



Enhancing Routine Immunization Services in Ethiopia

**Reaching Every District (RED)
Approach**

**Field Guide and Essential Tools for
Implementation**



Acronyms

AD	Auto-disable Syringes
ARI	Acute Respiratory Infections
BCG	Bacillus Calmette-Guerin
CBR	Crude Birth Rate
CBAW	Child Bearing Age women
CSA	Central Statistics Authority
DHMT	District Health Management Team
DPT1	First dose of Diphtheria, Pertussis (Whooping Cough) and Tetanus vaccine
DPT3	Third dose of Diphtheria, Pertussis and Tetanus vaccine
DQA	Data Quality Audit
EPI	Expanded Programme on Immunization
GAVI	Global Alliance for Vaccine and Immunization
HF	Health Facilities
IDSR	Integrated Diseases Surveillance and Response
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
KAP	Knowledge, Attitude and Practice
MOH	Ministry of health
NIDs	National Immunization Days
NGOs	Non Governmental Organizations
NPW	Non Pregnant Women
OMDVP	Open Multi-Dose Vial Policy
OPV	Oral Polio Vaccine
OR	Out Reach
PW	Pregnant Women
RED	Reaching Every District/Woreda
SOS	Sustainable Outreach Service
TT	Tetanus Toxoid
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VVM	Vaccine Vial Monitor
WHO	World Health Organization

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Preface

This guide will help the immunization services by providing technical support to:

- Woreda micro-planning,
- Analysis of data to take action,
- Strengthen sustainable outreach services,
- Strengthen links between community and services and
- Supportive supervision

In addition, the guide aims to help woreda health offices to use health facility data, identify immunization programme problems, and their causes to increase immunization coverage and make it sustainable.

This guide focuses on how to increase coverage by conducting woreda-based micro planning to reach un-reached children and to reduce drop-outs.

Objective

To provide national immunization programmes with the information and tools necessary for the appropriate implementation of the activities of the RED approach.

Target audiences

The target are the woreda health office teams and supervisors at various levels. Other stakeholders supporting immunization activities may also find it useful.

The guide covers two parts

1. Concepts of RED Approach: - definition, focuses, components and its strategies.
2. Planning Process in RED approach: - situation analysis, calculating target population and coverage, Managing problems, set objectives, strategies, activities and forecasting materials and financial requirements.

In addition, tools (sample planning formats, immunization monitoring chart, the national reporting formats and supervision checklist) are annexed to support implementation aspects of the RED approach.

1. Immunization services in Ethiopia

In Ethiopia, the Crude Birth Rate (CBR), infant and under-five mortality rates are estimated at 39.9/1000, 97 and 140 per1000 live births respectively (1). The main causes of morbidity and mortality in children are communicable diseases and malnutrition. Among the communicable diseases acute respiratory tract infections (ARI), diarrheal diseases and the vaccine preventable diseases together account for about 70 percent of childhood mortality.

Immunization is the most cost effective intervention in public health and it is one of the indicators of development in most developing countries. In 1980, the Ethiopian Government established the Expanded Program on Immunization (EPI). EPI was tasked with increasing vaccination coverage against the six childhood killer diseases by 10% each year to reach 100% coverage in 1990. This program goal has largely remained unrealized. Despite the high prevalence of vaccine preventable diseases in the country, immunization coverage rates stagnated and remained very low for many years. The 2001 EPI coverage survey indicated coverage of DPT3 56% by card plus report from caretakers. In 2002, the national DPT3 and measles vaccine coverage rates were 51% and 42% respectively. The regional DPT3 coverage varies from more than 80% in Tigray to less than 5% in Somali regional states.

In most woredas in Ethiopia, the important weaknesses that impede progress towards the achievement of expected goals are related to: insufficient outreach immunization services, poor staff motivation, infrequent in-service training and inadequate supervision, insufficient communication between health staff and community members, inadequate monitoring systems at all levels, inadequate management of financial, material and human resources and lack of community participation due to lack of awareness and absence of social mobilization and health education.

The WHO Africa Region Strategic Plan 2001-2005 and the Global Alliance for Vaccines and Immunization (GAVI) in 2000 have set a goal of reaching $\geq 80\%$ DTP3 coverage in every woreda in $>80\%$ of developing countries by 2005. This goal is referred to as the "80/80 goal". To achieve a sustained and equitable access to good quality immunization services and accelerate progress towards achieving the 80/80 goal, GAVI partners proposed a new approach called "Reaching Every District" (RED) in 2002.

This approach means reaching every child in every woreda with quality immunization services. In order to improve routine immunization services and increase coverage in Ethiopia, there is a need to adopt strategies such as SOS and RED that focus on identifying bottlenecks and developing community ownership of the services.

In Ethiopia, immunization services are delivered as part of integrated maternal and child health services at health facilities and out reach sites. Hence the operational strategy to implement the RED concept will be designed in an integrated manner, using EPI services as the platform. Similar to weekly child health promotion activities, immunization activities to reach every child in every woreda should be performed along side other priority public health interventions such as Integrated Management of Childhood Illnesses (IMCI), HIV/AIDS prevention and control, Micronutrient Initiative (e.g. Vitamin A, Iodine supplements) and Integrated disease surveillance and response (IDSR). There is a need to consolidate the gains from polio and measles immunization campaigns in the different areas of capacity building like training, planning and implementation to ensure the success of the RED strategy.

2. The RED Approach

The RED approach is not a new intervention. It is re-packaging of existing routine immunization strategies and activities in a systematized and organized way to be implemented in the best possible way to improve routine immunization coverage and enhance community ownership of the EPI program. It is intended to be part of the routine program and not to substitute it. It just emphasis on the strategies if utilized appropriately, will contribute to the fourth millennium development goal of halving child mortality by half by 2010. Empowerment of the district to plan, implement and monitor is key to the RED approach. This will also strengthen the entire health system for primary health care delivery and is an important element for sustainability.

2.1. Key Issues in RED Approach

To ensure successful implementation, RED should focus on

1. Promoting an organized management system, which includes program assessment, problem solving, good planning, budgeting and implementation of immunization services taking into consideration social mobilization, available resources and cold chain at the woreda level.
2. Adopting the woreda routine immunization coverage indicators with annual milestones towards achieving the proposed 80/80 goal.
3. Nurturing community participation and ownership of the program over time
4. Prioritizing woredas based on number of un-immunized children
5. Provision of adequate funding to woredas to improve access and quality immunization services
6. Ensuring sufficient capacity building needed to reach the 80/80 goal

2.2. Components of Reaching Every District Approach

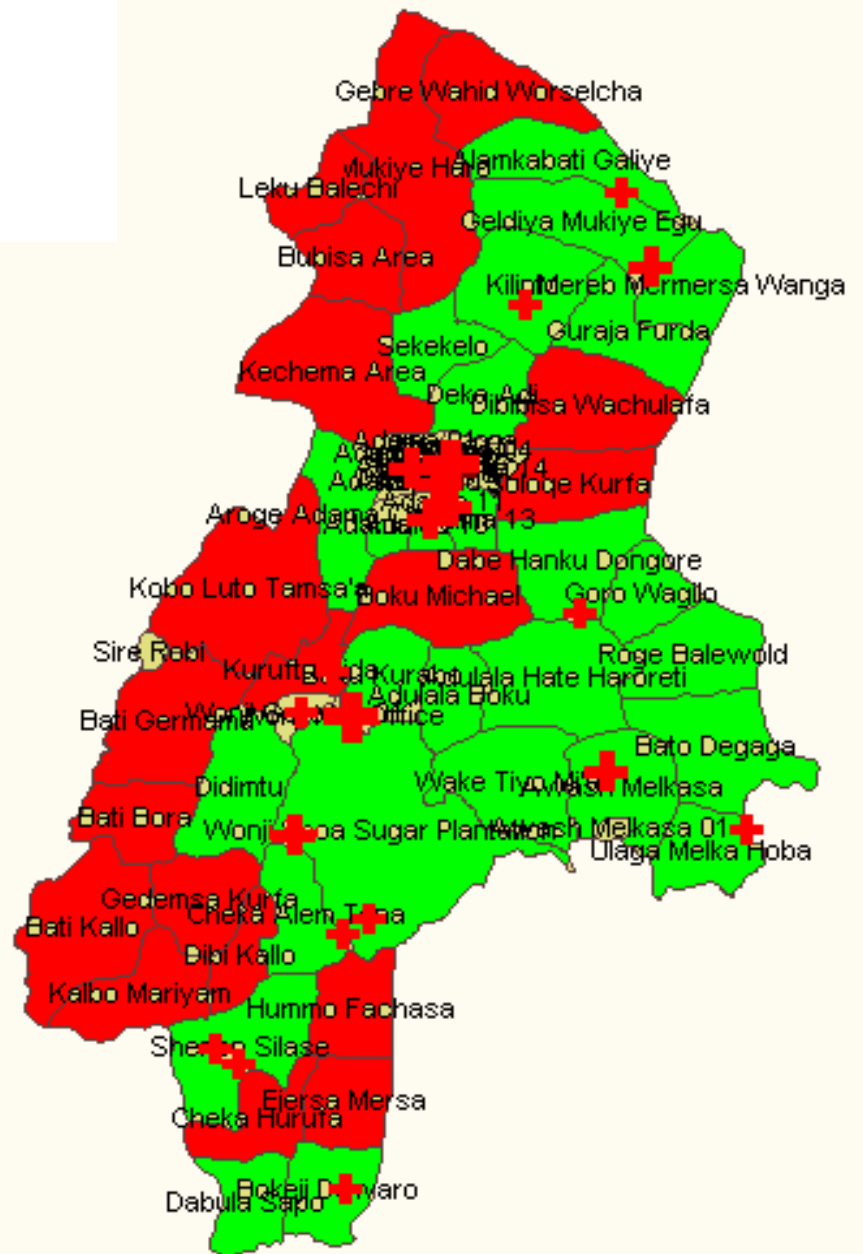
The operational components of the RED approach are

2.2.1. Re-establishing Sustainable Outreach Services

In Ethiopia, the current potential health service coverage is not more than 60%. Outreach immunization service plays a vital role to reach the under served rural communities. In Ethiopia about 40% of immunizations are given in outreach sites (2001 EPI coverage survey). But most of the outreach sites do not immunize adequate number of eligible children, because of poor link with the community to be served. To reach every eligible child and woman, it is important to re-establish outreach vaccination. To do this, it is necessary to know where they are located; how many they are by location; reasons, if any, why population groups are underserved, what it takes to reach them and how to ensure health facilities are operational (functional fridge, available vaccines and injection equipment, transport for outreach, trained and supervised health workers). Figure 1 is a map showing population in different villages with their distance from a health center and strategies employed to reach them.

Figure 1. Sample woreda map: Health Facilities and kebles for static (green) and outreach sites (Red)

- + Health Facility/static sites
- Outreach areas
- Static site areas



Using Sustainable Outreach Services

In implementing RED Approach, many woredas may have large groups of populations living in hard to reach areas. SOS is designed to assist in reaching hard to reach population using the following principles:

- Delivery of tailor made immunization services to people with limited or no access to health services due to geographical barriers using periodic contact.
- Drawing lessons from polio NIDs with emphasis on micro-planning, mapping, etc.
- Combining the delivery of immunizations with additional interventions, depending on specific needs; eg.
 - Distribution of bed nets, anti malaria and anti parasite drugs where appropriate.
 - Micro nutrient supplementation,
 - Distribution of contraceptives

SOS is heavily based on;

- Community participation
- Determination of the array of services
- Facilitation of teams
- Use of peripheral community structure

Making Outreach Work: Important points to note

To make outreach services work effectively the roles of health workers and community leaders must be taken into account.

