Mid-Level Management Course for EPI Managers

BLOCK VII: Monitoring and evaluation

Module 18: Conducting assessment of the immunization programme

World Health Organization
REGIONAL OFFICE FOR Africa


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Mid-Level Management Course for EPI Managers

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Mid-Level Management Course for EPI Managers

BLOCK VII: Monitoring and evaluation

Module 18: Conducting assessment of the immunization programme

Module 18: Conducting assessment of the immunization programme

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Abbreviations and acronyms

AEFI	adverse event following immunization
BCG	Bacillus Calmette-Guérin (vaccine against TB)
DHMT	district health management team
DTP3	third dose of diphtheria-tetanus-pertussis-containing vaccine
EPI	Expanded Programme on Immunization
ERSC	EPI review steering committee
FGD	focus group discussion
GAPPD	Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea
Gavi	Global Alliance for Vaccines and Immunization
GVAP	Global Vaccine Action Plan (2011–2020)
HIPC	heavily indebted poor country
HMIS	health management information system
ICC	interagency coordination committee
IMF	International Monetary Fund
IVD	immunization and vaccine development
KAP	knowledge, attitude, practice
MDVP	multi-dose vial policy
MOH	ministry of health
NGO	nongovernmental organization
NID	national immunization day
NNT	neonatal tetanus
RED/REC	Reaching Every District/Reaching Every Community
RHMT	regional health management team
RI	routine immunization
RSPI	Regional Strategic Plan for Immunization (2014–2020)
SIA	supplementary immunization activity
SWAp	sector-wide approach
SWOT	strengths, weaknesses, opportunities and threats
TOR	terms of reference
TT	tetanus toxoid
VII	Vaccine Independence Initiative
WCBA	women of childbearing age

Glossary

Activity	Relevant intervention to implement each strategy, distributed in time and space in the workplan. It is a task or a set of interrelated tasks aimed at generating a product or a result.
Assessment	An examination of inputs, process and outputs of a project or programme conducted to measure performance and ascertain readiness and capacity to perform roles and responsibilities or achieve set objectives. It is linked to policies and systems under which the programme operates.
Effectiveness	Capacity to produce desired results.
Efficiency	Capacity to produce desired results with a minimum expenditure of energy, time or resources.
Evaluation	A periodic assessment of overall programme status: performance, effectiveness and efficiency. It is linked to policies, programme processes, systems under which the programme operates, strategic choices, outcomes and impact.
Implementation	The act of actually undertaking an intended and planned course of action.
Indicator	A variable that is used to measure progress towards the achievement of targets and objectives. It is used to compare performance in terms of efficiency, effectiveness and results. It is also used to measure impact of interventions.
Milestone	A stage of a significant achievement towards the accomplishment of an activity or a programme.
Monitoring	A systematic and continuous process of examining data, procedures and practices to identify problems, develop solutions and guide interventions.
Objective	A quantifiable product or a positive change expected from implementation of a plan. It is the end result a programme, a project or an institution seeks to achieve.
Performance	Level of fulfilment of operational capacity of a programme or a person.
Plan of action	A document defining activities for generating result/product under a specific programme by identifying who does what, when, how and for how much.
Programme	A coherent entity of related projects or services that are directed by a group of people at achieving specific objectives.
Project	Set of activities planned to achieve specific objectives by project staff within a given budget and has definite beginning and end.
Resources	Include all the material, financial and human resources required for carrying out planned activities.

Review	A formative assessment of an ongoing programme at mid-term or at the end of the scheduled cycle.
Strategy	A description of how the objectives of EPI will be achieved, namely the types of services or methods of intervention (e.g. fixed, outreach or mobile strategy to deliver immunization services).
Targets	Categories expressed exclusively in measurable terms in relation to each objective. They are timebound and have a specific deadline for achieving the desirable level or result.

1. Introduction

1.1 Context

The Expanded Programme on Immunization (EPI) is a key global health programme. Its overall goal is to provide effective and quality immunization services to target populations. EPI programme managers and staff need to have sound technical and managerial capacities in order to achieve the programme's goals.

The immunization system comprises five key operations: service delivery, communication, logistics, vaccine supply and quality, and surveillance. It also consists of three support components: management, financing and capacity strengthening.

National immunization systems are constantly undergoing change, notably those related to the introduction of new vaccines and new technologies, and programme expansion to reach broader target populations beyond young children. The EPI programme also faces external changes related to administrative decentralization, health reforms, as well as the evolving context of public-private partnerships (PPPs) for health, among others.

To ensure the smooth implementation of immunization programmes, EPI programme staff have to manage these changes. This requires specific skills in problem-solving, setting priorities, decision-making, planning and managing human, financial and material resources as well as monitoring implementation, supervision and evaluation of services.

National immunization programmes (NIPs) operate within the context of national health systems, in alignment with global and regional strategies. For the current decade, 2011–2020, the key global immunization strategies are conveyed through the Global Vaccine Action Plan (2011–2020) (GVAP) and the African Regional Strategic Plan for Immunization (2014–2020) (RSPI).

These strategic plans call on countries to:

- improve immunization coverage beyond current levels;
- complete interruption of poliovirus transmission and ensure virus containment;[1]
- attain the elimination of measles and make progress in the elimination of rubella and congenital rubella syndrome;[2] and
- attain and maintain elimination/control of other vaccine-preventable diseases (VPDs).

The key approaches for implementation of the GVAP/RSPI include:

- implementation of the Reaching Every District/Reaching Every Community (RED/REC) approach and other locally tailored approaches and move from supply-driven to demand-driven immunization services;
- extending the benefits of new vaccines to all;
- establishing sustainable immunization financing mechanisms;
- integrating immunization into national health policies and plans;
- ensuring that interventions are quantified, costed and incorporated into the various components of national health systems;
- enhancing partnerships for immunization;
- improving monitoring and data quality;
- improving human and institutional capacities;
- improving vaccine safety and regulation; and
- promoting implementation research and innovation.

The RSPI promotes integration using immunization as a platform for a range of priority interventions or as a component of a package of key interventions. Immunization is a central part of initiatives for the elimination and eradication of VPDs, and of the integrated Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea (GAPPD) by 2025.

It is understood that while implementing the above strategies, EPI managers will face numerous challenges and constraints that they need to resolve if the 2020 targets are to be met. Building national capacity in immunization service management at all levels of the health system is an essential foundation and key operational approach to achieving the goals of the global and regional strategic plans.

In view of this, the WHO Regional Office for Africa, in collaboration with key immunization partners such as the United Nations Children's Fund (UNICEF), United States Agency for International Development (Maternal and Child Survival Program) (USAID/MCSP), and the Network for Education and Support in Immunisation (NESI), have revised the Mid-Level Management Course for EPI Managers (MLM) training modules. These modules are complementary to other training materials including the Immunization in Practice (IIP) training manuals for health workers and the EPI/Integrated Management of Childhood Illnesses (IMCI) interactive training tool.

1 WHO, CDC and UNICEF (2012). Polio Eradication and Endgame Strategic Plan 2013-2018.
2 WHO (2012). Global Measles and Rubella Strategic Plan 2012-2020.

This module (18) titled *Conducting assessment of the immunization programme* is part of Block VII: Monitoring and evaluation.

1.2 Purpose of the module

The purpose of this module is to help participants:

- Better understand the immunization services assessment process and tools.
- Increase acceptance and ownership of the evaluation process by national authorities and partners.
- Strengthen the capacity of national EPI teams in using data and information to make decisions to improve immunization services.

The module describes key components of a comprehensive review of immunization services. This module can be used in different situations that require an evidence-base on status and functioning of the programme or its components.

1.3 Target audience

The module is intended for EPI managers at national and subnational levels, as well as for teachers in training institutions. It can also be used by partners and others participating in immunization services assessment.

1.4 Learning objectives

At the end of the module, participants should be able to:

- Explain immunization services assessment (objectives, principles and steps).
- Design and plan an immunization services assessment.
- Conduct an immunization assessment exercise.
- Analyse the information generated through an immunization services assessment.
- Use the information from an immunization services assessment to generate recommendations for improving programme performance.
- Design a framework for monitoring the implementation of recommended strategies and impact on immunization services.

1.5 Contents of the module

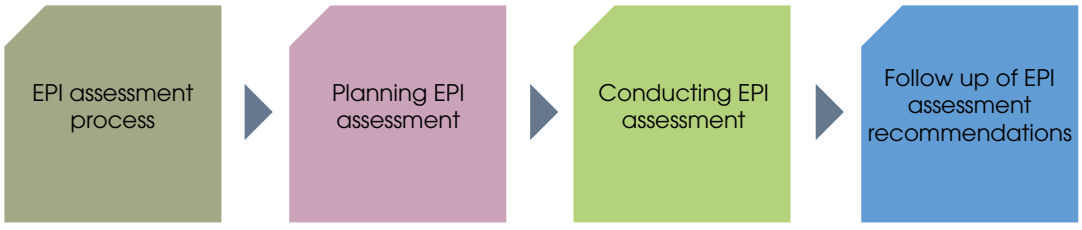
This module is divided into four main sections shown below.

