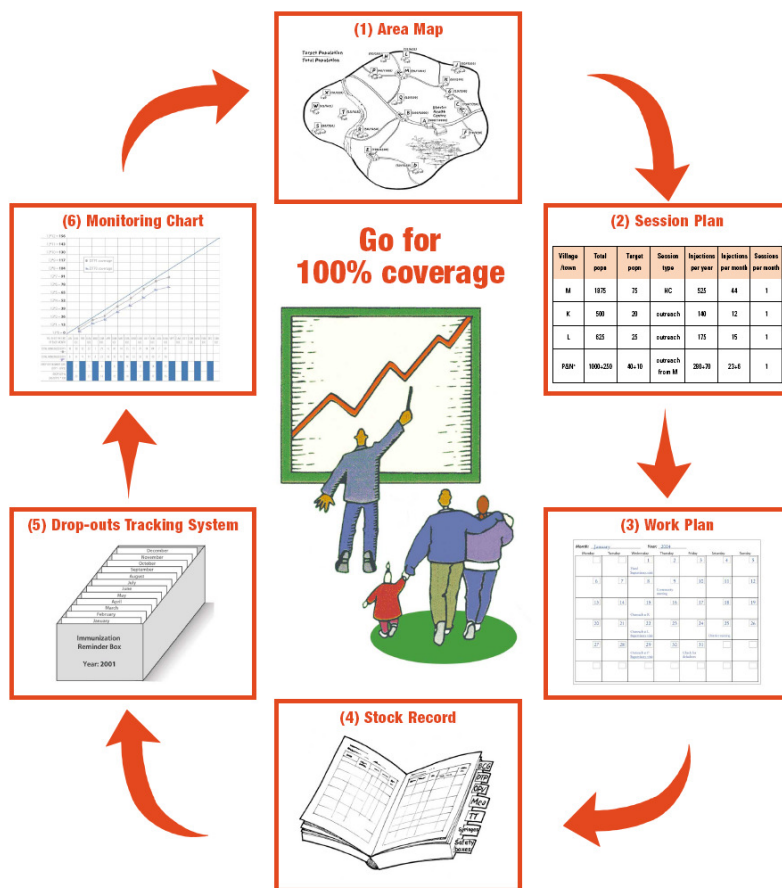


Microplanning for Immunization Service Delivery Using the Reaching Every District (RED) Strategy

A WHO-UNICEF document

Put these R.E.D tools into action



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Abbreviations and acronyms

AD	auto-disable (syringe)
AEFI	adverse events following immunization
AFP	acute flaccid paralysis
BCG	bacille Calmette-Guérin (vaccine)
DO	drop-out number
DTP	diphtheria-tetanus-pertussis (vaccine)
DTP-HepB	A combination vaccine containing DTP and hepatitis B vaccines
DTP-HepB+Hib	A combination vaccine containing DTP, HepB and <i>Haemophilus influenzae</i> type b vaccines
FAQs	frequently asked questions
HepB	hepatitis B (vaccine)
Hib	<i>Haemophilus influenzae</i> type b (vaccine)
HF	health facility
MNT	maternal and neonatal tetanus
NGO	Non-Governmental Organization
NIDs	national immunization days
OPV	oral polio vaccine
Penta	pentavalent vaccine (DTP-HepB+Hib)
RED	Reaching Every District
SIA	supplementary immunization activity/activities
Td	tetanus-diphtheria toxoids
TT	tetanus toxoid
UNICEF	United Nations Children's Fund
VPD	vaccine-preventable disease
VVM	vaccine vial monitor
WHO	World Health Organization
YF	yellow fever

Introduction

Purpose of this guide

The purpose of this guide is to strengthen district and health facility capacity to:

- produce high quality microplans;
- increase immunization coverage and reduce drop-outs for infants and pregnant women;
- identify and target the unreached;
- regularly use data to monitor and follow up at all levels.

The guide is based on successful country experiences in microplanning, using the Reaching Every District (RED) strategy. The guide uses a 'bottom-up' approach: it starts with health facility (service delivery) microplans which will then be put together to make the district microplan.

There are three parts to this guide.

Part 1: Health facility microplanning

Part 2: District level microplanning

Part 3: Microplanning FAQs

Summary of Contents

Part 1: Health facility microplanning

Part I describes how to make a microplan at the health facility level. The guide is interactive and describes how health facility staff can analyse their own data and identify problems, and find solutions, using the RED strategy as a framework. We recommend that the guide be used during workshops, facilitated by staff from the district and other levels. Various tables and worked examples are provided.

Output: At the end of the workshop, health facility staff will have made a workplan for three months, and will understand how to use the six RED tools: the map, session plan, workplan, stock record, drop-out tracking system, and monitoring chart.

There are 10 steps to making a health facility microplan:

Step 1: Quantitative analysis of local immunization data

Step 2: Preparing and reviewing an operational map

Step 3: Identifying special activities for the hard-to-reach and problem areas

Step 4: Preparing a health facility session plan

Step 5: Using the RED strategy for problem solving

Step 6: Making a workplan for one quarter

Step 7: Using a monitoring chart

Step 8: Working with the community and tracking defaulters

Step 9: Managing supplies

Step 10: Making use of the monthly report

Annex 1, 2, 3 and 4

Part 2: District level microplanning

Part 2 uses the ‘bottom-up’ approach by describing how a district can put together all the health facility microplans to make a district microplan. It also describes how the district can help to do the following:

- solve service delivery problems
- make a budget
- add a system to monitor and follow up on progress.

This guide is interactive and requires district staff to analyse and use their own current immunization data to set priorities.

Output: A district microplan that includes a district map, a calendar of sessions and events, an activity plan, and budget.