Health workers must

1. Plan outreach sessions with the community based on the target population of the area and terrain
2. It is important to plan sessions so as to increase coverage, reduce wastage and prevent dropouts. Therefore, sessions should be planned in the most cost effective way with regards to frequency versus the number of children to be immunized per session
3. Use checklist to prepare outreach sessions- vaccines and injection equipment, stationery, vitamin A capsules, health education materials, and equipment for other primary care tasks (e.g. weighing scales), medicines and other supplies as applicable
4. In areas that are not staffed by qualified personnel, the Woreda Health Office should use innovative ways of providing services to those un-reached communities by establishing outreach or mobile teams at woreda levels to reinforce the field staff. Increase outreach services or mobilize mobile teams to hard –to-reach and under-served communities.
5. Improve coverage by expanding services into new areas/create more outreach posts in areas of poor physical access
6. Create a tracking system by using a tickler box or other means in order to trace defaulters such as maintaining community registers and having community focal points at every EPI sites
7. Use innovative ways e.g. the opened multi-dose vial policy to minimize wastages.
8. Improve staff competencies to avoid missed opportunities and improve quality of services (i.e. safety of injection, cold chain, etc)

9. Provide adequate information to caretaker - date and time of the next immunization; place of next immunization; number of visits still needed the child or woman possible side effects and what to do should they occur

Community leaders must

1. Participate in planning the sites and sessions of outreach immunization services.
2. Regularly register eligible infants and women for outreach services.
3. Mobilize new eligible population and trace defaulters during outreach sessions.
4. Provide feedback to the woreda health office about the quality of service.
5. Be encouraged to utilize existing services through effective IEC, improving health worker skills and attitudes in order to reduce drop –outs.
6. Be empowered through participation and better communication.

2.2.2. Planning and Management of resources

Planning should be systematic and should take a problem solving approach. The first step is to analyze situation of achievements and barriers. Available human, material and financial resources should be assessed. Prioritizing of problems and setting realistic targets with milestones including sustainability issues and regular reviews of implementation should follow the analysis. The planning process helps to expose all the problems associated with EPI and to develop appropriate strategies for resolving them.

Woreda micro plan should be prepared by keble. Each keble should be assessed separately and based on the eligible population and its distance from health facility, then the type of strategy to be used should be determined.

Each plan of action should address the following major areas

Increasing immunization coverage and reaching every eligible child

The target coverage and the type of strategy should be set in each keble.

Maintaining the quality of immunization services

The sustainability and improvement in quality of immunization services should be considered.

Building the capacity of health staff

Pre-service and in-service training and refresher training for health facility staff and EPI focal persons at all levels should be conducted.

Ensuring effective vaccine forecasting, supply, storage and distribution

- Management of vaccines and other supplies through the correct use of relevant management tools and training of logisticians/cold chain officers, and monitoring of vaccine supplies and distributions should be done.
- Ensuring correct training of health facility staff in forecasting vaccine needs, vaccine handling, monitoring vaccine use and wastage should be done.
- Correct monitoring for availability of vaccines, injection materials and supplies at all levels.
- “Bundling” both in the collection and in the distribution of inputs should be practiced always.
- The stocks of vaccines, injection materials and other supplies at all levels should be monitored
- Vaccine use (Wastage and usage rates by health facility) should be monitored
- Make sure that new polices and technologies are well known at grass root level (OMDVP, VVM, Shake test and diluents use, etc.).

Ensuring effective management of cold chain equipment

By training cold chain technicians on cold chain and vaccine management at health facility, woreda, zone and regional levels.

- Maintain an up-to-date inventory of cold chain capacities at all levels (refrigerators, cold boxes, vaccine carriers, ice packs).
- Make sure adequate storage capacity exists at all levels.
- Ensure energy availability (electricity, kerosene and etc)
- Make sure emergency/contingency plans are prepared at each level.

Managing resources

To make effective RED implementation logistics management is critical. The role of EPI logistics is that the items that are needed for the minimum package activities, particularly all immunization operations (Service delivery in fixed, outreach and mobile sessions; monitoring; supervision; communication, etc) at woreda and health facility levels should be in the right place, at the right time, in right quantities, at right quality, in the right condition and at the right cost.

Ensuring proper equipment maintenance

- Proper maintenance will improve both the effectiveness and efficiency of grassroots level programmes by increasing the MTBF (mean time between failures) and technical lifetime of each piece of equipment, and reducing the cost of repairs and replacement.
- Maintain up-to-date inventory and
- Train all equipment users on proper utilization and user-level maintenance of their respective pieces of equipment
- To manage resources efficiently:
 - Plan and deploy resources according to situation analysis, objective and most appropriate strategies, taking into account needs/availability.
 - Know and declare resources made available by all stakeholders. Include locally (woreda and community) mobilized resources, both cash and in kind
 - Identify gaps and utilize existing coordination mechanisms at woreda level to raise funds and monitor implementation
- Pull resources from the different sources and utilize all integration opportunities e.g.
 - Transport for distribution shared with different programmes; minimum package for outreach (such as Vitamin A supplementation, distribution of insecticide treated nets, etc), without compromising immunization services
 - Plan activities that involve same person and same time together to avoid duplication
- Distribute resources on the basis of equity (needs) and not equally
- Conduct regular preventive maintenance of equipment (cold chain, transport)
- Account for the resources at the disposal (funds, equipment, vaccines, syringes and needles, time, etc)

Budgeting

It is important to identify adequate and sustainable sources of financing in order for immunization programmes to be effective. Financing needs to be sufficient in order to provide for all appropriate vaccines, ensure that immunizations are delivered safely, and reach all the children in the country. The new concept on sustainability of financing by GAVI embodies the following principles:

1. Financing is a shared commitment and a shared responsibility of both ***governments*** and their ***development partners***.

2. It requires matching for expanding programme objectives.
3. It includes the concept of adequate and reliable financial resources, focusing not only on the quantity of funds but also on how well they reach the places where they are needed
4. It is related to both mobilization and sufficient use of financial resources.
5. In addition to the availability, utilizing of the funds effectively and efficiently is the main idea to be addressed at all level and focusing on issues like:
 - Reducing dropouts
 - Reducing missed opportunities
 - Including other interventions during outreach, for example vitamin A supplementation
 - Scheduling sessions according to the needs of the target population
 - Limiting vaccine wastage by protecting vaccines from freezing, using vaccine vial monitor, and implementing the policy on opened multi-dose vials
 - Designing activities such as disease surveillance and social mobilization so that they serve other objectives in addition to the immediate intention, for example, social mobilization for polio campaigns should also inform mothers about other routine immunization services.

2.2.3. Liking Services with Community

Strengthening the link between community and health services can only be achieved through the involvement and effective empowerment of the community in the management of the services. This will create awareness, stimulate demand, help convince those that are hard to reach and encourage community participation and ownership.

Key activities to link services with the Community

1. Sensitize key opinion leaders (such as religious and community leaders) in the community in order to gain their cooperation, support and participation.
2. Use existing community structures for communication e.g. Community Based Organizations, religious groups
3. Establish community focal points at woreda and facility levels
4. Involve community in planning and monitoring of immunization services
5. Advocate for support for the immunization programme with heads of other sectors (administrative authorities, education, social services, information, etc)
6. Mobilize and organize community groups such as clubs, school children and teachers, and other volunteers and assign them specific roles such as defaulter tracking
7. Hold regular meetings and share progress on problems and impact of immunization in the woreda with relevant agencies and community leaders as a feedback
8. Disseminate immunisation information on a regular basis to the community through; community meetings, local radio, house-to-house visits by community health workers and volunteers, IEC materials, community announcers etc. Include response to any adverse events and rumours on immunisation information dissemination.
9. Conduct training for health workers and community educators to strengthen their interpersonal communication skills and ensure proper information is given
10. Supervise communication activities as part of integrated supervision (include communication questions in the checklists and observe health worker Inter Personal Communication with caretakers)

11. Conduct exit interviews and focus group discussions with community members to understand their satisfaction and KAP on immunization and use the feedback to improve messages and activities

The goal of linking services with community is to involve the community in planning, implementation and evaluation process of the EPI services. This will not only result in increased demand of the services but also make the services sustainable. Linking services with the community entails effective communication.

Communication

The term communication is used as a wide descriptive word encompassing: advocacy to raise resources and commitment; social mobilization for wider participation and ownership, and for bringing about change in knowledge, attitudes and behavior among specific groups.

Benefits of Communication

- It helps to obtain the support of political leaders and decision makers, community groups and household members.
- It enhances community ownership by ensuring its involvement in planning and utilization of immunization services
- It improves the interaction between health workers and client at every point (Fixed, outreach or Mobile) where "service" meets the public.
- It helps to reach the hard to reach and to convince hard to convince communities.

Communication strategies

Advocacy: is a strategy aimed at political leaders, partners and stakeholders at all level to promote long term **commitment, financial sustainability** and appropriate **resource allocation**. Advocacy activities include well-designed meeting with stakeholders, allies and partners for the sake of:

1. Creating awareness among partners and stakeholders to support the immunization programmes and services.
2. Generating human, material and financial resources for the immunization services
3. Facilitating the partner and stakeholder participation and involvement in the immunization services.
4. Providing knowledge and skills that enable partners and stakeholders to disseminate information to caretakers, families and communities on immunization.
5. Providing the commitment and support for the immunization services
6. Empowering partners and stakeholders to be child tracers during vaccination sessions

Social Mobilization: is a process by which the involvement of a broad range of groups and sectors is gained.

Social mobilization activities include well designed structures at all levels and assignments that need to be carried out by the woreda health management teams, governmental sectors, traditional and political leaders, religious groups, health workers, Community Based Organizations (CBOs), NGOs, the media and private sector, volunteers and many others.

Therefore the following are some of the activities, which need to be carried out

- a) Establishing or reactivating the social mobilization sub-committees at woreda, health centre and community levels.
- b) Organizing community meetings for the dissemination of information
- c) Distributing health learning materials to communities
- d) Disseminating immunization services information by utilizing inter personal, electronic, print media, drama, song and dance to care takers, families and communities
- e) Utilizing school teachers, pupils, traditional leaders, religious leaders, political leaders, volunteer health workers and others to mobilize care takers to take children for the immunization sessions.
- f) Countering mis-information regarding immunizations
- g) Developing monitoring and evaluation systems.

Behavioral Change (Program Communication): program communication encourages actions among target population that directly support more effective immunization coverage and disease control.

Program communication activities include

Providing information, motivation, and job aids so that health workers will treat parents with respect, give information clearly, and encourage parents to bring children for vaccinations as soon as they are due.

2.2.4. Supportive Supervision

Definition

Supportive supervision is a process to guide, support and assist staff in carrying out their duties so as to achieve planned goals and objectives. Supportive supervision promotes quality outcomes by strengthening communication, focusing on problem-solving, facilitating teamwork and providing leadership and support to empower health providers to monitor and improve their own performance.