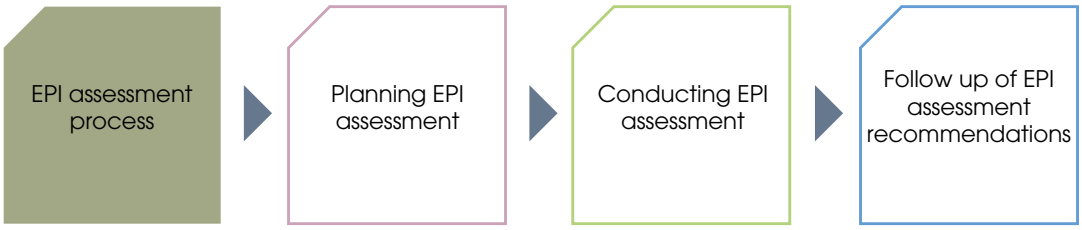
1.6 How to use this module

Concepts and principles to be discussed, which the participant should be familiar with, are proposed in each section.

Exercises in this module use the participatory approach to reasoning and problem-solving, consistent with the theme in all the other mid-level management modules.

Participants should read the module, complete the exercises and report back to plenary sessions for general discussions.





2. EPI assessment process

2.1 Objectives of the assessment

The overall objective of an EPI assessment or periodic review is to collect and analyse data on activities and achieved results of country immunization programmes and to use the findings and recommendations to improve services.

The specific objectives of an EPI assessment or periodic review are:

- To assess the existing situation of immunization services.
- To understand the influence of external environment on immunization programme implementation.
- To identify the strengths of the programme and build on them.
- To identify constraints to attainment of programme objectives.
- To share information with various EPI stakeholders for better support of immunization programme.
- To achieve consensus among all stakeholders on further development of immunization activities in the country.

The immunization system is a part of the larger health sector and is thus heavily influenced by the inputs of the health sector. The health sector, in turn, is influenced by the external environment, i.e. the social, political, economic, geographic and epidemiological contexts within a country.

The immunization system comprises five key operations, namely: service delivery, communication, logistics, vaccine supply and quality, and surveillance/monitoring and data quality. It also consists of three supportive components: management, financing and capacity strengthening. Therefore, a comprehensive assessment or review has also to consider these operational components and supportive elements of immunization services which cut across EPI operational activities. (For more information on basic elements of the immunization system refer to Module 1: *A problem-solving approach to immunization services management.*)

When critical events (i.e. disease outbreak, new vaccination introduction, new funding etc.) occur within an immunization programme, it becomes important to conduct a comprehensive review to determine challenges and strengths. Reviews help to identify major internal and external barriers to successful implementation as well as identify key strengths and innovative strategies which could be scaled-up throughout the immunization system.

A comprehensive EPI assessment report should be prepared which includes findings from a desk review and field assessments. The report should address each of the core components of the immunization system as well as any optional components reviewed.

The report should document the strengths and weaknesses of the immunization system and also include a summary of key recommendations with responsible bodies and timeline.

2.2 Guiding principles

The information gathered during evaluation is quantitative and qualitative. As the findings are to be used for further development of immunization services, every effort should be made to ensure they are related to the practical situation. The guiding principles are:

- Involving people who know the problems and participate in implementing activities.
- Using in-depth inquiry techniques that allow asking further questions which will lead towards finding real problems and suggesting practical solutions.
- Involving external expertise in the review.
- Having the correct mix in expertise of evaluation team members according to the objective(s) of the assessment or review.

The evaluation examines and analyses strengths, weaknesses, opportunities and threats (SWOT) of the immunization and health systems and the external environment at different levels, as discussed in detail in Module 1: *A problem-solving approach to immunization services management.*

Table 2.1 SWOT analysis framework

Environment / Impact	Internal	External
Positive	Strength – **build**	Opportunity – **utilize**
Negative	Weakness – **correct**	Threat – **avoid**

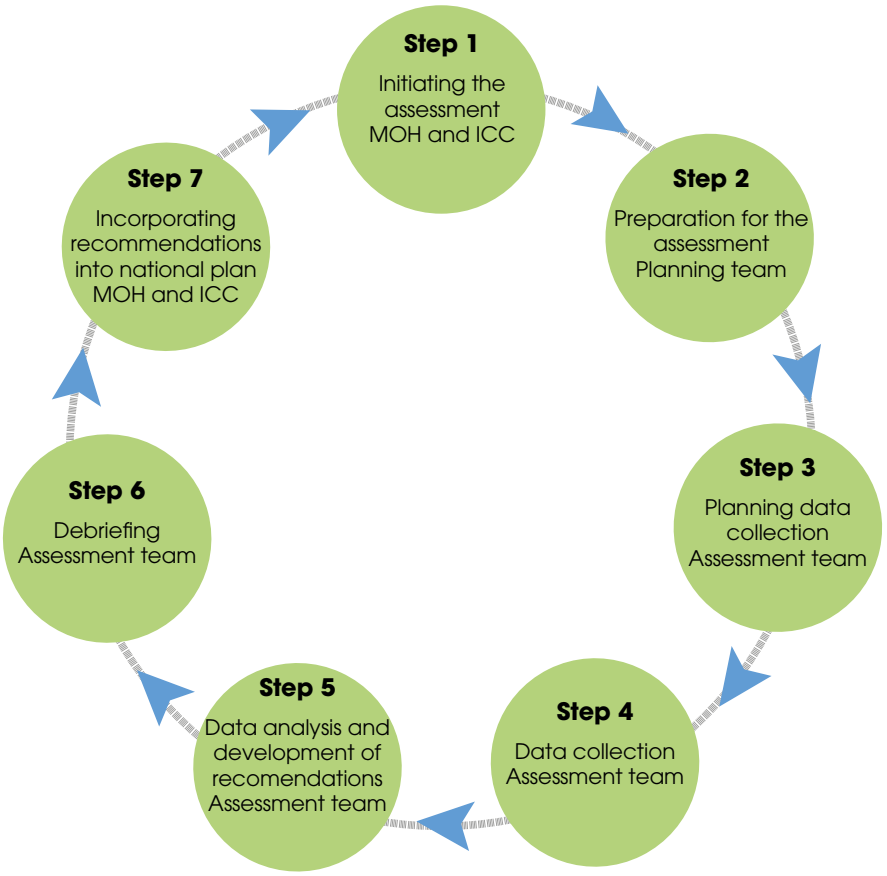
2.3 Assessment steps

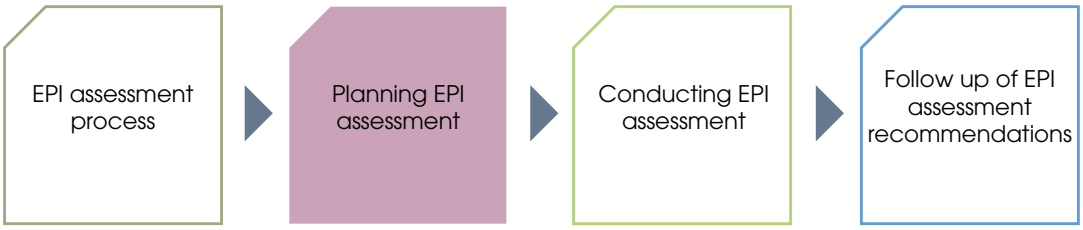
The steps involved in the process are generic and involve: planning the assessment, conducting the assessment and reporting the findings. The results (findings) are used for planning and implementing strategies, followed by monitoring the implementation of the strategies until the next assessment. Figure 2.1 illustrates the steps and actors involved in the process.

The main components of an EPI review are desk review and field review. The desk review, which occurs first, involves a review of all relevant programme documents to identify past recommendations and provide a current status check. A concept note is then developed from this review which includes both the desk review findings and detailed methodology for a field review. The field review involves visits to all administrative levels by teams of paired external experts and relevant internal staff to assess the system.

The teams collect and analyse data, develop the report and provide recommendations. They will debrief the interagency coordination committee (ICC) and submit a report and presentation to the national health authorities which will approve the report and, in conjunction with the ICC, disseminate the report to all relevant stakeholders. This report is then utilized by EPI staff for updating plans of action.

Figure 2.1 The assessment/review process





3. Planning EPI assessment

Exercise 1 – Initiating the EPI programme assessment

For in-group discussion.

The Republic of Fredonia is an African country with a population of approximately 30 million, 4% are children <1 year of age and 20% are <5 years of age. Reported routine DTP3 vaccination coverage has been maintained for several years above 60%. However, 60% of the districts have coverage levels below 50%, and the last comprehensive EPI programme assessment was conducted six years ago.

Previously, the EPI had independent systems for transport, supervision, training and surveillance. The health sector reform initiated two years ago resulted in integration of all these functions and decentralization of programme activities to the districts. Immunization is included in the national health development plan.

A coalition of international partners has agreed to support the introduction of hepatitis B vaccine in the country. The EPI manager is not sure if the new intervention could be introduced smoothly and in a sustained manner. The MOH, in consultation with the ICC, would like to make a decision on whether a new assessment is required. In case the assessment is needed, terms of reference for the assessment are to be developed and the composition of assessment team is to be suggested.

Task 1: Decide if an assessment is needed and why.

Task 2: Establish the objectives of the assessment.

Task 3: Prepare draft terms of reference of the assessment team.

Task 4: Advise the MOH on the composition of the assessment team, regarding expertise required and proportion of external reviewers.

Discuss your decisions and recommendations within your team.

