 30 seconds to 2 minutes to exchange information, such as:

- Who are you?
- What called you to be at this event?
- What are you passionate about?
- What really matters to you about this issue?
- Whatever other question seems appropriate . . .

At the time limit, ring a bell and tell a circle to rotate one person to the left, so that everyone has a new partner, then do it again. You can use the same question a few times, then shift to a new one.

Project gallery

Spread a bunch of presenters around the edge of the room, could be each one at a table or end of a table. Split the audience into small groups, one group to each presentation. You play

"referee" and start a clock that can go for four minutes. Then everyone rotates and you do it again. In one hour each audience member will have seen a dozen projects and the presenters will have presented a dozen times. This process supports seeing a range of projects in a small group setting, while supporting those sharing their work to improve their pitch.

• Open space

Organize all or part of your conference using Open Space Technology. Open Space is a method of organizing, in a relatively short amount of time, as many sessions as participants want to convene, on whatever topics they feel passionate about. (One hour is sufficient for hundreds of people to set up a full day's worth of sessions.) It is a structured but self-organizing process, and has been used successfully in settings across all sectors: business, community, political activism, etc. The core guideline is: "Take responsibility for what you love." Participants are encouraged to move on to a new group any time they are not teaching, learning, or otherwise adding or receiving value.

See http://www.openspaceworld.org for more information.

Annex

Facilitation Design Template

To kick-start the design effort for your cIP workshop, you can use the following template to lay the foundation of your thought process.

cIP workshop	
Event purpose	For example Gather key insights and contributions to the cIP
Desired outcomes	Think "hard" deliverables such as a team set up to draft the cIP plan, and "soft" deliverables such as create a good dynamic among participants who will together implement the plan. What should be different at the end of this workshop, both in terms of tasks and how people feel and think?
Output	What would you like to walk away with in your hands (or on your laptop).
Participants	Number Roles /Affiliations Any note on language – translation needed and potentially useful demographic information about participants Be aware of hierarchical relationships between or among them
Timeframe /	As a rule of thumb, assume that participants' energy is reduced
duration of the	drastically beyond the first 3 days of collaboration as a group. However,
event	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.
Location and Venue	Note any specific parameters needed or to factor in
Room set-up	How are people seated, or should be seated (for example U shape, classroom etc)? What other elements are there in the room (for example corners that could allow breakout groups, or proximity of smaller available rooms to do so)?
Activity Sequence	Include process information/phases based on schedule to be developed on a separate sheet, and that can be shared later with the participants as the agenda.
Delivery	What needs to be made or done in advance? Any documents to be
preparation	shared in advance?
Material/equipment	For example flip charts, post- its, highlighters, projector
needed	