Effective supportive supervision:

- Should include monitoring to determine if performance objectives met.
- Should include evaluation to determine if program objectives and targets are being met
- Should include integration and coordination to ensure cost effectiveness in the use of available resource and with other programmes
- Should be planned and carried out within regular intervals by a team consisting of an EPI officer, logistics officer and other relevant staff as needed.
- Should have pre-visit preparations done
 - ✓ Developing of clear objectives for the visits
 - ✓ Referring to the annual and micro-plans
 - ✓ Finding out implementation status of recommendations made during previous visits
 - ✓ Collecting helpful publications, policy documents, and supplies for the health facility
 - ✓ Reviewing recent reports from the facilities to be visited
 - ✓ preparing for updates and/or refresher training that will be given during the visit (modules, handouts, training materials)

- Should be followed up by sending supervisory report(feedback) to the health establishment and by providing the support that has been discussed and agreed upon during the visit.
Feedback:
 - ⇒ Should generate more light than heat
 - ⇒ Proposed solutions should be workable Vs magic solutions
 - ⇒ Do not fly off leaving problems identified during supervision
 - ⇒ Recognize that tough choices/recommendations will need time and resource
- Should use an appropriate supervisory checklist, which should focus on service delivery, logistics and cold chain, vaccine supply and quality, immunization safety, management of injection waste, community involvement and financial and staff management.

Supervision, Monitoring and Evaluation: What is the Difference?

In order to conduct supervision, the programme manager needs to be familiar with similarities and differences between supervision, monitoring and evaluation.

Table 1 Comparison of Supervision, Monitoring and Evaluation

Parameters	Supervision	Monitoring	Evaluation
FOCUS	Review of skills of staffs	Review of progress in implementation of planned activities and achievement of targets and standards	Review overall program status, outcomes and outputs based on pre-defined objectives, indicators and targets
AIM	To identify gap in skills of staff and provide training in order to improve staff performance	To identify implementation problems, define solutions and guide intervention	To assess overall program performance in terms of effectiveness, efficiency, outcome and output
PROCEDURE	Observation and interview of staff; Review of records; Immediate feedback; Training	Examination of data and work-plan; Review of adherence to pre-determined standards (practices)	Review of polices, program process and outcomes/outputs
FREQUENCY	Daily, Monthly, Quarterly	Daily, Monthly, Quarterly	Periodic
USE OF INFORMATION	To assist staff to improve skills	To direct implementation of program activities	To provide evidence for planning and re-planning

The major reasons for conducting a supervisory visit

1. To ensure the health centre's objectives are appropriate. The supervisor should verify if the health centre's objectives correspond to available resources and adequately address community needs.

2. To determine what is being done well. The supervisor should identify problems that the supervisee has solved on his or her own and tasks he or she performs well. The supervisor should encourage the staff to maintain positive results.

3. To help staff identify and solve problems. The supervisor should observe how tasks are completed and under what condition. Communication and leadership style of the supervisee should be noted. The supervisor and supervisee should jointly identify solutions to any problems noted.

4. To motivate the staff. The supervisor should discuss the work-related factors that enhance or discourage the employee. The supervisor should congratulate the supervisee for the tasks done well.

5. To improve the skills of the staff. The supervisor should review the methods of work and jointly identify any need for a technical information or skills, onsite training of the supervisee should be provided as needed.

The Tool (Supervisory Checklist)

Supervision checklist contains key indicators that will inform a supervisor about the major components of immunization services performance. To ensure the completeness and uniformity of supervision, the checklists should be used at every site visit. The checklists for supervision of health facilities and Regional/Zonal/Woreda levels are included in annexes 7a and 7b.

Supervision Team Members

Ideally, the team should be multidisciplinary. Characteristics that enhance the supervisor's profile include a clear vision, sense of mission, energy, strength of character, ability to motivate and communicate, persuasiveness, self-confidence, competence, integrity, honesty and effective leadership.

Integrated supervision

Integrated supportive supervision is a process guiding, supporting and assisting service providers to carry out their duties and assigned tasks in various components of the minimum package of priority health interventions at district level. It links immunisation programme with other health sector priorities. The integrated supervision is carried out with well-trained multi-purpose team using supervision tools, which include key issues of essential programmes in line with PHC strategy. It involves on-the-job transfer of knowledge, attitudes and skills between the supervisor and supervisee. This is a process of two-way communication, interaction, learning by doing and other interactive processes. It is implemented by many parties, including officially designated supervisors, informal supervisors, peers and health workers themselves. The external supervisor acts as facilitator, trainer and coach.

Integrated supportive supervision promotes quality outcomes by strengthening communication, focusing on problem-solving, facilitating teamwork and providing leadership and support to empower health providers to monitor and improve their own performance.

Activities carried out during Supportive Supervisory Visit

1. Observing immunization practices comply with national policy guidelines on immunization
2. Observing an immunization session to determine that staff are polite, the procedures are correct;
3. Observing the environment/surrounding to check waste management;

4. Interviewing clients;
5. Arranging for staff meetings without adding extra burden to the health facility staff or disrupting the services;
6. Checking the availability of stock of vaccines and other supplies, state of the equipment, and quality of the cold chain – re-stock, take immediate corrective actions whenever possible and note any problems for further action;
7. Reviewing health center records, coverage charts, drop out rates, and balance sheet/ledger and discuss with health facility staff;
8. Noting in the "Supervision Book" (provide each health facility with one) ones observations, as well as problem areas and recommendations to implement before next visit;
9. Using supervisory visit to distribute up-dates and supplies for the health facility;
10. Organizing on-site training structured according to observed weaknesses and new information during the visit.
11. Introduce a self-assessment/feedback system;
12. Following up on recommendations made during previous visits

Follow-up Visits

During subsequent visits, always begin with information gathered during the previous visit. If you did not personally conduct the previous visit, then review the supervisor's report in order to continue where he or she left off. Inform the supervisee of what you have learned, in order to avoid repeating the same information. Draw up a list of behavioral weaknesses or improper attitudes that were noticed during the previous visit. Observe the supervisee to see if such behaviors or attitude have been corrected and, if corrections or improvement have been made congratulate them. If problems still exist, highlight the observation made the previous time and note that this item still needs to be addressed. Check whether the lack of improvement is due to hidden problem that needs to be addressed. If supplies or technical information/documentation had been promised at the previous visit, ensure that such promises are fulfilled.

2.2.5. Monitoring For Action

Monitoring is the process of continuous observation and data gathering with the aim of comparing what you have achieved with set targets. It entails a systematic and continuous process of examining data, procedures and practices linked to implementation of programme activities. The information is used to direct the programme, measuring progress, identifying areas needing specific interventions and, revision of plan if needed. Monitoring is made up of:

1. Planning and setting targets
2. Implementation of the plan
3. Recording results
4. Comparing results with set targets and
5. Taking action, as necessary

Depending on the purpose, monitoring can be daily, weekly, monthly or quarterly, but it must be regular.

Monitoring Immunization Service Delivery

The most important function of monitoring is to keep track of the trend of immunization coverage and drop-out rates at local level. These should be compared with the previous period and the planned objective.

Monitoring tools include

1. **Maps**, which can show access to services i.e. population distribution in relation to the location of health facilities.
2. **Child health card**
3. **Immunization register**
4. **Immunization tally sheets**
5. **Monthly immunization summary sheet (See annex 8)**
6. **Immunization coverage survey reports**
7. **Tickler Files**, which are, boxes in which copies of children's vaccination cards or similar records are filed according to the month when each child's next vaccination is due.
8. **Immunization monitoring chart**: which is one of the best monitoring tools for immunization coverage. It shows the monthly progress of health workers in raising immunization coverage in the health centre catchment area. This chart enables health workers to compare the number of people actually immunized each month with the coverage targets. Each vaccine, and even each dose of the same vaccine can have a monitoring chart. In order to be viewer friendly, not more than two vaccine components should be put in one chart. This will facilitate following progress simultaneously for two components as well as to calculate drop-out rates between them. The immunization-monitoring chart summarizes the information given in monthly immunization reports. If reports are not complete for a woreda, the cumulative immunization coverage figure will be smaller and will not reflect the true situation. The immunization monitoring chart, hence indicate the need for monitoring completeness of reporting. The health facility is the typical location to use the chart, but it can also be used at higher levels (woreda, province, central). (See annex 6). Office charts and other monitoring tools are useful in monitoring coverage and drop-out rate. They should be regularly updated when new data are received from health facilities to identify facilities with problems, give more support to those health facilities that do not perform well, and acknowledge and commend good performance.

9. Monthly immunization and target diseases reports and others.

Monitoring Planned Activities

The sample-monitoring tool (Table 2) provides an opportunity to note whether a responsible staff member follows up the activities assigned to him and problems to completion. Reasons for not reaching (obstacles to) targets on time should be noted in the appropriate column.

Table 2 . Planned Activity monitoring tool

Woreda: _____ Health Facility: _____ Year: _____					
	Activity	Person(s) Responsible	% Complete	Obstacles to Completion	Solutions to Obstacles
1.					
2.					

3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

If targets are not being met, the following steps must be taken:

1. Determine the main problems associated with low coverage in your health service area
2. Determine access or utilization problems
3. Determine the causes behind these problems (supply, staffing, service delivery and demand of services, IEC and others.
4. Decide what solutions you need to implement to address these causes
5. Decide what resources (existing or extra) are needed (see annex 3)

3. The Planning Process in RED Approach

Every woreda needs to plan its immunization services using the procedures described in RED approach in this guide every time. The steps of the micro-planning are: situational analysis of immunization services in the woreda, problem identification and analysis, priority setting, objective formulation and target setting, designing strategies and activities and identification and quantifying of necessary resources and budget along with designing monitoring system. Different annexes that help as a tool to prepare micro-plan are included in this guide.

3.1. Situational Analysis

Situation analysis or initial assessment consists of collecting data on the achievements of the immunization program and related problems. In particular, it provides answers to the following questions: where are we now? what problems do we have? and what are the challenges ahead? Thus, the situation analysis helps to identify the needs, the problems, and their causes, their effects and potential solutions.

3.1.1. Socio-demographic information

Compiling information about the population and area to be served will help to assess why people are not using the immunization services, to identify ways to increase the use of services and to plan outreach activities.

The information gathered should include

- Location of kebeles (on maps), total population of each kebele, public and private health facilities,
- Type and capacity of cold chain equipment available in each health facility
- Identification of facilities with access to an incinerator on site.

- Distances (km) between health centres and the woreda health office, between health centres and the farthest community from health facility, distances from village to health centres and population covered by each facility by fixed and outreach strategies,
- Time required to travel.
- Communication/transport network, e.g. roads, railways, telephone, radio and T.V.
- Climate and seasonal barriers (roads/bridges washed out in the rainy season), geographic barriers, streams, mountains,
- Cultural and ethnic divisions, language, cultural organizations, community groups, leaders, etc
- Availability energy sources and distribution (grid electricity, generators, solar energy, gas, kerosene, etc.)
- Availability of NGO's and their role in providing immunization/health services.

3.1.2. Assessing immunization service delivery

The situation of EPI service delivery of the previous year should be assessed. Implementation of planned activities, strategies used to reach eligible population, linking services with community, immunization coverage achieved, problems encountered e.t.c needs to be analyzed. Annex 1 is to be used for the inventory of cold chain equipments, transportation means to EPI sites, training given and number of kebeles served by the facility or number of facilities depending on the level of assessment.

3.1.2.1. Immunization coverage data analysis

To identify the EPI performance in each kebele, the coverage, dropout rate and number of un-immunized children of the previous year should be calculated by kebele level. This helps to identify and prioritize poor performing kebeles in the woreda and to classify the EPI problem whether it is related to access or utilization. Annexes 2 is a tool used to help guide the coverage calculation of vaccines by kebele level, and figure 2 is a flow chart tool used for categorizing immunization problems of kebeles into four categories.