The planning phase entails initiating the assessment, and preparing for the activity in addition to planning data collection in the field. Specifically, this involves:

3.1 Initiating the assessment

The ministry of health (MOH), through the interagency coordinating committee (ICC), initiates the activity, sets its objectives and prepares the terms of reference (TOR). On the basis of the TOR, the ministry appoints members of the team to conduct the activity. The ICC should establish an EPI review steering committee (ERSC), co-coordinated by a senior MOH official known as the internal ERSC coordinator, and an external senior health specialist known as the external ERSC coordinator.

The internal ERSC coordinator:

- Is an internal MOH or related staff member.
- Is responsible for coordinating the planning especially facilitating administrative aspects of the review.

The external ERSC coordinator:

- Is an external senior health specialist (person who is external of the immunization system and related entities).
- Is responsible for coordinating the field review phase and post-review phase including all technical aspects of the review.
- Can be either a local expert (from a local university or private sector) who is not involved in the country's immunization programme or an expert who is from outside the country.

- Should be well conversant in immunization systems and experienced in conducting assessments.

The organization of an EPI assessment varies from one country to another, but, in general, proceeds as outlined here. Once the technical areas of the review are known, focal points for the different technical areas are selected to start with the preparation of detailed tasks (e.g. development/adaptation of data collection tools, pre-testing of the tools, recruiting and training of reviewers and supervisors and implementing the field review).

Health managers from national and subnational levels should form part of the team as they know the problems and will participate in implementing solutions. Other members of the team should be representatives of partner agencies, including NGOs, from both inside and outside the country. The external members provide added value to the assessment from their international experience and can review the system independent of any internal influence. Selected team members should have enough experience or expertise with the immunization programme to be able to provide technical assistance and on-the-job training, if needed, during field visits.

Team members should include:

- health managers (national and subnational levels)
- representatives of partner agencies and NGOs (national, international).

Depending on the assessment, relevant expertise to include:

- programme management
- communication
- epidemiology
- logistics
- health economics
- training.

An important aspect of this step is to estimate the budget and, through the ICC, to mobilize resources and establish funding mechanisms for the activity if not already included in the plan. The MOH should take the lead for purposes of ownership of the process and the results.

Checklist – Initiating an assessment

- Decide to conduct an assessment/review through the ICC.
- Prepare TOR and budget.
- Identify funding sources and mechanisms.
- Identify team members.
- Recruit members with expertise relevant to the objectives.
- Experts have tight schedules and should therefore be recruited in advance.
- Start recruitment early: four to six months before the actual exercise.

3.2 Compiling basic information

Situational analysis should be done by compiling basic information through desk reviews of reports and relevant studies available at different levels of the health system. During this phase, available basic information and data are collected, compiled and analysed according to indicators (see Annex 4 on EPI assessment indicators), to provide an overview of the programme or component evaluated. This task is assigned to a planning team consisting of technical officers from the MOH, development partners, NGOs, private sector and health institutions. The information compiled should include relevant studies that are considered to have a reliable methodology. The SWOT analysis approach also provides an opportunity for the ICC technical subcommittee to provide their own knowledge of programme performance, particularly in areas where documentation is lacking.

Checklist – Compiling basic information

- Collect, analyse and organize available information on demography, policy and guidelines, plans, budget and funding, implementation and review reports.
- Compile available reports on studies and assessments – cold chain, injection safety, financing mechanism, vaccination coverage and other surveys (e.g. on knowledge, attitude, practice – KAP). Studies can also be conducted during the preparatory phase.
- Based on the collected information the technical team prepares a concept note with situation analysis to be used during the assessment and for preparing the assessment report.

Exercise 2

All groups.

The situation analysis revealed the following data: an annual EPI plan of action exists; an ICC is active and meets to discuss mostly activities related to polio eradication, measles SIAs and new vaccine introduction. 20% of vaccines for RI are purchased from the national budget. Health facilities frequently report breakdown of fridges, lack of transport for outreach and vaccine stock-outs. Staff turnover at health facility level is considerable.

Reported national vaccination coverage rates for various antigens over the past five years were:

Vaccine	Coverage (%)				
	Year 1	Year 2	Year 3	Year 4	Year 5
BCG	8	42	83	89	79
OPV3	60	40	6	63	63
DTP3	67	36	64	67	63
Measles	58	34	55	56	51
HepB3	4	Nil	Nil	Nil	Nil
Yellow fever	36	44	4		39
TT2+ (pregnant women)	16	20	23	20	16

District DTP3 coverage (%)	Proportion of districts (%)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Less than 50	60	80	58	60	55
50–79	30	16	30	30	35
80 and above	10	4	1	10	10

Reported cases of EPI target diseases during the past five years were:

Disease	Reported cases				
	Year 1	Year 2	Year 3	Year 4	Year 5
Diphtheria		0	3	13	15
Measles	357	3339	9262	8601	21 002
Pertussis		63	290	180	424
Poliomyelitis	0	14	0	0	0
Neonatal tetanus	23	27	71	259	1278
Total tetanus		0	339		628
Yellow fever	0	0	0	0	0
AFP	7 (expected 11)	10 (expected 12)	15 (expected 13)	25 (expected 14)	20 (before expected 15)

Participants should divide themselves into smaller groups to discuss and arrive at conclusions.

Task: Analyse the data given above.

What are the critical issues you conclude from examining these data?
What do you think about the reliability of data presented?
What more information is needed?
Where the extra information can be obtained from?

3.3 Preparing data collection tools

The team assesses whether the information and documentation collected during the planning stage have provided an overview. The data may reveal deficiencies such as disparity in vaccination coverage levels among districts or communities refusing to take their children for immunization. More data may be needed and collected from the field. The question is: which tools should be used to collect the required information? Data collection tools are of three types:

- interview questionnaire
- observational grid
- documentation grid.

Information from the community can be obtained through community surveys, exit interviews and focus group discussion (FGD). The generic tools for collecting the information by the field review team are the following:

- questionnaire for interviews of the national immunization team
- questionnaire for interviews of immunization partners
- questionnaire for interviews at the regional (or equivalent) level
- questionnaire for interviews at the district (or equivalent) level
- questionnaire for interviews at the health facility level
- questionnaire for mothers/caregivers of infants
- questionnaire for community focus groups
- observation of vaccination sessions.

It should be remembered that these are generic guidelines and tools and they should be adapted by countries.

Exercise 3 – Adaptation of data collection tools

The working group in charge in preparation of assessment tools is meeting with the EPI manager who is leading the discussion. WHO has provided some generic tools for use in data collection. An extract is provided in the following table for the purpose of this exercise. The group would like to adapt the tool to cover the issues pertaining to the objectives and TOR of the assessment.

The participants split into four working groups to work with the different levels:
Group 1: national Group 2: subnational Group 3: service delivery point Group 4: community.

Task: Each group goes through the table and from sub-table A (Health system) and sub-table B (Immunization operations) chooses priority areas of work to formulate questions that are relevant to your local situation and can be included in your assessment questionnaire.

KEY AREAS REQUIRING DATA COLLECTION

A. HEALTH SYSTEM

	Level			
	National	**Subnational**	**Service delivery point**	**Community**
Stewardship policy, standards and guidelines	Have policy, standards and guidelines been formulated/ updated, documented, disseminated and implementation monitored?	Are up-to-date documents on policy, standards and guidelines available, disseminated to service delivery points and is implementation monitored?	Are up-to-date documents on policy, standards and guidelines available and used?	
Planning	Are multi-year strategic and annual plans available and is implementation monitored?	Are micro-plans available and implementation monitored?	Is a workplan available and implementation monitored?	Is the community involved in planning and monitoring the immunization status of children in the local area?
Management	Are targets set, known and monitored? Are data on target populations reliable? Updates, information sharing, use, feedback: is the information timely and complete? Are the sources of information reliable?	Are targets set, known and monitored? Are data on target populations reliable? Updates, information sharing, use, feedback: is the information timely and complete? Are the sources of information reliable?	Are targets set, known and monitored? Whose are the targets? Are data on target populations reliable; how are data collected? Updates, information sharing, use, feedback: are data recording and reporting reliable?	
Human resources adequacy, knowledge and skills, motivation	Is the staff adequate, with the necessary knowledge and skills, and are they motivated?	Is the staff adequate, with the necessary knowledge and skills, and are they motivated?	Is the staff adequate, with the necessary knowledge and skills and are they motivated?	
Financing and budgeting **Funding**	Are immunization activities budgeted for in the plans? Is the planned budget approved and allocated?	Are immunization activities budgeted for in the plans? Is the planned budget approved and allocated?	Are immunization activities budgeted for in the plans (if applicable)? Is the planned budget approved and allocated?	

B. IMMUNIZATION OPERATIONS

	Level			
	National	**Subnational**	**Service delivery point**	**Community**
Service delivery	What are the strategies? What are coverage levels and the performance by subnational level? How are the levels of drop-out rates?	What are the strategies? What are coverage levels and the performance by service area level? How are the levels of drop-out rates?	What are the strategies? What are coverage levels in the catchment area and the distribution by community groups in the service area? How are the levels of drop-out rates? Is a tracking system in place and functional?	Accessibility of immunization services. Awareness of schedule of vaccination. Satisfaction with the quality of services. Interaction with service provider.
Disease surveillance	What type of system is operating – EPI or integrated? Quality of reporting (timeliness, completeness). Is the surveillance relevant to the disease control intervention, e.g. measles case-based surveillance? Are standard cases definitions formulated/ adapted and distributed? Do disease incidence and vaccination coverage trends correlate?	Quality of reporting (timeliness, completeness). Are standard case definitions available and distributed and their use followed up? Do disease incidence and vaccination coverage trends correlate? Is active surveillance in place?	Quality of reporting (timeliness, completeness). Are standard case definitions available and used? Do disease incidence and vaccination coverage trends correlate? Is active surveillance in place?	Do communities know how to identify the targeted diseases? Are neonatal deaths and cases of sudden onset paralysis reported to health workers?
Logistics	Adequacy and management of transport or distribution and supervision. Adequacy and management of cold chains system and equipment. Injection equipment and safety: policy formulation, availability of equipment, procedures of use and waste disposal.	Adequacy and management of transport for distribution and supervision. Adequacy and management of cold chain equipment and system. Injection equipment and safety: policy disseminated to service delivery points, availability of equipment, procedures and guidelines for waste disposal in use.	Adequacy and management of transport for outreach. Adequacy and management of cold chain for static and outreach. Injection equipment and safety: policy in use, availability of equipment, procedure and guidelines for waste disposal in actual practice.	

Vaccine supply and quality	How is forecasting done? Is there a long-term forecast for vaccines? What is the procurement mechanism? Does a national regulatory authority exist? Is a vaccine stock management system in place? Any vaccine stock-outs? Is MDVP in operation? What are the vaccine wastage rates?	How is forecasting done? Is a vaccine stock management system in place? Any vaccine stock-outs? Is MDVP disseminated? What are the vaccine wastage rates	Is a vaccine stock management system in place? Any vaccine stock-outs? Is MDVP implemented? What are the vaccine utilization rates (usage rate)?	
Advocacy and communication	Is there a national communication strategy? Who are the actors at this level? Are funds allocated for communication?	Is the communication component covered adequately in micro-plans? Are the most effective communication channels known and utilized?	Are the most effective communication channels known and utilized? How do health workers interact with the community? Do health workers have the required interpersonal skills?	Awareness on benefits of immunization. How do communities participate and support the services? Any areas of concern?

3.4 Selecting sites to visit

Having established that more information is needed and prepared the collection tools, the question is where the data/information will be collected.

Exercise 4 – Select sites to visit

In-group discussions.

From the information compiled by the planning team, it has been established that:

- There are six regions, 20 districts and 400 facilities; 80 facilities are not providing immunization services and 20% of the facilities are urban and mainly privately owned.
- 5% of the facilities are not accessible during four months of the rainy season and are staffed by nurse auxiliaries/nurse assistants only.
- The performance varies by district. Last year's DTP3 coverage ranged from 25–85%. DTP1-measles drop-out rates in all the districts are above 10%. In one of the rural districts, this rate is 35%.
- In some districts measles outbreaks are reported very late.

Task 1: Within your group review the above information and identify the critical issues that come out of the information.

Task 2: Suggest the criteria to be used in this example for selection of the sites at national and subnational levels.

Except for small countries, it may not be possible to conduct visits to the whole country. Representative samples of sites need to be visited to avoid bias of the results (e.g. 30–50% of all regions/provinces to be selected with three districts per region/province and two health facilities per district). Selection of sites should be based on location, accessibility, security, population sizes, service delivery strategies, etc. The setting of criteria will be guided using the information collected by the planning team.

Guiding principles for selection of sites to be visited are:

- high and low performance
- urban and rural settings
- easy and hard to reach
- high and low quality of services
- high and low quality of surveillance
- various types of health facility and staffing levels.

Select the sites to visit as carefully as possible. The external coordinator should take a lead role in the site selection process as it will have implications on how the review is designed and implemented. Which sites are visited may make a big difference to the findings and hence the outcome of the review. There may be strong pressure to visit a given health facility that is known to be a model for high performance, while those known to be low performing may be omitted from the selection list. Ideally, selection of sites should be made randomly from a list of all possible locations. Such random sampling is the only scientific way of avoiding sample bias. In real situations, this may not always be possible. There may be a security problem and part of the country cannot be visited. A facility may be so difficult to reach that it is not realistic to spend three days of valuable review time simply trying to reach one facility. Thus, a mixture of common sense and science is needed in making the selections.

To randomly select regions, stratify the regions by high (≥80% DTP3 coverage), medium (50–79% DTP3 coverage) and low (<50% DTP3 coverage) performance. Also stratify regions by major geographic terrain in the country. For example, your country may be defined by mountainous terrain, desert terrain and coastal terrain. Then categorize your regions by both DTP3 coverage and geographic terrain.

3.5 Identifying resources

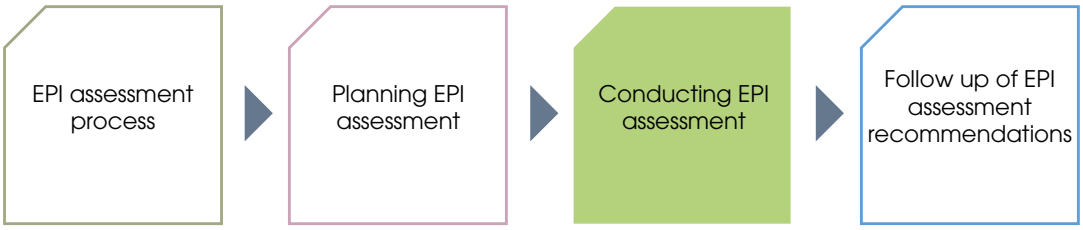
Every activity during the assessment needs resources. You will need to know how many people will carry out a specific task, who these are and how much the activity will cost. In the case of tools and stationery, duplication will be needed. Getting to the sites for field visits requires transport – vehicles, fuel and drivers. Planning for resources entails establishing quantities, costs, sources and timing.

3.6 Training data collection teams

Standardizing questions for field data collection is important so that the results can be compared with reviews by other teams and administrative areas, and aggregated to represent national values. This can be achieved through orientation of the team members before proceeding for field activities.

Checklist – Preparing field activities

- Adapt assessment/review tools for use in the local context. This may mean omitting certain questions and adding others, or changing wording of particular questions. Teams may want to take into consideration any of the following: immunization system, health system, new vaccines/doses introduction and external environment.
- Select/agree on sites to be visited.
- Finalize detailed logistics arrangements.
- Train team members so they understand all questions in the various tools. Teams should pre-test the adapted tools to determine the amount of time required to complete the questionnaire, to ensure accurate wording of questions, and ensure both the team members and respondents understand the questions.



4. Conducting EPI assessment

4.1 Data collection and field activities

Data are collected on performance (process, outcome) and impact and on the existing health systems at different levels. The collection of data entails extracting information from records, observations during sessions, discussions and probing to establish both documented programme strengths and best practices and to identify primary causes of any problems or anomalies.

- The teams share the provisional conclusions with the stakeholders at all levels of review, discussing observed problems, possible causes and recommended solutions.
- During field visits, it is always useful to provide technical support and on-the-job training, should they be needed.

Remember, **assessment is a fact-finding and not a fault-finding exercise.** Activities should be coordinated with the involved administrators and supervisors at different levels so that those authorized to provide information and data are available. During the review, a combination of methods and approaches are used for data collection. The most common methods include:

- In-depth interview with health staff, NGOs involved in immunization activities, and the community.
- Desk review of the key immunization documents (short- and long-term plans, service delivery registers, reports, policy documents).
- Direct observation at immunization delivery points.
- Focus group discussions in the community.
- Parents' KAP.
- Exit interviews of parents/caregivers.

Observers may also take photographs during field visits that illustrate immunization practices they encounter. All activities should, as far as possible, avoid disrupting vaccination activities.

4.1.1 Focus group discussions

Information from the community can be obtained through exit interviews and focus group discussions (FGDs). Focus group organizers must ensure that the group is motivated (invite a small group, agree on meeting place and time and possibly arrange for refreshments). Focus group members can consist of a variety of people – men, women, youth and village leaders – who share the same interest in health services in the community and will participate in the discussion. The discussion should be as frank as possible to allow a free exchange of ideas. Questions must be open and both right and wrong answers noted. The community's points of view should be included in the FGD's recommendations.

Note: If more than one group participates in the FGD, care must be taken to avoid having the discussion dominated by a group (or by an individual). You may wish to separate certain groups.

4.2 Data analysis and interpretation

Exercise 5 – Analysing the situation

Groups 1, 2, 3 make a situation analysis; group 4 performs a role play.

The Republic of Fredonia has a decentralized health system. Several partners are interested and support the national immunization programme. Vaccination coverage has been maintained for several years above 70% for all antigens, though it is generally believed the true coverage is lower. Resources for staff and operations at district level are limited, and 60% of the districts report coverage levels below 50%.

Previously, the immunization programme had independent systems for transport, supervision, training and surveillance. The health sector reform initiated two years ago resulted in integration of all these functions and decentralization of programme activities to the districts. Through the decentralization, districts control their own health budgets and decide on programme priorities as they perceive them and plan for them. The central government allocates funds to districts according to the district plans, but never meets all the needs. Partners are encouraging government to allocate more funds for immunization activities.

Operations: 70% of the services are provided through static sites. Logistics, including delivery of supplies and communications, are poor. The private sector provides health services, including immunization, in urban areas, though the MOH does not know the exact contribution of this sector. Partnership with community/traditional structures is limited although projects supported by UNICEF have excellent networks with these structures.
Last year's reported coverage:

BCG	Polio3	Measles	Yellow fever	TT2+ (WCBA)	Vitamin A
83%	65%	51%	39%	16%	No data

Reported VPDs: measles: 12 445 cases; NT: 32 and 42 cases during the last two years: Hib disease: no data available.