To calculate vaccine coverage, dropout rate by kebele level and categorize (use annex 2)

- List the name of each kebele/area that you serve, through fixed, out reach and mobile services
- List target population of kebeles/areas
- Enter the number of doses of vaccine administered (children vaccinated) in the target age group during the preceding 12-months period
- Calculate previous year vaccination coverage by antigen/vaccine;
 - ⇒ To calculate the vaccine coverage divide the total number of vaccination given over the preceding 12-months period (numerator) by the target population (denominator)
 - ⇒ Refer table number 7 for the formulas which need to be used to calculate the coverage for the different vaccines and vitamin A*, dropout rate and number of un-immunized children.
- **Dropout rate:** Measure dropout rate by comparing the number of infants that started receiving the particular antigen, (e.g. DPT1 vaccine) to the number of infants who received all needed doses of that particular vaccine (i.e. DPT3). The dropout rate is a

*Realizing the benefits of vitamin A, WHO and UNICEF are encouraging countries to utilize every opportunity to administer Vitamin A during routine EPI. The coverage is calculated in the same way as for the vaccines.

comparison of the number of children who started the immunization schedule and the number who completed it. See table 7 for the formula

- **Notes on interpretation of drop out rates**
 - ⇒ The DPT1-DPT3 drop out rate measures the rate at which those children who start DPT1 failed to complete the three-dose DPT series or drop out of the DPT schedule.
 - ⇒ DPT1-DPT3 drop out rate an indicator that is used internationally to evaluate the performance of immunization services
 - ⇒ DPT1-Masles drop out rate measures the rate at which children who started the vaccination with DPT1 failed to receive the measles vaccine, hence failing to complete the schedule
- Categorize the access and utilization problem of each kebele using the figure flow chart tool.
- **Un-immunized children:** Using the data you have, calculate the annual number of un-immunized children that have not received DPT3, measles and any other vaccine in your health centre or woreda catchment area. The number of un-immunized children for DPT3 is calculated by subtracting the number of children vaccinated for DPT3 from the surviving infants.
- **The number of un-immunized** children along with the magnitude of problems identified in the analysis of problems will be used for prioritizing of kebeles

3.1.2.2. Analyzing problems

This section highlights the analysis of problems that hinder successful EPI delivery in the district. Problems in the following areas need to be analyzed: problems in staffing/training, communication and community participation, logistics, data collection and reporting, monitoring and supervision. Following problem analysis comes the process of identifying root causes of problems and identifying possible solutions (use annex 3 for problem analysis).

After determining immunization coverage, you need to interpret the data in relation to planned targets and describe problems, which deterred reaching set targets.

Specific questions to be answered during problem analysis

- How does the immunization coverage compare with the objectives? (i.e. achievements of objectives and set targets)
- How does the coverage compare with the figures of the previous period? (i.e. trends)
- What were the achievements of each health facility?
- Are there any differences in coverage achievements between zones, woredas health facility catchment areas?
- What can you say about the ease of accessibility to the health facility? (refer to DPT1 coverage)
- Do all those who have access continue to utilize the services? (refer to DPT1-DPT3 drop out rate)
- Is there a difference between coverage levels of various vaccines given at the same time?
- A dropout rate of more than 10% indicates that the particular health facility has a utilization problem. Analysis of drop out rates enables the Woreda Health Management and health facility management teams to identify the various obstacles that hinder caretakers from utilizing the immunization services in spite of the accessibility of the health facility or services themselves. In other words caretakers fail to continue using the immunization services even though they initially accessed the services to receive the first dose. The

management team at the health centre and woreda should therefore brainstorm to find out the reasons why mothers do not bring the children to receive the 2nd and 3rd doses of DPT, OPV or measles.

The following steps are essential for re-vitalizing fixed and outreach services to increase routine immunization coverage under the RED Strategy: Situation analysis, selecting priorities, preparing work plan, implementing and monitoring your plan.

Steps

A. Analyze: Determine whether access or utilization problem. Use results from programme assessment/ situation analysis to assess reasons for low coverage/high drop out rate. This should form the basis for micro planning, identification and prioritization of problems. Identify and relate factors to causes of current coverage levels taking into consideration problems of access and utilization.

B. Analyze: Determine causes and solutions. Identify problems and root causes of the following categories:

1. **Supply:** quantity and quality of vaccines, and equipment,
2. **Staffing:** quantity and quality of personnel - adequate levels, training,
3. **Service delivery:** quantity and quality - regularity of vaccination sessions, demand in the community,
4. **Community participation:** number of attendants, defaulters,
5. **Data collection and reporting** – completeness, and timeliness,
6. **Supervision, recording & reporting, monitoring & evaluation:** Frequency of supervision & reporting, use of monitoring charts,

C. Identify possible solutions: Once the causes of low immunization coverage have been identified, the woreda/health management team should find appropriate solutions to eliminate them by answering the following questions:

1. What are the possible solutions?
2. Which of these possible solutions are most appropriate?
3. Are all the appropriate solutions proposed above feasible?
4. Who will be responsible for implementing the selected feasible solutions?
5. What resources will be required to implement the selected solutions?

Use the framework given in annex 3 to complete the analysis of possible solutions.

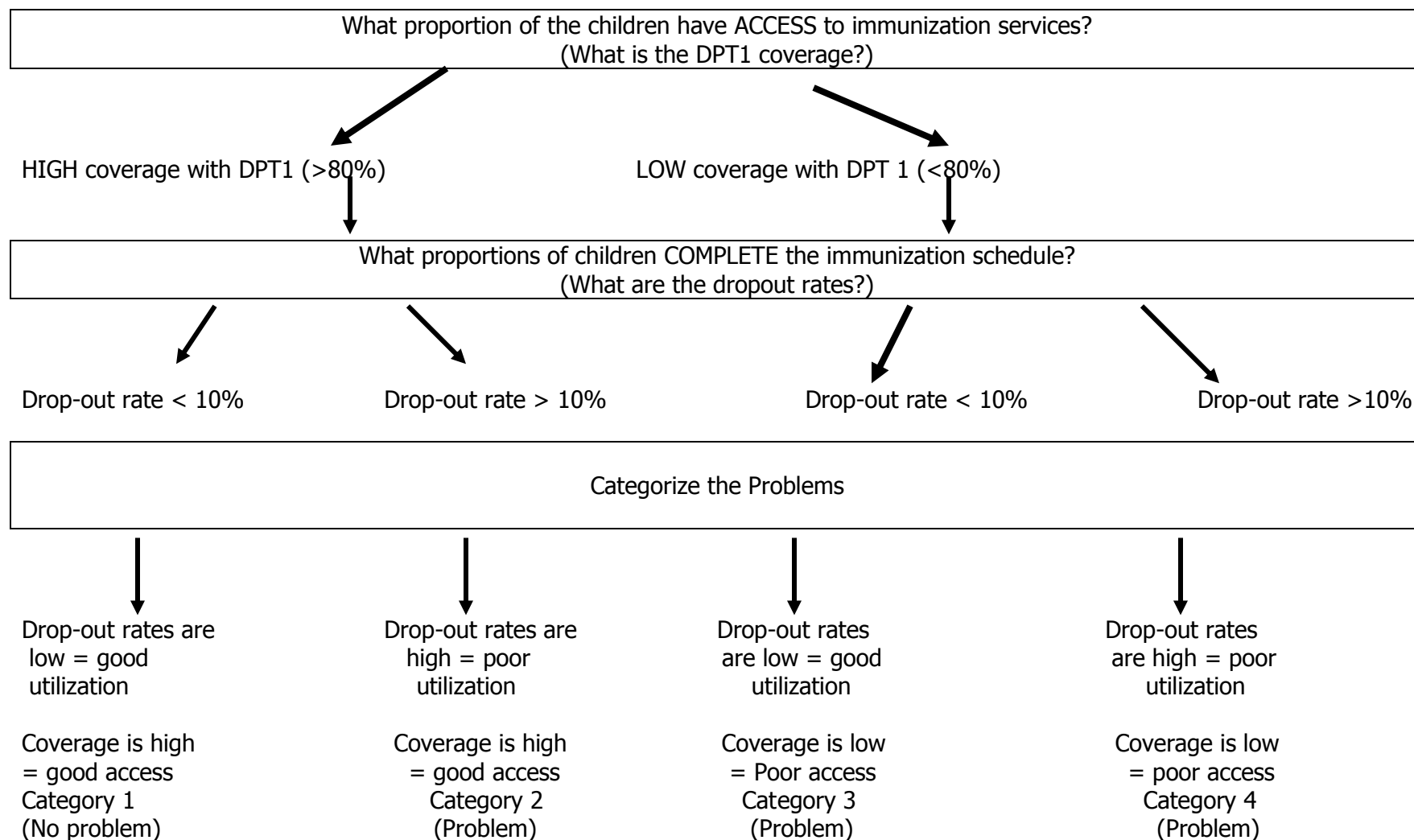
For each problem identified, there may be many solutions

For example

1. Improved communication with the community
2. In-service -training
3. Supportive Supervision
4. Mobilization of additional resources
5. Use of other immunization strategies e.g. outreach, local immunization days, focus group discussion, etc
6. Partnership with private sector
7. Involving NGOs
8. Regular review meetings

9. Proper planning

Figure 2: Analysis of Problem of Access and Dropout



3.1.3. Setting Priorities

Analyze solutions and set priorities- Review the data and decide on the area, which should receive top priority when starting to implement the identified solutions. To do this you will first need to look at the catchment area with the greatest number of un-immunized children. Then look at the category of problem and prioritize areas that have high dropouts and low access. Ultimately, the decision on priority must be based on local situation and feasibility.

3.1.4. Set Objectives

Steps to set targets for child and CBAW TT vaccination at sub-national level

1. Deduct current coverage from National Objective (target coverage)
2. Determine no. of years separating year of interest from National Objective year
3. Determine minimum annual increase between national and target year
4. Determine objective for year of interest

Example: In the national strategic plan the DPT3 target planned in 2002 for 2006 is 70%. If the DPT3 coverage of a region for 2001 is 40% then what should be the minimum annual increase starting from 2002 to reach the national strategic plan coverage target.

The national target coverage for 2006 is 70%

The number of years between the year of interest and end of strategic plan is 5 years

$$\text{Minimum annual increase} = \frac{\text{Difference in coverage}}{\text{Years in between}} = \frac{70\% - 40\%}{2006-2002} = \frac{30}{5} = 6$$

Thus the minimum annual increase in coverage that will be needed to reach the 70% national DPT3 coverage set according to the strategic plan will be 6%.

The targets to be set should be based on the available resource and accessibility of the kebele and it must be in line with the national strategic plan target.

3.1.5. Design strategies and activities

Strategies and activities to overcome problems that impede achieving good coverage needs to be designed in order to increase immunization coverage.

3.1.5.1. Determine strategies to improve immunization coverage, and enhance community ownership of the EPI program

Strategies needs to be designed for: reaching all eligible children and women in each kebele (determining service delivery strategy – fixed outreach and mobile strategies), linking EPI services with the community, resource mobilization, reducing dropout rate, capacity building of health workers and monitoring and evaluation of EPI activity implementation.

The distance of the kebeles should be considered when opening Outreach sites. Outreach should not be open where distance of the community to health facility is less than 6 kms.

The number of outreach session should be determined based on the number of eligible children in each respective community that is served by the outreach site.