New vaccines: The government is interested in introducing the measles-rubella vaccine.

Staffing: There is a shortage of staff partly due to retrenchment several years ago and inequity of distribution in terms of quantity and quality (e.g. in Kechere District 16% of hospitals have vacancies compared with 37% in rural health units).

Training: The MOH has a well-designed zonal training system to achieve training capacity. However, material and financial resources are lacking, managerial support systems are weak, and management skills need urgent updating and expansion to cope with the challenge of the sector-wide approach (SWAp) reforms.

Planning: Planning is normally done by the district medical officer, the district nursing officer and the district planning officer, without looking at data on coverage, disease incidence, supplies, vaccine wastage, etc.

Financing: The health sector reform planned for decentralized management and financing of health sector activities, but the new financing policy has not been finalized and financial management is still centralized. The planned SWAp is also not yet functioning. Approximately US$ 600 000 is available from UNICEF. These funds are earmarked for outreach services and a small amount is expected from the central government for cold chain maintenance and operational costs. All vaccines are procured through UNICEF. The MOH has a budget line for vaccines and has been contributing 3–6% of costs for routine EPI vaccines for the last six years through the Vaccine Independence Initiative (VII). Fredonia is classified as a heavily indebted poor country (HIPC) and is in discussion with World Bank and International Monetary Fund (IMF) regarding preparation of its poverty alleviation paper.

Work on the following exercises and present and discuss your work in plenary.

Task: Study the situation and conduct an analysis of strengths, weaknesses, opportunities and threats (SWOT).
Group 1: Analyse immunization data.
Group 2: Analyse morbidity data.
Group 3: Analyse financial sustainability.
Each team should consolidate and analyse information in their assigned areas using standardized reporting formats. Each team should enter this information each day while in the field. This information will be used to compile the national report.

Based on the SWOT analysis, suggest solutions to problems and develop recommendations for strengthening the programme in the key components. Feasibility, resource implications and acceptability of the recommendations must be considered. A format for summary recommendations after the SWOT analysis is provided:

Findings by programme components	Conclusions based on SWOT analysis	Recommendations

Group 4: Perform a role play using the following scenario:

- ICC received the above assessment report which should be endorsed by the meeting
- The meeting is chaired by the MOH.
- The heads of partner agencies participate in the meeting: WHO, UNICEF, Rotary, USAID etc.
- EPI manager and their team act as the secretariat for the meeting.
- Recommendations in the report address gaps in the following areas: immunization coverage, disease surveillance, staff training and immunization financing.

4.3 Preparing the assessment report

After the field work, a feedback meeting of teams is conducted at which the team leaders provide summaries of their teams' observations and findings. A summary report, highlighting the strengths, best practices, weaknesses and recommendations from the field visits, is drafted. This draft report is reviewed by all observers, and from their comments, the coordinator develops a second draft of the report. A presentation based on the report is created and presented to the ICC, and their comments are recorded and incorporated into a final version of the report. The final report is then presented to representatives from the government and key participating partners.

Suggested table of contents for the final assessment report

1. Objectives of the assessment
2. Assessment methodology – brief description
3. The environmental context (a brief discussion of the impact of government policies, the economy and other aspects of the external environment on health, the health system in general, and immunization service delivery in particular)
4. Findings organized by component and supporting element of immunization programmes
5. Conclusions and recommendations
    - Relating to the health system
    - Relating to immunization services (this may include recommendations on the feasibility of introducing new vaccine or another innovation to the country).

4.4 Debriefing ICC

After completing the draft report, the EPI review task force or steering committee will present the draft findings to the ICC with the minister of health to ensure the recommendations made are in line with the MOH policies. Comments and amendments which have the consensus of ICC members will be incorporated into the draft report. The external review coordinator is responsible for completing the final report within four weeks of the end of the field review. Once completed, the final report will be discussed at the ICC for endorsement. The ICC will then use the report for the next phase which provides an opportunity to update the country's national immunization action plan with the report's recommendations.

Exercise 6 – Debrief ICC members

Task: Read the following findings and recommendations and discuss within your groups. As ICC members, your group should discuss and reach consensus whether recommendations are coherent, specific, implementable, affordable, time bound and can be included in the final assessment report.

Findings by programme component	Recommendations
1. Supervision: Ineffective and insufficient supervision due to lack of knowledge and integrated supervisory tasks, reports and feedback not given during or after supervisory visits, only 25% of planned visits are carried out.	1. The MOH and RHMTs should continue to monitor supervision at the district level and add resources and training.
2. Relatively few immunization sessions per week due to concern over wastage.	2. Implement the WHO-recommended MDVP.
3. Large numbers of missed opportunities for immunization due to failure to integrate outpatient care with immunization, failure to check cards, etc.	3.1 Health facilities should offer outpatient care and immunization services at the same time to reduce missed opportunities. 3.2 In regions where missed opportunities are a major problem, studies should be conducted to find out why they are occurring.
4. Funds from central level irregularly allocated.	4. The MOH should provide sufficient funds to regional level for technical assistance and support to districts.
5. Vaccine stock-outs are frequent at facility level due to delivery problems.	5. District transport plans should be adhered to ensure timely delivery of supplies.
6. Information system: ◦ The DHMTs and RHMTs lack stationery, supplies, technology, and skills for data monitoring and analysis. ◦ 16 forms are required from health facility staff for HMIS and parallel information systems. ◦ Information is not used at the level at which it is collected and at which corrective measures must be taken. Performance indicators for the HMIS are inadequate.	6.1 The MOH should review the HMIS to ensure that essential immunization and surveillance data is collected. 6.2 The MOH should supply all regional and district offices and all health facilities with the supplies and equipment they need to compile and analyse data. 6.3 The MOH, RHMTs and DHMTs should promote data analysis for planning and decision-making at every opportunity.
7. Planning is done without using the data and is normally carried out by the district medical officer, the district nursing officer and the district planning officer.	7.1 The DHMT should ensure that its planning is based on information, shared priorities, health facility work plans, and the availability of funds. 7.2 The MOH/EPI should help regions and districts set quantitative targets to allow monitoring of progress and self-evaluation.
8. Lack of staff with the proper qualifications and up-to-date training affects all aspects of service delivery.	8.1 As districts assume the responsibility for recruiting and hiring staff, they should make sure that the staff members they hire are qualified for their positions. In the meantime, regions and districts should provide training for the under-qualified health workers who are now providing health services. 8.2 The MOH, with local authorities, should consider the following: • Assign at least two qualified staff to every dispensary. • Increase salaries in line with civil service reforms. • Write a job descriptions for the officer-in-charge of EPI function. • Train one staff member in each health facility in financial and administrative skills.

4.4.1 Sharing findings of the assessment

Share the findings with those whom the findings most concern, starting with the lowest level visited and continuing upwards back to the national level. This serves the following purposes:

- Motivates facility staff members as they have an understanding and ownership of the proposed solutions to their problems.
- Provides information on findings to the health management team and other stakeholders.
- Facilitates consensus on the nature of problems identified.
- Facilitates consensus on findings and important issues in the report.
- Ensures that proposed changes are consistent with government policies and goals.
- Facilitates obtaining high-level political commitment for the implementation of recommendations.
- Provides an opportunity for on-site support and correction of practices that deviate from standard.

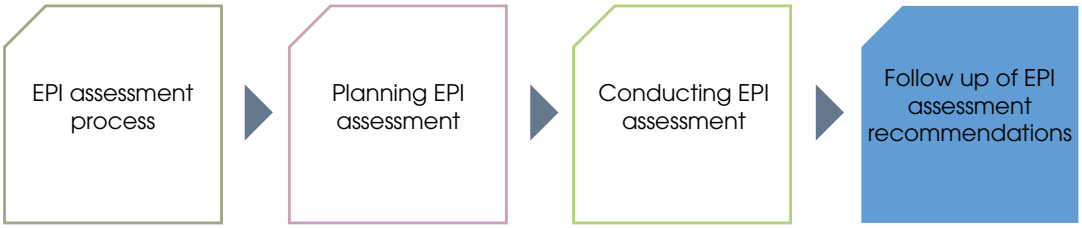
4.5 Incorporating review recommendations into the national plan

Resources may not be sufficient to implement all recommendations. Decision-makers and managers may need scenario options for the cost implications of the different strategies to implement the recommendations. Assessment team members may also help in amending long-term and annual budgets to reflect the estimated costs of the changes, possibly identifying sources and mechanisms for resource mobilization for the required inputs.

Some of the recommended strategies have implications for the health system. The manager would like to know if the health system has the capacity to incorporate and sustain the recommended strategies. This can be established by discussing with MOH planners the following questions:

- Will decision-makers/political leaders support the change?
- Will development partners and other key stakeholders support the change?
- Will health system managers at all levels work to implement the change?
- Will the public view the changes as beneficial?
- Will the government's human resources department be able to supply trained staff to implement the change?

After decision-makers and managers have decided what strategies they can and will implement, the changes are incorporated into the national immunization/health plan. The contents should include objectives for each strategy, major activity areas, units and levels responsible, timelines and indicators that will be used to track progress towards reaching objectives. The schedule/checklist of the major activities for the entire assessment process is presented in Annex 5.