Strategies to Reduce Drop-out Rates

The EPI programme should put the following measures in place to reduce dropout rates

- Ensure continuous supply of vaccines
- Re-schedule canceled vaccination sites/sessions where possible
- Initiate and strengthen social mobilization and communication strategies and activities on the importance and benefits of vaccinations
- Open more outreach sites to capture the hard-to-reach populations
- Keep the immunization registers and monitoring charts up to date by the health workers
- Establish a system for defaulter tracing at health-facility level involving community health workers
- Kebele Health Committees and local NGOs

Table 3. Guideline to determine the immunization service delivery strategy

Type	Definition	Area served	Advantages	Disadvantages
Fixed site	Delivery of vaccination services in health facility	Distance mothers are prepared to travel to reach service. Approximately 5 km	Reliable regular service, minimum one staff, low cost no transport problems	Cannot reach much of the population in rural areas
Outreach	<ul style="list-style-type: none"> ▪ Delivery of vaccination services from a health facility on a regular basis ▪ Sites are usually not fully equipped ▪ Health facility staff carries needed equipment to the outreach sites 	<ul style="list-style-type: none"> ▪ Area around the health facility that health facility staff can easily visit in a day ▪ Approximately 15 to 20 km depending on geographic barriers 	<ul style="list-style-type: none"> ▪ Regular service ▪ Can reach populations beyond the fixed range 	<ul style="list-style-type: none"> ▪ Needs good communication with communities ▪ Higher costs (transport, more than one person per site)
Mobile Team	<ul style="list-style-type: none"> ▪ Delivery of vaccination services in areas beyond the outreach areas on less frequent basis ▪ More than one site visited per session ▪ Health facility staff carries all the needed equipment to the mobile site 	<ul style="list-style-type: none"> ▪ Area beyond the outreach area ▪ Especially for difficult to reach areas/populations ▪ May be conducted over several days 	<ul style="list-style-type: none"> ▪ Can reach difficult to reach areas/population, previously un-reached populations ▪ If transport adequate, can include other interventions, e.g.malaria 	<ul style="list-style-type: none"> ▪ High costs (transport, fuel, per-diem) ▪ Less reliable ▪ Subject to availability of extra resources.

3.1.5.2. Determine activities that will be implemented to increase immunization coverage, and enhance community ownership of the EPI program

Activities that need to be carried out to increase immunization coverage have to be planned and time frame set for their implementation. For each specific objective and target formulated and included in each component of the immunization programmes, you should determine the related specific activities.

1. Create a work plan for outreach and other activities

Make an outreach work plan to include all the areas you intended to reach for the year. Write the date of the planned visit. Add other details to the box such as staff responsible, special activities, other interventions to be added, etc. Include on the work plan some priority general activities you intended to carry out on the work plan. Particularly the one related to social mobilization, community involvement, and training. (See annex 5)

- Make an outreach work plan to reach every community according to priorities
- Areas of low coverage and high drop out rates should be visited more often
- Prepare a work plan, which should include outreach schedule for the year, itemizing list of activities/persons responsible/ time for completion. (see Annex 5)

Table 4. Population By Strategy

Demographic Data					
Strategy	Number of kebeles	Strategy	Total Population	Strategy	Target Population
Fixed strategy		Population Fixed		Target Pop. Fixed	
Outreach Strategy		Population Outreach		Target Pop. Outreach	
Mobile Strategy		Population Mobile		Target Pop. Mobile	
Total Kebeles		Total Population		Total Target Population	

2. Calculating annual target population, and children and women to be vaccinated for the different vaccines according to set targets for each kebeles (Annex 4)

Population: Use the best estimate figures, stating source and year of the population figures. Indicate the total annual growth rate, proportion living in urban and rural areas and special population groups e.g. seasonal migrants, hard to reach areas/difficult to reach populations, and high-risk populations e.g. (refugees, and under-served). There are two types of annual target populations: one for children’s vaccines and the other for tetanus toxoid vaccine.

The formula for calculating the number of eligible children for BCG and the other vaccines (DPT1,DPT3,OPV3, Measles) and vitamin A is different. Total births is used to represent eligible children of 0-11 months age for BCG, and surviving infants is used as eligible for the other vaccines and Vitamin A. Surviving infants is calculated by subtracting under-one deaths from total births. The number of surviving infants is given from the following formula:

- 1st. The total births is calculated by multiplying the CBR (Crude Birth Rate) by total population

$$\text{Total births} = \text{CBR} \times \text{Total population}$$
- 2nd. Under one death is calculated from the Infant mortality rate (IMR)

$$\text{Under-one death} = \text{Total births} \times \text{IMR}$$
- 3rd. The surviving infants is calculated by subtracting the under-one deaths from the total births

$$\text{Surviving infants} = \text{Total births} - \text{Under-one deaths}$$
- 4th. The percent (%) of surviving infants is calculated by dividing the surviving infants by total population and multiplying by 100

$$\% \text{ of surviving infants} = (\text{surviving infants}/\text{total population}) \times 100$$

In Ethiopia in 1995EC, the CBR and IMR were 39.9 per 1000 population and 96.8 per 1000 live births respectively. Thus the proportion or percent of surviving infants would be 3.6%.

Generally surviving infants represents 3.6% of the total population in Ethiopia. But regions have their own specific targets of surviving infants. You can find the latest CBR and IMR data for your respective region from health and health related indicators booklet, which is developed and distributed from MOH, Planning and Programming Department annually.

Example: if the total population of a woreda is 200,000 and if the CBR and IMR are 40 per 1000 population and 150 per 1000 live births then calculate the number of eligible children for BCG and DPT3.

The number of children eligible for BCG is constituted by total births, which is calculated by multiplying total population by CBR,

Eligible for BCG = Total births

Total births = Total population X CBR

Total births = 200,000 X 40/1000

Total births = 8,000

The number of eligible children for BCG is therefore 8,000 children.

The number of children eligible for DPT is constituted by surviving infants, which is calculated by subtracting under-one deaths from total births,

As calculated above the total births for the woreda is 8,000 and the number of under-one deaths is calculated as follows,

Under-one deaths = IMR X Total births

Under-one deaths = (150/1000) X 8,000

Under-one deaths = 1200

The number of surviving infants is calculated by subtracting under-one deaths from the total births

Surviving infants = Total birth - Under-one death

Surviving infants = 8,000 – 1200

Surviving infants = 6,800

The number of children eligible for DPT (surviving infants) is there fore 6,800, and percent (%) of surviving infants in the woreda is 3.4% (6,800/200,000).

In summary:

Surviving infants = Total births –under-one death

Surviving infants = Total births –(Total birth X IMR)

Percent of surviving infants = (surviving infants/total population) X 100

Steps to determine the number of children that will be vaccinated according to the set targets for each kebele (refer annex 4)

- Depending on the resources and accessibility decide the level of coverage to be achieved for each kebel.
- Based on the coverage set for each kebele determine the number of 0-11 months old children that will be vaccinated for BCG.

- All births constitute the denominator for calculating BCG coverage.

Example: In “kebele 1” with a population of 10,000, the intended coverage for BCG, DPT3, measles and vitamin A was 90%, 80%, 75% (both for measles and Vitamin A) respectively. Determine the number of under-one children who will be vaccinated for BCG, DPT3 and measles. Calculate also the percent of surviving infants in the kebele. (Assume you have got a CBR and IMR of 40 per 1000 population and 150 per 1000 live births in the health and health related indicator booklet for the region where the “kebele 1” belongs. The answer to this question is given in the first row of annex 4.

The target population eligible for BCG (Total births) would be determine as follows:

$$\text{Total births} = \text{total population} \times \text{CBR}$$

$$\text{Total births} = 10,000 \times 40/1000$$

$$\text{Total births} = 400$$

Then the number of children that need to be vaccinated to reach 90% according to the set BCG coverage for the above kebele in the planned year is given by the following formula:

$$\text{Number of children to be vaccinated for BCG} = \text{Total births} \times \text{set coverage}$$

$$\text{Number of children to be vaccinated for BCG} = 400 \times 90/100$$

$$\text{Number of children to be vaccinated for BCG} = 360$$

The number of surviving infants for this kebele are calculated as follows,

$$\text{Surviving infants} = \text{Total births} - (\text{Total birth} \times \text{IMR})$$

$$\text{Surviving infants} = 400 - (400 \times 150/1000)$$

$$\text{Surviving infants} = 400 - (60)$$

$$\text{Surviving infants} = 340$$

The percent of surviving infants in the above kebele is calculated as follows,

$$\text{Percent of surviving infants} = (\text{surviving infants}/\text{total population}) \times 100$$

$$\text{Percent of surviving infants} = (340/10,000) \times 100\%$$

$$\text{Percent of surviving infants} = 3.4\%$$

The numbers of children that need to be vaccinated for DPT3 to reach the intended coverage are:

$$\text{Number of children to be vaccinated for DPT3} = \text{Surviving infants} \times \text{set coverage}$$

$$\text{Number of children to be vaccinated for DPT3} = 340 \times 80\%$$

$$\text{Number of children to be vaccinated for DPT3} = 272$$

The numbers of children that need to be vaccinated for measles to reach the intended are:

$$\text{Number of children to be vaccinated for measles} = \text{Surviving infants} \times \text{set coverage}$$

$$\text{Number of children to be vaccinated for measles} = 340 \times 75\%$$

$$\text{Number of children to be vaccinated for measles} = 255$$

NB: The numbers of children that need to be given vitamin A to reach the intended vitamin A coverage is the same as that of measles as they are supposed to be given at the same time.

Population for women of childbearing age and pregnant women (for tetanus toxoid vaccine)

Women of childbearing age and pregnant women are the targets for tetanus toxoid (TT) vaccine in Ethiopia. Pregnant women and non-pregnant women represent 4.0% and 20.5% of the total population in Ethiopia respectively (in 1995EC). There is, however, region specific target population for both women of childbearing age and pregnant women, which is available in health and health related indicator booklet.

Number of pregnant women = total population x p^{*} /100

Example: If the total population of a woreda is 200,000 and *pregnant women* and non-pregnant women *represent* 4.0% and 19 % of the population then the number of *pregnant women* is 8,000 (200,000 x 4.0/100 = 8,000) and the number of non pregnant women is 38,000(200,000 X 19/100). See annex 4.

Steps to determine the number of pregnant and non pregnant that will be vaccinated for TT according to the set targets for each kebele (refer annex 4)

Example: In "Kebele 1" with a total population of 10,000 the intended coverage for TT2+ pregnant and non-pregnant women is 40% and 50% respectively. Assuming that you get the percent of pregnant and non-pregnant women to be 4% and 19% for the region where "Kebele 1" belongs, what is the number of pregnant and non-pregnant women you need to vaccinate with TT2+ in order to achieve your intended coverage.

The numbers of pregnant women that need to be vaccinated with TT2+ to reach the intended coverage of 40% are:

Number of pregnant women vaccinated for TT2+ = Pregnant population X set coverage
Number of pregnant women vaccinated for TT2+ = (total population X % of pregnant women) X coverage
Number of pregnant women vaccinated for TT2+ = (10,000 X 4/100) X 40%
Number of pregnant women vaccinated for TT2+ = 160

The numbers of non-pregnant women that need to be vaccinated with TT2+ to reach the intended coverage are:

Number of non-pregnant women vaccinated for TT2+ = non-Pregnant population X set coverage
Number of non-pregnant women vaccinated for TT2+ = (total population X % of non-pregnant women) X coverage
Number of pregnant women vaccinated for TT2+ = (10,000 X 19/100) X 50%
Number of pregnant women vaccinated for TT2+ = 950

After determining the coverage of the various vaccines for each kebele of a woreda, the woreda level coverage can be calculated by aggregating the coverage from all the kebeles in the woreda. See annex 4 for the compiled woreda level coverage.

3.1.6. Choosing indicators for monitoring and evaluation of the EPI program

Monitoring and evaluation is essential for verifying whether EPI activities planned under the programmes are being implemented effectively, or to what extent the objectives and targets defined have been achieved. This entails use of various indicators related to functions and components of the programme. There are many types of indicators.

Indicators for a particular component, for example:

- monitoring indicators for cold chain
- indicators for monitoring vaccine stock
- indicators to monitor resource mobilization
- indicators to evaluate immunization policy implementation
- indicators for advocacy and communication, etc.