5. Follow up of EPI assessment recommendations

Field activities have been conducted; the review report completed and you have the list of recommendations, which have also been incorporated into the national multi-year plan. All the stakeholders will be interested in the impact of the review recommendations on the immunization services. It is important to follow up the implementation for each recommendation. A framework should be developed for the follow up with a schedule for implementation (an example is given in Exercise 7). Some specific recommendations may need measurable indicators, which need to be identified. There is also the need to indicate constraints and opportunities that may influence implementation.

Exercise 7 – Monitoring implementation of recommendations

For all groups.

Recommended	Period of implementation (short, medium, long term)	Response (unit, department and level)	Status of implementation (fully, partially or not implemented)	Remarks (constraints, suggestions, opportunities)

Task: Transfer recommendations that your group approved in Exercise 5 and using the above format fill the respective graphs with answers based on group members' assumptions and experience. Bring your group findings to discuss in the plenary.

The results of the assessment are discussed at all levels: local, health centre, district/province and national levels. During the discussions partners identify source of financing to implement recommendations which need additional resources. They also consider possible causes and corrective actions to be taken for each problem identified. The follow up of the implementation of the recommended strategies includes:

- Submission of progress reports to the ICC, development partners and other stakeholders every six months.
- Follow up on implementation in their own areas by individuals that served on the assessment team.


World Health Organization

Recommended reading

CDC (2013). Assessment, Feedback, Incentives, eXchange (AFIX) Program: Policies and procedures guide. Atlanta: Centers for Disease Control and Prevention.
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Available at: http://apps.who.int/iris/bitstream/10665/69146/1/WHO_IVB_05.05.pdf (accessed 18 January 2017).

Annex 1: Activities for planning to reach every district

1. Planning and management of resources

At district and facility levels, planning should identify what resources are needed to reach all target populations in a way that can be managed well and thus maintained. Good planning involves: (a) understanding the district/health facility catchment area (situational analysis); (b) prioritizing problems and designing micro-plans that address key gaps; (c) as part of micro-planning, developing a budget that realistically reflects the human, material and financial resources available; and (d) regularly revising, updating and costing micro-plans to address changing needs.

District level

- Develop comprehensive annual micro-plans.
- Plan all supervisory meetings with health workers and communities.
- Conduct periodic review meetings to review data and assess performance.

National level

- Use the cMYP as a basis for realistic costing of human and financial resources necessary to undertake the RED/REC strategy at district level.
- Ensure that all elements of the district micro-plans are included in the plan.
- Identify any gaps in funding or human resources.
- Use the national ICC to raise funds.
- Prepare costing of activities to ensure 80% coverage and above in all districts.
- Review human resources to ensure efficiency and links between immunization and other health programmes.

2. Reaching the target populations

This is a process to improve access and use of immunization and other health services in a cost-effective manner through a mix of service delivery strategies that meet the needs of target populations.

District level

- A register tracks target population children.
- A simple hand-drawn map is used to outline villages in the catchment area of each health unit.
- Review session plans for fixed immunization to meet the needs of the community.
- An outreach micro-plan is developed and budgeted using a schedule that is adapted to community convenience.
- Health staff participates in outreach at least every two weeks.
- Appropriate supplies, forms/registers and allowances are assured for every planned outreach trip.
- Appropriate transport is provided for outreach, which could include, for example, a motorcycle for a 6–20-km radius, or a bicycle for less than 5-km radius.
- An influential community focal point is identified and active.
- Outreach is planned and implemented with community participation.
- In negotiation with the community, other interventions are included in outreach (with vitamin A as a minimum).
- Good communication is achieved between service providers and community members.
- Prioritize health facility catchment areas by total number of unimmunized and partially immunized children.
- Develop plans to conduct additional outreach visits or periodic intensification of routine immunization (PIRI) to reduce the number of unimmunized children.
- Immunization advisers are identified to assist with planning and monitoring outreach services.

Subnational (state, provincial or regional) level

- Prioritize districts by total number of unimmunized and under-immunized children.
- Re-orientation workshops for priority districts to produce district micro-plans using MLM Module 5: *Increasing immunization coverage.*
- Support plans and implementation of accelerated activities to increase coverage and reduce unimmunized and under-immunized children in priority districts.

National level

- Analyse all districts, including coverage and drop-out rates, unimmunized and under-immunized population, mapping and feedback.
- Guide districts to conduct bottleneck analysis of immunization coverage and develop appropriate strategies.

- Review national policy, strategies, plans and budgets for outreach and PIRI including transport management.
- Systematic monitoring of fixed and outreach immunization sessions at district level through supportive supervision, follow up and feedback.

3. Supportive supervision

District level

Supportive supervision focuses on promoting quality services by periodically assessing and strengthening service providers' skills, attitudes and working conditions. Regular supervision should go beyond checklists and reports. It should build capacity to carry out safe, good quality immunization services at district level. In addition, it should upgrade the skills of health workers by on-site support, training, monitoring and feedback. This should include preparation of district micro-plans and budgets within the district.

- District supervisor visits health units at least once per month to help with planning, budgeting, monitoring, training and problem-solving.
- During a supervision session the supervisor should:
  - stay for at least two to three hours;
  - provide training on specific subjects including safety and waste management;
  - watch health workers conduct immunization sessions to ensure quality and safety;
  - watch health workers train other colleagues;
  - include a technical update; and
  - monitor progress on a standard wall chart.
- Supervisors must be mobile and transport must be planned, provided and budgeted for each supervisory visit.
- When a health worker visits the district level there should be an opportunity to continue training.
- When a health worker visits the district level he/she should travel with appropriate supplies and forms.
- The supervision visit would not necessarily need to be exclusively focused on immunizations, so long as the supervisor gives immunization due attention.

Subnational (state, provincial or regional) level

- Organize training of trainers and supervisors in priority technical areas.
- Implement regular supportive supervision in priority districts according to plans.

National level

- Review TORs and duties of supervisors and assess national supervisory plan.
- Redefine TORs of supervisors to improve on-site support and/or training at health facility level.
- Determine training needs of supervisors.
- Identify and secure resources necessary to make regular supervisory visits possible.

4. Links between community and health services

Health facility level

- Identify a mobilizer to alert the community that the outreach worker has arrived and the outreach session has begun.
- Attend all sessions.
- Mobilize children and mothers.
- Consult on the time and place of an outreach session.
- Inform the community of the next outreach session.

District level

- In collaboration with health workers, establish regular meetings with stakeholders to discuss performance, identify local health issues and problems and agree on solutions, e.g. reducing dropout through defaulter tracing.
- Build community networks (communication channels).

Subnational (state, provincial or regional) level

- Develop/revise strategies and plans that will result in the systematic identification of community focal points or committees in priority districts.

National level

- Identify national focal point for advocacy, communications and social mobilization.
- Review national plans and strategies including orientation of health workers on improving links between community and service.

5. Monitoring for action

Health facility level

- Determine the target population and catchment area of each health facility in consultation with district level and communicate

- upward to the province and national level.
- Record each dose of vaccine given for all EPI antigens both at fixed posts and during outreach sessions.
- Record vaccine stocks and calculate wastage rates.
- Penta1 is the standard indicator for "access" for the purpose of standardization and simplicity. Other indicators will continue to be used to measure the quality and impact of the service.
- Chart cumulative monthly Penta1 and Penta3 percentage coverage and monitor Penta1-Penta3 dropout.
- Ensure that simple hand-drawn maps are available at each health facility showing villages and populations.
- Ensure the community participates in and is notified about immunization targets.
- Data compiled and discussed at monthly district meetings with the supervisor with a critical review of numerators and denominators.

District level

- Monitor completeness and timeliness of immunization coverage and surveillance reports.
- Chart cumulative monthly Penta1 and Penta3 coverage to monitor doses administered and drop-out rates.
- Distinguish between immunization recording and reporting at fixed post and outreach services.
- Calculate the percentage of health units that had no vaccine stock-outs during the month.
- Record vaccine stocks and utilization rates for each health facility.
- Identify problems and find appropriate local solutions.
- Compile information for reporting to province level on a monthly basis.
- Calculate the percentage of health units that have been supplied with adequate (equal or more) numbers of auto-disable (AD) syringes for all routine immunizations during the year.
- Plan supplementary immunization activities when necessary.
- Conduct outbreak investigation and response.

Subnational (state, provincial or regional) level

- Organize quarterly meetings for district teams and supervisors.
- Analyse district data and provide feedback to districts.

National level

- Strengthen national capacity to produce and maintain district-level indicator database including mapping.
- Review timeliness, completeness and accuracy of district reporting system.
- Compare district, subnational and national numerators and denominators to ensure consistency.
- Develop national consensus on denominators and reporting guidelines.
- Identify priority districts and provinces for strengthening monitoring, evaluation, surveillance and reporting system.
- Follow up the implementation of activities designed to correct subnational and district performance deficiencies.

Subregional (intercountry support team – IST) and regional level

- Review national plans and budgets including cMYP to ensure that activities to increase coverage are included and adequately budgeted for.
- Request all countries to report on progress of the implementation of RED/REC and other strategies to increase coverage
- Provide feedback and technical support where needed to all countries regarding key performance indicators.