*P= % of pregnant women in the population

Coverage level for each vaccine

Dropout rates especially for BCG-Measles; DPT1-DPT3; DPT1-Measles

Vaccine wastage rate

Reporting completeness

Reporting timeliness

Service delivery: the strategies and activities involved in giving vaccinations at the service-delivery level.

While selecting indicators, consider components of the immunization programme (service delivery, logistics, vaccine quality, surveillance, advocacy) as well as crosscutting elements (financing, human resources and management); they all have specific indicators for monitoring.

3.1.7. Quantify resources and budget

To carry out planned activities, we should determine the required resources for each activity for implementation. The determination of resources is a vital stage, which is intended to answer the following questions:

- who should carry out EPI activities?
- with what resources should the identified EPI activities be carried out?

The resources are generally divided into five categories:

1. human resources
2. material resources
3. financial resources
4. information resources
5. time as a resource.

The plan should specify the amount of each resource for each activity, Staffing (in-service trainings) and material resources required and in quantifying terms. Vaccine, cold chain equipment and supplies required should be properly planned. Based on the 5 RED components, tasks should be listed and planned properly (See annex 5), and based on the tasks listed, total cost, available and source of budget and the funding gap should be identified.

Calculating vaccine requirement

Vaccine required = Target Population x Target Coverage x No of doses x Waste Factor

The wastage factor is derived from the vaccine wastage rate (VWR) using the following formula:

$$WastageFactor = \frac{100}{100 - r} \text{ where } r \text{ is the vaccine wastage rate}$$

It is assumed that by implementing the vaccine management and vaccine wastage monitoring systems described in this guide, the vaccine wastage rate will not be exceeding 30% for BCG, 25% for measles and 10% for the other vaccines (DPT, OPV and TT), The corresponding wastage factor is 1.43 for BCG, 1.25 for measles and 1.11 for the other vaccines and vitamin A.

Table 5. Example of how to calculate vaccine requirements of a woreda with 200,000 population.

Vaccine	Target Pop	Target Coverage	Doses	Waste Factor	Annual Need	Monthly need
BCG	8000	0.88	1	1.43	10067	839
DPT	6800	0.91 ¹	3	1.25	23205	1934
OPV	6800	0.91	3	1.11	20606	1717
MEASLES	6800	0.78	1	1.25	6630	553
TT (PW)	8000	0.42	2	1.11	7459	622
TT (Non-Pregnant)	38000	0.46	2	1.11	38806	3234
Total TT					46265	3855

*Total Pop. =200,000, pregnant = 4%, non-pregnant =19% , total births =4%, and surviving Infants = 3.4%

Calculating Adsyringes Requirement

AD syringes required = Target Population*Target Coverage*No of doses*Waste factor (1.11)

Table 6. Example of how to calculate ADSyringes requirements for a woreda with 200,000 total population

Vaccine	Target Pop	Target Coverage	Doses	Waste Factor	Annual Need	Monthly need
BCG	8000	0.88	1	1.11	7814	651
DPT	6800	0.91	3	1.11	20606	1717
MEASLES	6800	0.78	1	1.11	5887	490
TT (PW)	8000	0.42	2	1.11	7459	622
TT (Non-Pregnant)	38000	0.46	2	1.11	38806	3234
Total TT					46265	3855

*Total Pop. =200,000, pregnant = 4%, non-pregnant =19% , total births =4%, and surviving Infants = 3.4%

Calculating mixing syringe required

Mixing syringes required for BCG= Number of BCG in Vials X Waste Factor (1.11)

Example: As calculated in Table 5, the annual forecasted doses of BCG doses for the given woreda were 10067. If we consider procurement of 20 dose vials of BCG then the number of mixing required will be calculated as follows:

1st convert the BCG doses into vials of 20 doses. The number of vials can be calculated by dividing the number of BCG doses by 20

$$\text{Number of BCG vials of 20 doses} = \frac{\text{Number of doses}}{20} = \frac{10067}{20} = \underline{\underline{503 \text{ vials}}}$$

2nd The number of mixing syringes required is then calculated by multiplying the number of vials by wastage factor. The wastage factor commonly used for mixing syringe is 1.11.

¹ DPT1 is used as a target coverage to forecast annual DPT need.

Therefore the number mixing syringes for BCG will be:
 $503 \times 1.11 = 559$ BCG mixing syringes.

Similarly, the mixing syringes for measles can be calculated in the same way the only difference is that vials of 10 doses will be used instead of 20.

Example: The annual measles vaccine doses forecasted for the same woreda were 6630.

Thus the number of 10 dose measles vials will be :

$$10 \text{ doses measles vials} = \frac{6630}{10} = 663$$

Therefore the number mixing syringes for measles will be: $663 \times 1.11 = \underline{736}$

Calculating safety Boxes required

$$\text{Safety boxes required} = (\text{Total AD syringes} + \text{Mixing Syringe})/100 * \text{Waste Factor (1.05)}$$

Table 7. Formulas for calculating coverage, drop out rate and no of un-immunized children

Indicators	Formulas
BCG Coverage (%)	$\frac{\text{No. of 0-11 children receiving BCG dose during the last 12 months}}{\text{Total births}}$
DPT1 coverage (%)	$\frac{\text{No. of 0-11 children receiving DPT1 dose during the last 12 months}}{\text{Surviving infants}}$
DPT3 coverage (%)	$\frac{\text{No. of 0-11 children receiving DPT3 dose during the last 12 months}}{\text{Surviving infants}}$
Measles coverage (%)	$\frac{\text{No. of 0-11 children receiving measles dose during the last 12 months}}{\text{Surviving infants}}$
% coverage with the vaccine or Vitamin A(%)	$\frac{\text{No. of surviving infants receiving number of doses during the last 12 months}}{\text{Target population of surviving infants}}$
% coverage with TT2+ (%)	$\frac{\text{No. of pregnant women receiving protective doses of TT2+ during the last 12 months}}{\text{Target population of pregnant women}}$
% DPT1-DPT3 drop-out rate	$\frac{(\text{DPT1}-\text{DPT3}) \times 100}{\text{DPT1}}$
% DPT-Measles drop out rate	$\frac{(\text{DPT1}-\text{Measles}) \times 100}{\text{DPT1}}$
No of un-immunized children	Target population - immunized children in target age group

Annex 1. Woreda Level EPI Sites and Logistics Inventory Form

Health Facilities	No of Keble			Type Health Facility	Functional EPI Sites				Transportation			Cold chain Equipment			EPI Training			
	Rural	Urban	Total		Static	out Reach	Mobile	Total	Car	Motor Bike	Animal	Refrigerator	Cold box	V. Carrier	MLM	Immunization In practice	Cold Chain	Injection Safety
H.Facility 1	4	1	5	Hos.	1	4	0	5	0	1	0	1	1	3	1	1	0	0
H.Facility 2	4	0	4	HC	1	4	0	5	0	0	0	1	1	2	0	0	0	1
H.Facility 3	3	0	3	H.post	1	2	0	3	0	0	0	1	1	4	0	1	0	0
H.Facility 4	6	0	6	H.post	1	3	0	4	0	1	0	1	1	1	0	0	0	0
H.Facility 5	2	0	2	H.post	1	5	0	6	0	0	0	1	1	2	0	1	0	0
H.Facility 6	4	0	4	H.post	1	3	1	5	1	0	0	1	1	3	0	0	1	0
H.Facility 7	3	0	3	H.post	1	3	0	4	0	0	0	1	1	5	0	0	0	2
H.Facility 8	2	0	2	H.post	1	3	0	4	0	0	0	1	1	1	0	1	1	0
H.Facility 9	4	0	4	H.post	1	4	0	5	0	1	0	1	1	1	0	1	0	0
H.Facility 10	3	0	3	H.post	1	3	0	4	0	1	0	1	1	1	0	0	1	0
H.Facility 11	2	1	3	H.post	1	3	0	4	0	1	0	1	1	1	0	0	0	0
Woreda office	0	0	0					0				1	2	20	3		1	0
Total	37	2	39		11	37	1	49	1	5	0	12	13	44	4	4	4	3

Annex 2 Analysis of Health Data for Childhood Vaccination

Region: _____ Zone: _____ Woreda/Woreda: _____ Date: _____

Woreda	Compile population, immunization Coverage data in the previous 12 months							Analyze problem						Prioritize area	
	Surviving Infants < 1 year	Doses of vaccine administered			Immunization Coverage (%)			Unimmunized (No.)		Drop-out rates (%)		Identify Problem			Category Problem
		DPT1	DPT3	Measles	DPT1	DPT3	Measles	DPT3	Measles	DPT1-DPT3	DPT1-Measles	Access	Utilization		Category 1,2,3,4
Kebele 1	330	257	244	172	78	74	52	86	158	5	33	poor	poor	4	1
Kebele 2	334	214	207	197	90	62	59	127	137	3	8	good	good	1	4
Kebele 3	357	314	232	196	88	65	55	125	160	26	38	good	poor	2	3
Kebele 4	334	294	284	274	88	85	82	50	60	3	7	good	good	1	4
Kebele 5	371	200	193	156	54	52	42	178	215	4	22	poor	poor	4	1
Kebele 6	332	272	249	216	82	75	65	83	116	9	21	good	poor	2	3
Kebele 7	333	223	213	246	67	64	74	120	87	4	-10	poor	good	3	2
Kebele 8	382	298	218	313	78	57	82	164	69	27	-5	poor	good	3	2
Kebele 9	377	219	275	238	58	73	63	102	140	-26	-9	poor	good	3	2
Kebele 10	333	227	263	210	68	79	63	70	123	-16	7	poor	good	3	2
Kebele 11	330	228	238	205	69	72	62	92	125	-4	10	poor	poor	4	1
Kebele 12	327	265	252	216	81	77	66	75	111	5	19	good	poor	2	3
Kebele 13	326	212	202	170	65	62	52	124	156	5	20	poor	poor	4	1
Kebele 14	304	264	258	249	87	85	82	46	55	2	6	good	good	1	4
Kebele 15	326	215	205	173	66	63	53	121	153	5	20	poor	poor	4	1
Kebele 16	289	185	205	176	64	71	61	84	113	-11	5	poor	good	3	2
Kebele 17	328	200	187	105	61	57	32	141	223	7	48	poor	poor	4	1
Kebele 18	327	206	216	183	63	66	56	111	144	-5	11	poor	poor	4	1
Kebele 19	279	195	181	187	70	65	67	98	92	7	4	poor	good	3	2
Kebele 20	283	173	173	181	61	61	64	110	102	0	-5	poor	good	3	2
Total	6602	4661	4495	4062	71	68	62	2106	2540	4	13				

Category

- 1 = No problem,; drop-out rates low (<10%), coverage (access) high (DPT1 >80%)
- 2 = Problem; drop-out rates high, coverage (access) high.
- 3 = Problem; drop-out rates low, coverage (access) low.
- 4 = Problem; drop-out rates high, coverage (access) low.