S/N	RED Component	Area	Core Indicator Standard	Core Indicator Definition, Unit of Measurement and Suggested Frequency of Collection		
				HF	District	National
1	PLANNING AND MANAGEMENT OF RESOURCES	PLANNING	Microplans up-to-date	Number of HFs with microplans up-to-date / Total number of HFs	Number of districts with microplans up-to-date / Total number of districts	National EPI Annual Plan up-to-date?
				Measurement: percentage *Frequency: quarterly*	*Measurement: percentage* *Frequency: quarterly / 6 months*	*Measurement: Y/N* *Frequency: annual*
2		VACCINE MANAGEMENT	No vaccine stock-outs of any antigen	Number of HFs with no vaccine stock-outs of any antigen / Total number of HFs	Number of districts with no vaccine stock-outs of any antigen / Total number of districts	Vaccine stock-out of any antigen at national level?
				Measurement: percentage *Frequency: monthly*	*Measurement: percentage* *Frequency: monthly*	*Measurement: Y/N* *Frequency: monthly*
3		SAFETY	No AD syringe stock-out	Number of HFs with no AD syringe stock-outs / Total number of HFs	Number of districts with no AD syringe stock-outs / Total number of districts	AD syringe stock-out at national level?
				Measurement: percentage *Frequency: monthly*	*Measurement: percentage* *Frequency: monthly*	*Measurement: Y/N* *Frequency: monthly*
4		PERSONNEL	At least one personnel trained in immunization	Number of HFs with at least one staff trained on immunization in the previous year / Total number of HFs	Number ofdistrictss with at least one staff trained on immunization in the previous year / Total number of districts	
				Measurement: percentage *Frequency: annual*	*Measurement: percentage* *Frequency: annual*	
5		FINANCING	Disbursement of funds for routine immunization	Number of HFs with funds disbursed for outreach activities / Total number of HFs	Number of districts with funds disbursed for routine immunization activities / Total number of districts	Funds disbursed for routine immunization activities at national level?
				Measurement: percentage *Frequency: quarterly*	*Measurement: percentage* *Frequency: quarterly*	*Measurement: Y/N* *Frequency: quarterly*
6	LINKING SERVICES WITH THE COMMUNITY		Community meetings conducted	Number of HFs with at least 1 meeting conducted with community / Total number of HFs	Number of districts with at least 1 meeting conducted with the community (CBOs and/or local authorities) / Total number of districts	
				Measurement: percentage *Frequency: quarterly*	*Measurement: percentage* *Frequency: quarterly*	

S/N	RED Component	Core Indicator Standard	Core Indicator Definition, Unit of Measurement and Suggested Frequency of Collection		
			HF	District	National
7	REACHING THE TARGET POPULATIONS	**Effective outreach*** *where target population for outreach sites is not well defined, use # sessions conducted / # sessions planned*	Number of DPT1-containing vaccines given via outreach in all HFs / Total number of DPT1-containing vaccines planned to be given via outreach in all HFs in the month X 100; *alternative if outreach target not well defined use: Number of outreach sessions conducted by HFs / Total number of sessions planned by HFs*		
			Meas: num/denom & percentage *Frequency: monthly*		
8	SUPPORTIVE SUPERVISION	**Supportive supervision conducted**		Number of supportive supervisory visits conducted by districts to HFs / Total number of HFs	Number of supportive supervisory visits conducted by national level to districts / Total number of districts
				Measurement: percentage *Frequency: quarterly*	*Measurement: percentage* *Frequency: quarterly*
9	MONITORING FOR ACTION	**Timely reporting**		Number of immunization reports received by districts from HFs / Total number of HFs	Number of immunization reports received at national level from districts / Total number of districts
				Measurement: percentage *Frequency: monthly*	*Measurement: percentage* *Frequency: monthly*
10		**Review meetings conducted**		Number of districts conducting review meetings / Total number of districts	
				Measurement: percentage *Frequency: monthly*	
11		**Data monitored**	Number of HFs with monitoring chart up-to date and correctly drawn / Total number of HFs		
			Measurement: percentage *Frequency: monthly*		

S/N	RED Component		Core Indicator Standard	Core Indicator Definition, Unit of Measurement and Suggested Frequency of Collection		
				HF	District	National
					Performance Categories	
12	PERFORMANCE	ACCESS	DPT1-containing coverage rate	Number of children < 12 months immunized with DPT1-containing vaccine / Number of surviving infants < 12 months of age X 100		
				Meas: num/denom & percentage *Frequency: monthly (cumulative)*		
13		UTILIZATION	DPT1-containing to DPT3-containing drop-out rate	DPT1-containing coverage minus DPT3-containing coverage / DPT1-containing coverage X 100* *(must be interpreted in light of actual coverage levels, such as DPT1)*		
				Measurement: percentage *Frequency: monthly (cumulative)*		
14			DPT1-containing to Measles-containing drop-out rate	DPT1-containing coverage minus Measles-containing coverage / DPT1-containing coverage X 100* *(must be interpreted in light of actual coverage levels, such as DPT1)*		
				Measurement: percentage *Frequency: monthly (cumulative)*		

Annex 3: GVAP recommended indicators

Annex 3.1: Proposed goal-level indicators and targets

Goals	Target by 2015	Target by 2020
Achieve a world free of poliomyelitis	• Interrupt wild poliovirus transmission globally (by 2014)	• Certification of poliomyelitis eradication (by 2018)
Meet global and regional elimination targets	• Neonatal tetanus eliminated in all WHO regions • Measles eliminated in at least four WHO regions • Rubella/congenital rubella syndrome eliminated in at least two WHO regions	• Measles and rubella eliminated in at least five WHO regions
Meet vaccination coverage targets in every region, country and community	• Reach 90% national coverage and 80% in every district or equivalent administrative unit with three doses of diphtheria-tetanus-pertussis-containing vaccines	• Reach 90% national coverage and 80% in every district or equivalent administrative unit with all vaccines in national programmes, unless otherwise recommended
Develop and introduce new and improved vaccines and technologies	• At least 90 low-income and middle-income countries have introduced one or more new or under-utilized vaccines	• All low-income and middle-income countries have introduced one or more new or under-utilized vaccines • Licensure and launch of vaccine or vaccines against one or more major currently non-vaccine preventable diseases • Licensure and launch of at least one platform delivery technology
Exceed the Millennium Development Goal 4 target for reducing child mortality	• Reduce by two thirds, between 1990 and 2015, the under-five mortality rate (Target 4.A)	• Exceed the Millennium Development Goal 4 Target 4.A for reducing child mortality

Annex 3.2: Proposed strategic objective-level indicators

Strategic objectives					
All countries commit to immunization as a priority	**Individual and communities understand the value of vaccines and demand immunization both as a right and a responsibility**	**The benefits of immunization are equitably extended to all people**	**Strong immunization systems are an integral part of a well-functioning health system**	**Immunization programmes have sustainable access to predictable funding, quality supply and innovative technologies**	**Country, regional and global research and development innovations maximize the benefits of immunization**
Monitoring indicators					
1. Domestic expenditure for immunization per person targeted 2. Presence of an independent technical advisory group that meets defined criteria	1. Percentage of countries that have assessed (or measured) confidence in vaccination at subnational level 2. Percentage of un- and under vaccinated in whom lack of confidence was a factor that influenced their decision	1. Percentage of districts with 80% or greater coverage with three doses of diphtheria-tetanus-pertussis-containing vaccine 2. Reduction in coverage gaps between lowest and highest wealth quintile and another appropriate equity indicator	1. Drop-out rates between first dose and third dose of diphtheria-tetanus-pertussis-containing vaccines 2. Sustained coverage of diphtheria-tetanus-pertussis-containing vaccines ≥90% for three or more years 3. Immunization coverage data assessed as high quality by WHO and UNICEF 4. Number of countries with case-based surveillance for vaccine-preventable diseases that meet quality standards	1. Percentage of doses of vaccine used worldwide that are of assured quality	1. Progress towards development of HIV, TB and malaria vaccines 2. Progress towards a universal influenza vaccine (protecting against drift and shift variants) 3. Progress towards institutional and technical capacity to carry out vaccine clinical trials 4. Number of vaccines that have either been re-licensed or licensed for use in a controlled-temperature chain at temperatures above the traditional 2°C –8°C range 5. Number of vaccine delivery technologies (devices and equipment) that have received WHO pre-qualification compared with 2010

Annex 4: EPI assessment key indicators

Source: The common assessment tool (WHO, 2002). Indicators are essential for analysing the current situation, for expressing specific targets and for assessing if targets are being met. This annex shows the key indicators you will need to consider for the five immunization service components and for health systems. The tables show indicators for the three levels – national, subnational and service delivery.