Priority

- 4
- 3
- 2
- 1

Annex 3. Framework for Identifying Problems, Causes and Possible Solutions for Low Coverage

Categories of	Problems	Root Causes of problems	SOLUTIONS with existing resources	SOLUTIONS with extra resources
Staffing/Training	. Shortage of HWs	. High turnover, inappropriate assignment	. Regular supportive supervision & review meeting	. Highering of new staff, proper assignment
	. Shortage of/ trained/ staff	. Absence of regular training, lack of budget	. In-service training	. Budget allocation
	. high staff turn over	. Lack of motivation, lack of upgrading	. Improve personnel management	. Improve payment
Logistics	. Shortage of Motor bike/Car	. No regular supply & lack of regular maintenance	. Frequent maintenance	. Supply of new motor bike
	shortage of budget	. Poor flow of budget from Higher level		. Regular flow of budget
	. Shortage of vaccine	. High Vaccine Wastage, Inavailability from ZHD	. Regula monitoring	
	. Shortage of spare parts	. No regular supply & poor distribution system from Region		. Regular supply & design better dist. Syst
	. Shortage refrigerators	. No regular supply		. Regular supply
	. Shortage Of megaphone	. No regular supply		. Regular supply
	. lack of tally sheets	. No regular supply	. Print at local level	
	. Lack of fridge maintenance	. Lack of skill	. Coconduct cold chain maintenance training	
Service Delivery Quantity	. Interruption of outreach services	. Lack of vaccine, lack of HWs, & Soc. Mob.	. Regular supervision and review meeting	
	. Few attendants	. Lack of linkage with community	. Strengthen linkage with leaders & CHAs	
	. Geographical difficulties		. Use mobile type strategy	
Quality	. Absence of defaulter tracing	. Lack of attention & communication with	. Regular supervision & review meeting	
	. Mothers loose cards	. Lack of IPC skill	. Train staff on IPC	
	. Poor waste disposal	. No regular supervision	. Regular supervision & discussion with HWs	
Management/ Planning	. Lack of activity schedule	. Lack of skill, Shortage of HWs	. Supportive supervision & training	. Assignment of HWs
	lack of HWs motivation	. Law payment		. Increase salary
	. Inadequate resource mgt. & missuse	. Lack of skill & accountability	. Regular supportive supervision	
	. Total population exaggeration eligible overestimation	. Lack of appropriate data	. House to house registration for time being	
Data collection/ Reporting	lack of microplanning	. Lack of attention at various level		. Attention to conduct microplan yearly
	. Delay in report	. Lack of attention & poor communication means	. Regular supportive supervision	
	. Shortage materials	. Shortage of budget	. Allocate budget at woreda level	. Supply of materials
Monitoring and Supervision	. DPT3 > DPT1	. Fualse report	. Frequent supportive supervision & feed back	
	. In adequate supervision	. Lack of attention	. Regular monitoring	
		. Shortage of transportation	. Integrate with other activities/sectors	

Annex 4 a. Woreda Micro-Planning Summary Form

Region _____		Zone _____		Woreda _____										Date _____		Type of session, fixed OR, Mobile	HF providing service		
Kebele	Total population	Target population				Planned in number and %													
		Total births	surviving infants	PW	NPW	BCG	%	DPT1	%	DPT3	%	Measles /vit A	%	PW	%	NPW	%		
Kebele 1	10000	400	340	400	1900	360	90	323	95	272	80	255	75	160	40	950	50		
Kebele 2	10125	405	344	405	1924	380	94	289	84	306	89	258	75	122	30	1154	60		
Kebele 3	10800	432	367	432	2052	369	85	329	89	295	80	350	95	151	35	821	40		
Kebele 4	10120	405	344	405	1923	376	93	298	87	302	88	271	79	138	34	865	45		
Kebele 5	11244	450	382	450	2136	324	72	284	74	256	67	222	58	162	36	1175	55		
Kebele 6	10056	402	342	402	1911	382	95	300	88	308	90	277	81	153	38	841	44		
Kebele 7	10088	404	343	404	1917	338	84	298	87	270	79	308	90	222	55	882	46		
Kebele 8	11560	462	393	462	2196	375	81	335	85	282	72	384	98	208	45	1186	54		
Kebele 9	11422	457	388	457	2170	425	93	303	78	342	88	307	79	247	54	846	39		
Kebele 10	10100	404	343	404	1919	400	99	302	88	323	94	272	79	137	34	787	41		
Kebele 11	10000	400	340	400	1900	368	92	301	89	295	87	265	78	195	49	1026	54		
Kebele 12	9900	396	337	396	1881	384	97	291	86	310	92	275	82	139	35	846	45		
Kebele 13	9875	395	336	395	1876	325	82	285	85	259	77	229	68	178	45	638	34		
Kebele 14	9200	368	313	368	1748	336	91	296	95	270	86	242	77	206	56	752	43		
Kebele 15	9880	395	336	395	1877	328	83	288	86	262	78	231	69	178	45	788	42		
Kebele 16	8756	350	298	350	1664	320	91	250	84	257	86	230	77	119	34	749	45		
Kebele 17	9944	398	338	398	1889	313	79	273	81	242	72	212	63	179	45	869	46		
Kebele 18	9912	396	337	396	1883	342	86	280	83	274	81	244	72	178	45	885	47		
Kebele 19	8440	338	287	338	1604	320	95	220	77	230	80	238	83	135	40	720	45		
Kebele 20	8578	343	292	343	1630	277	81	237	81	221	76	234	80	154	45	700	43		
Total	200,000	8,000	6,800	8,000	38,000	7,040	88	5780	85	5,576	82	5,304	78	3360	42	17480	46		

NB This hypothetical woreda has 20 kebeles and a population of 200,000
The CBR and IMR are assumed to be 40/1000 population and 150 per 1000 livebirths respectively for the region.
Thus the the Total births for BCG and Surviving infants for the other vaccine are 4% and 3.4% respectively
The Population of pregnant and non-pregnant women was assumed to be 4% and 19% respectively (you need to consult the health and health related indicators booklet to get the specific values of pregnant and non-pregnant women percent for your region.

Annex 4b. Woreda Micro - Planning Summary Form

Region: _____ Zone: _____ Woreda: _____ Date: _____

Kebele	Vaccine (in dose) & Vit.A (in capsule) Needed					Vit.A Tin*	AD syringe for		Mixing syringes		Safety Boxes	Budget needed for the year									Total	Cost per Child
	BCG	Meas.	DPT	OPV	TT		BCG	Others	BCG M.Syringes	Measles M.syringes		Allow ance	Sup er v is i o n	Tr a i n i n g	Tr a n s p o r t e w	M e e t i n g	s e n e & o t h e r s	S o c i a l M o b.				
Kebele 1	515	319	1076	1076	2464	1	400	3804	29	33	45	420	240	825	180	473	662	280	3080	11.3		
Kebele 2	543	323	962	962	2832	1	422	4100	30	38	48	0	240	825	0	473	662	140	2340	7.7		
Kebele 3	527	438	1094	1094	2158	1	409	3640	29	49	43	394.8	240	825	360	473	662	280	3235	11.0		
Kebele 4	537	339	992	992	2226	1	417	3520	30	38	42	789.6	240	825	345	473	662	270	3604	11.9		
Kebele 5	463	277	945	945	2968	0	359	4159	26	31	48	1410	240	825	541	473	662	360	4511	17.6		
Kebele 6	547	346	999	999	2206	1	424	3512	30	38	42	0	240	825	0	473	662	240	2440	7.9		
Kebele 7	483	385	992	992	2450	1	375	3784	27	43	44	0	240	825	0	473	662	280	2480	9.2		
Kebele 8	536	480	1116	1116	3095	1	416	4637	30	53	54	1410	240	825	450	473	662	280	4340	15.4		
Kebele 9	608	384	1009	1009	2427	1	472	3777	34	43	45	394.8	240	825	120	473	662	280	2995	8.8		
Kebele 10	572	340	1006	1006	2052	1	444	3359	32	38	41	420	240	825	158	473	662	240	3018	9.3		
Kebele 11	526	331	1002	1002	2711	1	408	4007	29	37	47	420	240	825	345	473	662	140	3105	10.5		
Kebele 12	549	344	969	969	2187	1	426	3461	30	38	42	0	240	825	234	473	662	240	2674	8.6		
Kebele 13	464	286	948	948	1811	1	360	3013	26	32	36	394.8	240	825	157	473	662	280	3032	11.7		
Kebele 14	480	302	985	985	2126	1	373	3379	27	34	40	789.6	240	825	230	473	662	280	3499	13.0		
Kebele 15	468	289	957	957	2145	1	364	3359	26	32	40	1410	240	825	453	473	662	280	4343	16.6		
Kebele 16	458	288	833	833	1926	1	355	3014	25	32	36	0	240	825	0	473	662	360	2560	10.0		
Kebele 17	448	265	909	909	2327	0	347	3471	25	29	41	0	240	825	0	473	662	280	2480	10.2		
Kebele 18	489	304	932	932	2361	1	380	3564	27	34	42	420	240	825	234	473	662	360	3214	11.7		
Kebele 19	458	298	733	733	1898	1	355	2895	25	33	35	394.8	240	825	120	473	662	540	3255	14.2		
Kebele 20	396	293	789	789	1897	1	307	2945	22	32	35	420	240	825	234	473	662	280	3134	14.2		
Total	10068	6630	19248	19248	46266	12	7815	71401	559	736	845	9488.4	4800	16500	4161	9450	13245	5690	63334.4	11.4		

Annex 5. Work Plan for Outreach and Other Activities

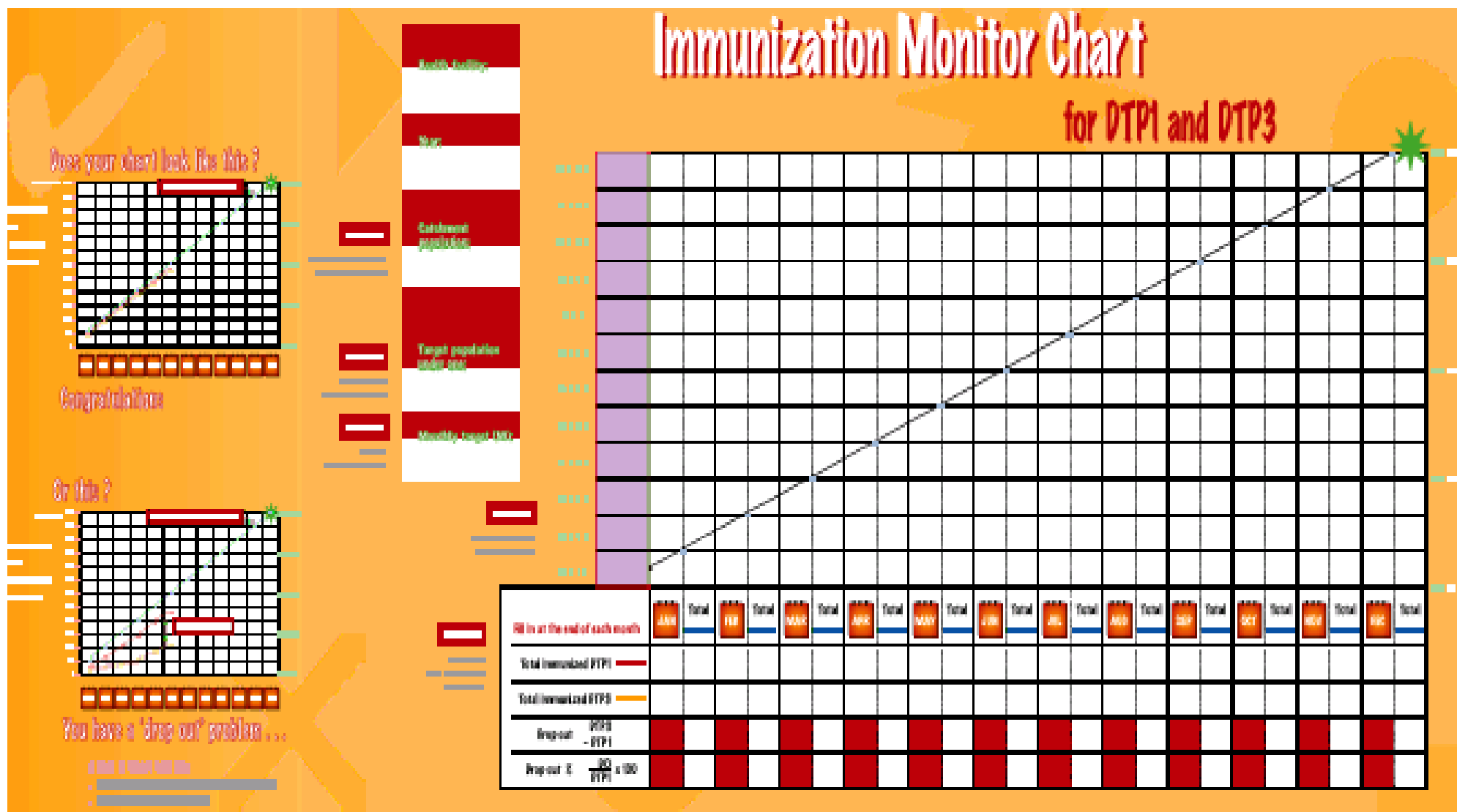
No	ACTIVITIES	WHERE? (Location)	WHO IS RESPONSIBLE?	WHEN (Dates)												Resource	
																Description	Needed
				Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec		
1	Supervision	HF	Woreda HO	X			X			X			X			Budget	6703
2	Training:	WHO	Woreda HO														
	Cold chain users					X										Budget	15400
	Peripheral level							X								Budget	16424
3	Review meeting	WHO	Woreda HO					X					X			Budget	7456
4	Supply collection & distribution			X	X	X	X	X	X	X	X	X	X	X	X	budget	9867