Immunization services key indicators

1. Service delivery

National level	Subnational level	Service delivery level
Coverage level for each vaccine during the last three years	Coverage level for each vaccine during the last three years	Coverage level for each vaccine during the last three years
National drop-out rate	Subnational area drop-out rate	Health facility drop-out rate
Completeness and timeliness of routine coverage reporting from subnational levels	Completeness and timeliness of routine coverage reporting from health facilities in the catchment area	Availability of regular reports
		Effective outreach schedule
Promotion of subnational units by coverage level for each vaccine 50–79%, >80%)	Promotion of catchment areas by coverage level for each vaccine	Promotion of facilities offering vaccine >50% vaccination
Existence of a national plan for immunization	Existence of subnational plans (micro-plans)	Existence of workplans
Completion of the guidelines on immunization safety	Supervision system for injection safety	Use of one sterile needle and one sterile syringe for each injection
Existence of a policy, plan and budget for injection safety	Distribution and maintenance system for supplies of safe injections	Collection of sharps in puncture-proof containers
System for detecting, investigating and reporting adverse events following immunization (AEFIs)	Systems for detecting, investigating and reporting AEFIs	Appropriate disposal of injection equipment
		Knowledge of what should be reported as an AEFI

2. Disease surveillance

National level	Subnational level	Service delivery level
VPD incidence and rate	VPD incidence and rate	VPD incidence
Non-polio AFP rate	Non-polio AFP rate	Non-polio AFP cases
% of measles cases/outbreaks investigated	% of measles cases/outbreaks investigated	Number of measles outbreaks investigated
% of measles cases with information on age and vaccination status	% of measles cases with information on age and vaccination status	Number of measles cases with information on age and vaccination status
Completeness and timeliness of routine reporting	Completeness and timeliness of routine reporting	Availability of routine reports

3. Logistics		
National level	**Subnational level**	**Service delivery level**
Existence of guidelines on: • vaccine management • transport management • cold chain • immunization waste disposal and destruction	Availability and distribution of the guidelines to health facilities	Availability of the guidelines at health facility
Supplies, equipment and consumables are available where they are needed and in the amount needed	Supplies, equipment and consumables are available where they are needed and in the amount needed	Good quality supplies, equipment and consumables are available in the amount needed
Cold chain equipment operating and in good repair	Cold chain equipment operating and in good repair	Cold chain equipment operating and in good repair
Staff monitors status and stock of supplies, equipment and consumables when visiting subnational, service delivery areas. They also have an emergency plan for supplies and equipment	Staff monitors status and stock of supplies, equipment and consumables when visiting service delivery areas. Staff have an emergency plan for subnational area	Availability of stock of supplies and consumables. Staff have an emergency plan for health facility
4. Vaccine supply and quality		
National level	**Subnational level**	**Service delivery level**
Supply Vaccine forecasting	Vaccine forecasting	Vaccine forecasting
Vaccine utilization and wastage monitoring	Vaccine utilization and wastage monitoring	Vaccine utilization and wastage monitoring
	Vaccine stored and handled properly	Vaccine stored and handled properly
Quality An assessment of quality performed by a fully functional regulatory authority or other independent assessment of quality performed	Vaccine quality and expiry date checked before delivery	Vaccine quality and expiry date checked before use
Manufacturer viable or vaccines procured from pre-qualified sources		
Source and finance System for selection of sources	Locally mobilized funds for health programmes	Community financing mechanism
Sustainable financing mechanism		
5. Advocacy and communication		
National level	**Subnational level**	**Service delivery level**
Active support of routine immunization: • by political leaders • by development partners	Active support of routine immunization by political leaders and other influential people and groups in the area	Knowledge of public, including parents, about immunization
		Involvement of community leaders
Active public promotion of immunization	Active public promotion of immunization	Active attempts to reach the unreached, defaulters and non-users
		Health staff communicates effectively with clients
		Community involvement in planning and monitoring of health services

Health systems

1. Stewardship

National level	Subnational level	Service delivery level
Policy-making and standard-setting National health policies: • Address the needs of the unserved and under-served • Assure equity of access to health services • Address health interventions that are priorities for the country • Govern the activities of multi- and bilateral agencies, NGOs and the private health sector	Subnational policies and plans: • Address the needs of the unserved and under-served • Assure equity of access to health services • Address health interventions that are priorities for the country and the area	Health facilities' schedules: • Address the needs of the unserved and under-served • Assure equity of access to health services • Provide health interventions that are priorities for the country and the catchment area
Planning Existence of a multi-year national health plan and budget as well as a plan and budget for the current year	Existence of plan for each unit in the subnational level and a budget for the current year	Existence of a health facility plan and a budget for the current year
Adaptability of staff to change plans and adjust budgets based on current events such as sector reforms		
Information management Staff at all levels receive timely information on new policies and guidelines	Staff receive reports on new national policies and guidelines	Staff receive timely information on new policies and guidelines
Staff at all level receive reports on national progress towards meeting disease reduction and other health goals	Staff receive reports on national progress towards meeting disease reduction and other health goals	Staff receive reports on national progress towards meeting disease reduction and other health goals
Staff use information to plan and to make adjustments in strategies	Staff use information to plan and to make adjustments in strategies	Staff use information to plan and to make adjustments in strategies
Consolidated national statistics are submitted to WHO global and regional offices on time	Staff consolidate reports from health facilities and send regular reports to central level and get feedback on reports submitted	Staff provide regular reports and get feedback on reports submitted
Coordination among health providers Staff coordinate planning, implementation and monitoring among representatives of private and public health-care providers	Staff coordinate planning, implementation and monitoring among representatives of private and public health-care providers	Staff coordinate planning, implementation and monitoring among representatives of private and public health-care providers
Staff keep all representatives of health-care providers informed of new policies, guidelines and changes in public health administration	Staff keeps all representatives of health-care providers informed of new policies, guidelines and changes in public health administration	Staff keep all representatives of health-care providers informed of new policies, guidelines and changes in public health administration
Cooperation Staff coordinate support provided by partners	Staff coordinate support provided by partners	Staff take note of support provided by partners
Staff keep partners and others informed of activities and changes	Staff keep partners and others informed of activities and changes	Staff keep partners and others informed of activities and changes
Evaluation Staff periodically evaluate progress towards the achievement of national goals and objectives, and impact	Staff periodically evaluate progress towards the achievement of the subnational targets and objectives	Staff periodically evaluate progress towards the achievement of targets

2. Human resources development		
National level	**Subnational level**	**Service delivery level**
Staffing Personnel in all locations meet national staffing levels and standards	Personnel in all locations meet national staffing levels and standards	Personnel in all locations meet national staffing levels and standards
There are enough staff with the appropriate skills to meet the needs in all locations	There are enough staff with the appropriate skills to meet the needs in all locations	There are enough staff with the appropriate skills to meet the needs in all locations
Staff receive adequate salaries on a regular basis	Staff receive adequate salaries on a regular basis	Staff receive adequate salaries on a regular basis
Working conditions are adequate	Working conditions are adequate	Working conditions are adequate
Staff job performance is regularly evaluated and feedback provided	Staff job performance is regularly evaluated and feedback provided	Staff job performance is regularly evaluated and feedback is provided
Training All staff members have the skills they need to do their jobs	All staff members have the knowledge and skills they need to do their jobs	All staff members have the knowledge and skills they need to do their jobs
Supervision Guidelines for supervisors of health workers and other personnel in the system have been issued	Staff provides supervision and administrative and technical support needed at the service delivery level	Staff receives the supervision and technical and administrative support they need
Supervisors able to provide the administrative and technical support	Supervisors able to provide the administrative and technical support needed	Supervisory visit reports are available in the health facilities
3. Finance		
National level	**Subnational level**	**Service delivery level**
Budgets are consistent with plans	Budgets are consistent with plans	Budgets are consistent with plans
Available funding meets the needs of the health-care system and immunization services described in the national plan and budget	Available funding meets the needs of the healthcare system and immunization services described in the national and subnational plan and budget	Staff members are aware of the cost of services, sources of financing and the need for efficiency in the use of resources
Funds approved and allocated	Funds approved and allocated	Availability of funds
Funds allocated are spent according to plan	Funds allocated are spent according to plan	Funds allocated are spent according to plan
Generally accepted accounting practices are followed	Generally accepted accounting practices are followed	Generally accepted accounting practices are followed

Annex 5: EPI review schedule summary

EPI review checklist – Major activities, general timeline, length and responsibility										
Major activities	**Responsibility/ lead**	**Estimated length**	**Months prior to the field review**							**Complete?**
			12	**11**	**10–5**	**4**	**3**	**2**	**1**	**0**	
Decide on EPI review	ICC or equivalent	N/A									[ ]
Add review to annual action plan	Ministry of Health	N/A									[ ]
Create EPI review steering committee (ERSC)	ICC or equivalent	N/A									[ ]
Identify an external coordinator	ICC or equivalent	1 week									[ ]
Perform desk review	ICC technical subcommittee	4 weeks									[ ]
Write review concept note	ICC technical subcommittee	1 week									[ ]
Finalize funding sources	ICC or equivalent	1 week									[ ]
Adapt generic tools and guidelines	ERSC	1 week									[ ]
Select/recruit review participants	ERSC	1 day									[ ]
Hire external coordinator	ERSC	1 day									[ ]
Select sites for field review	External coordinator	1 day									[ ]
Arrange appointments with all interviewees at each site	External coordinator	2–3 days									[ ]
Arrange transport and lodging for field teams	External coordinator	2–3 days									[ ]
Field review training for participants	External coordinator	1–2 days									[ ]
Pre-test tools and guidelines	External coordinator	1–2 days									[ ]
Finalize and print tools	External coordinator	1–3 weeks									[ ]
Field review briefing with ICC	External coordinator	1 day									[ ]
Do field review	Field review teams	2 weeks									[ ]
Data analysis	Field review teams	Each day									[ ]
Write draft report/ presentation	Field review teams	2–3 days									[ ]
Finalize report	External coordinator	2–4 weeks									[ ]
Disseminate findings to ICC and others	ERSC	1 day									[ ]
Add recommendations into updated action plan	ICC	1–2 weeks									[ ]

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