Name of the Coordinator: _____

Signature: _____

Date: _____

Annex 6: Immunization Monitoring Chart



Annex 7a: EPI Supervision Checklist for Health Facilities in Ethiopia

1. General Information

- a) Name of health facility: _____
- b) Date of Visit: _____, Date of previous Supervision: _____
- c) Name and responsibilities of the contacted person
 - I) _____
 - II) _____
 - III) _____
- d) Number of Kebeles: _____
- e) Total catchment area population: _____
- f) Target population for the year: Surviving Infants _____, PW _____ NPW _____
- g) EPI static sites: _____, Outreach: _____ Mobile _____
- h) Are there un reached population? Yes _____ No _____
- i) If yes, Number of Kebeles: _____, Population: _____
- j) Is the EPI activities managed by EPI trained personnel? Yes _____, No _____
- k) If yes specify year of last training: _____
- l) Is EPI policy guidelines document present? Yes _____, No _____
- m) Are micro plans and district budget prepared annually? Yes _____ No _____

2. EPI Plan:

No	Description	Yes	No
a)	Is there an updated EPI Work Plan including outreach?		
b)	Is there annual and quarterly vaccine, Ad syringe, mixing syringe and safety box forecast for the HF?		
c)	Were outreach and static services reestablished according to RED approach?		
d)	Is there social mobilization plan incorporated in the EPI plan?		

3. EPI Service Delivery

a)	Have the entire planned immunization sessions taken place?		
b)	Has the HF monitored its immunization coverage monthly?		
c)	If yes, compare the coverage against the total catchment surviving infants? <ol style="list-style-type: none"> i. BCG coverage _____ (____ %) ii. DPT3 Coverage _____ (____ %) iii. OPV3 Coverage _____ (____ %) iv. Measles Coverage _____ (____ %) v. PW TT2+ Coverage _____ (____ %) vi. NPW TT2+ Coverage _____ (____ %) 		
d)	Is Vitamin A given as part of your routine EPI program?		
e)	Is multi-dose vial policy in use?		
f)	Is there defaulter tracing mechanism? If yes, specify- _____ _____		

4. EPI Monitoring Tools

a)	Have the vaccination monitoring chart been updated?		
b)	Have the vaccination monitoring charts been used correctly?		
c)	Is dropout rate monitored monthly?		
d)	What is the current drop out rate for? <ol style="list-style-type: none"> i) DPT1-DPT3 _____% ii) DPT1-Measles _____% iii) PW TT1-TT2 _____% iv) NPW TT1-TT2 _____% 		
e)	Did supervisor visit this health facility in the last quarter?		
f)	Are tally sheets properly used and same data recorded and reported?		

g)	Was there any supervision feed back?		
h)	Any regular EPI performance assessment meetings conducted in kebeles?		
i)	Was there any program where CHW/administrators and association leaders are involved in EPI assessment?		
	If yes who and how frequently, _____ _____		
j)	Have you ever explored the degree of users' satisfaction for EPI?		
5. Vaccine and Cold Chain management			
a)	Is vaccine wastage monitored?		
	If yes, compare wastage rate of :		
	1. BCG____%, 2. Measles____%, 3. DPT____%, 4. OPV____%, 5. TT____%		
b)	Is the expiry date and batch no of vaccines recorded?		
c)	Do you have refrigerators out of order?		
d)	How many? _____,Type_____ Reasons for non functioning		
e)	Is the refrigerator placed close to the wall, heat object, sunlight?		
f)	Has refrigerator temperature been +8 ^o c and <2 ^o c been recorded in the last month. What were the ranges?		
g)	Are there unnecessary materials placed on the top of the refrigerator?		
h)	Are there sufficient ice packs in the freezing compartment?		
i)	Is there frost beyond the acceptable amount above 5 mm?		
J	What is the method of defrosting?		
k)	Does the cold chain person know the actions to be taken during power interruption?		
l)	Are there enough wicks and glasses?		
6. Safety of injection			
a)	Are there sufficient amount of Ad syringes for there?		
b)	Are safety boxes used for needles and syringes?		
c)	Is incinerator available and properly used?		
d)	Do you use one mixing syringe for one vial?		
e)	At the end of the EPI sessions what do you do with filled safety boxes?		
f)	What do you do if you face Adverse Events Following Immunization (AEFI)?		
g)	Have you got allowance for outreach service?		
8. Community mobilization/community involvement			
a	How is mobilization carried out for immunization in the Kebele?		
b	Who mobilizes the target population at the Kebele level?		
c	Is there community involvement in an outreach site selection?		
d	Is there community involvement in scheduling out reach session?		
e	Is there community involvement in mobilizing mothers?		
9. Support from Higher Level			
a	Feed back from monthly EPI reports		
c	Provision of guidelines		
d	Review meeting		
e	Financial support		
f	kerosene		
g	Reporting formats		
10. Observation			
1	Are needles separated from the syringe after use?		
2	Are needles recapped?		
3	Is a single mixing syringe used for one vial?		
4	Have the vaccination schedules for children and women and contraindication for vaccination explained?		
5	Is the immunization status of children and mothers checked every day?		

6	Current temperature reading of the refrigerator		
7	Proportion of children immunized during outreach sessions: _____		
8	Are the vaccines stored in the proper compartment?		
9	Do you record the refrigerator temperature twice daily including week ends?		
10	Is there frozen DPT or TT vaccines confirmed by shake test?		
11	Are CCM and freeze watch correctly used?		
12	Is there vial with VVM that has reached discard point?		
13	Is vaccine balance sheet/ledger used?		
14	Is there vaccine that has exceeded expiry date in the refrigerator?		
15	Is there vaccine vials with out labels in the refrigerator?		
16	Are there BCG and measles vaccines reconstituted before 6 hours?		
17	Is the number of vials of measles/BCG vaccine available equal to the number of vials of diluents?		
18	Are the opened vials properly labeled and kept in the refrigerator		
19	Is there specific place in the refrigerator for opened vials		
20	Is this health facility using appropriate tally sheets and reporting formats?		
21	Are the used tally sheets and reporting formats appropriately filled?		
22	Is reporting complete?		
23	Is reporting timely?		
24	Verify immunization reports from registration books		
25	Verify for the validity of doses for:		
	1) DPT1 to DPT2		
	2)TT1 to TT2		
26	Verify the validity of doses by checking the age of the child when he/she received the vaccine		
	1) Number of DPT1 doses received before the age of 6 weeks in the previous one month		
	2) Number of measles doses received before the age of 9 months in the previous one month		
	3) Number of children vaccinated after age one year and misclassified and reported as under one in the previous one month.		
27	Are birth dates for all children documented		
28	Are all dates for vaccine receipt documented		
29	Is there a health worker assigned to Kebeke outreach?		
30	Is there EPI registration book for the kebele		

14. Client Interview

Questions:

1. Were parents/caretakers told about the vaccine and AEFIs?
2. Do the clients know when to come back for the next vaccination?

	Question 1		Question 2	
1 st Interview	Yes	No	Yes	No
2 nd	Yes	No	Yes	No
3 rd	Yes	No	Yes	No
4 th	Yes	No	Yes	No
5 th	Yes	No	Yes	No

Summary:

Strengths of the health facility:

Five major challenges:

Five major recommendations:

NB: All challenges and recommendations have to be put in the supervisory book

Name and title of supervisor: _____

Date and signature of supervisor: _____

Annex 7b: Supervision Checklist of EPI Activities at Regional/Zonal/Woreda level

A. General Information		
1.	Name of the Region/Zone/Woreda: _____	
2.	Date of Visit: _____ Date of previous supervision: _____	
3.	Name and Responsibilities of the contacted persons:	
a.	_____ c. _____	
b.	_____ d. _____	
4.	Number of Woreda/Kebele: _____	
5.	Number of HFs: Hospital; ___ HC; ___ HS; ___ HP; ___	
6.	EPI Sites: Static: ___ Out reach: ___ Mobile: ___	
7.	Total Population: _____	
8.	Target Population for the year: surviving infants: ___ PW: _____ NPW: _____	
No	Activities	Attained (Y/N)
B. Interview and Document Review		
1	EPI Policy/Guideline document available?	
2	Micro-plans prepared annually?	
3	EPI focal person at woreda/province level designated?	
4	EPI focal person trained in MLM EPI course /Cold chain/Safety injection?	
5	Target population of woreda/zone estimated and known by staff?	
6	Annual and monthly targets monitored?	
C. Observations		
7	EPI Coverage monitoring chart displayed?	
8	Cold chain equipment/storing facilities are adequate?	
9	Vaccine supply quarterly is adequate?	
10	Regular cold chain monitoring (twice a day) observed?	
11	Cold chain monitors/indicators in use?	
12	Injection equipment supply is adequate?	
13	Safety boxes supply is adequate?	
14	IEC posters and pamphlets displayed?	
15	Supervisory visit reports available?	
D. Operational Indicators		
16	Report completeness of health facilities.	
17	Report timeliness of health facilities	
18	Estimated proportion of children/women immunized for the month/quarter/year: 1. BCG _____ (___%) 3. OPV _____ (___%) 2. Measles _____ (___%) 4. DPT3 _____ (___%) 5. W TT2+ _____ (___%) 6. NPW TT2+ _____ (___%)	
19	Drop out rate: DPT 1 – DPT3 ___%; BCG – Measles ___%; PWTT1 –TT2 ___%; NPWTT1 – TT2 ___%	
20	Is supervision visits undertaken last quarter? If yes mention the number _____	
E. Summary of Major Findings and Recommendations:		
Supervisors:		
Name _____	Designation _____	Signature _____ Date _____
Name _____	Designation _____	Signature _____ Date _____

4. References

1. Health and Health related indicators. Planning and program Department 2003.
2. WHO/AFRO, Implementing RED approach: A Guide for District Health Management Teams, Draft 4, October 2003
3. WHO/UNICEF, Increasing coverage at the health facility level
4. USAID, Immunization Essential; A Practical Field Guide