There are six steps to making a district microplan by putting together all the health facility microplans:

Step 1: Analyses of district level data to identify priority areas

Step 2: Making a map to show all health facilities and outreach sites

Step 3: Making a district workplan

Step 4: Making an estimate of resource requirements

Step 5: Conducting regular monitoring and review of progress

Step 6: Taking action based on a review of progress

Part 3: Microplanning FAQs

Part 3 contains FAQs on the various aspects of microplanning.

INTRODUCTION TO THE REACHING EVERY DISTRICT (RED) STRATEGY

History of the RED strategy

The RED strategy was developed and introduced in 2002 by WHO, UNICEF and other partners to help improve immunization systems. The RED strategy encourages districts and health facilities^a to make microplans to identify local problems and find corrective solutions, using their own data. Since 2002, several countries worldwide have started implementing RED strategies to varying degrees, and country evaluations in 2005 and 2007 have shown that implementation of the RED strategy results in significantly more infants being reached. An important finding of these evaluations was that service delivery works best when health facilities make their own microplans. In some countries, the RED strategy has been used as the basis for delivering other interventions beyond immunization, to strengthen the health system.

References related to the RED strategy:

Reaching Every District Strategy Implementation in the Africa Region: Evaluation Report. World Health Organization Regional Office for Africa, June 2005.

http://www.who.int/immunization_delivery/systems_policy/AFRO-REDevaluationreport_2005.pdf

In-Depth Evaluation of the Reaching Every District Approach in the African Region. World Health Organization Regional Office for Africa, 2007. <http://www.afro.who.int/ddc/vpd/routine/red-2007.pdf>

Reaching Every District Approach: A Guide for District Health Management Teams

http://www.who.int/immunization_delivery/systems_policy/AFRO-RED_Aug2008.pdf

^a Definitions: 1st level – national level, 2nd level – province/state, 3rd level – district/county/township/municipality, 4th level – health facility level

Description of the five operational components of the RED strategy

1. Re-establishing outreach services

In many countries, a large proportion of the population can only have access to immunization services through outreach, therefore regular outreach should be incorporated in all session plans. For some communities, access can only be provided infrequently by mobile teams and may need additional resources. Outreach and mobile team sessions are opportunities to provide other interventions with immunization to people who have difficulty reaching health centres.

2. Supportive supervision

Supportive supervision is a means of providing on-site training to health workers at the time of supervisory visits, or at regular meetings. To be supportive, supervisors should make regular visits, help to solve problems locally and follow up regularly with supply and resource issues. Supervisors will themselves need training to adapt their own approaches to supervision.

3. Linking services with communities

The best kind of service is one that involves the community in planning and delivery. Making regular contact, or holding regular meetings with the community can help to identify convenient times and places for sessions, roles for community volunteers, such as identifying newborn infants and pregnant women, and defaulter follow-up.

4. Monitoring and use of data for action

Monitoring and use of data for action implies not only the timely collection of data at various levels, but also the timely use of the data to solve problems. Some simple monitoring tools, including wall charts, are needed to track monthly progress. In addition, other useful information on logistics, supply, and surveillance is usually collected on a monthly basis. Regular analysis of all these data will help identify problems and find solutions to improve the immunization system.

5. Planning and management of resources

An effective plan which includes resource requirements is essential to deliver a service that reaches everyone. The microplan should be based upon a detailed knowledge of the local situation, including a map showing health facilities, population distribution, and the types of session needed to reach them. At the national level, there is a responsibility to ensure that the needed financial and human resources are available to districts and managed correctly, while the district must ensure that sufficient resources are available to health centres to deliver the service.

Part 1: Health facility microplanning

Step 1: Quantitative analysis of local immunization data

Step 2: Preparing and reviewing an operational map

Step 3: Identifying special activities for the hard-to-reach and problem areas

Step 4: Preparing a health facility session plan

Step 5: Using the RED strategy for problem solving

Step 6: Making a workplan for one quarter

Step 7: Using a monitoring chart

Step 8: Working with the community and tracking defaulters

Step 9: Managing supplies

Step 10: Making use of the monthly report

Step 1: Quantitative analysis of local immunization data

KEY POINT: *Use your own local data and prioritize the unimmunized.*

The first step for all health facilities is to analyse your own data. Table 1 should be completed as described below. Follow the instructions for each column. You will need a calculator. Use Table 2 to help you categorize problems of access and utilization. You should use a full calendar year of data or data for a full 12-month period.

In this guide we have made certain assumptions which you can change according to the national situation. For example we use Pentavalent vaccine (DTP-HepB+Hib), calculate drop-outs from Penta1 to Penta3^a and measles vaccine. We also use 80% coverage and 10% drop-out rates as cut-off levels, which may be too high or too low. All of these assumptions can be changed if needed.

Table 1 is divided into 18 columns (a to r)

- Column a: Area name
 - Write a list of names of all the villages and/or urban areas that you serve in your catchment area.
- Column b: Target population <1 year
 - Write the number of infants less than one year of age in each of the areas listed in column a. Note that for this guide the number of pregnant women is the same as the number of infants.
- Column c: Doses of Penta1 administered
 - Write the number of doses of Penta1 administered to infants in each area.
- Column d: Doses of Penta3 administered
 - Write the number of doses of Penta3 administered to infants in each area.
- Column e: Doses of measles vaccine administered
 - Write the number of doses of measles vaccine administered to infants in each area.
- Column f: Doses of TT2+/Td administered
 - Write the number of doses of TT2+/Td administered to pregnant women in each area.

^a There are many variations of combination vaccine in use, for example DTP-HepB-Hib, DTP-HepB etc. Use the formulation currently available in your country

- Column g: Immunization coverage Penta1 (%)

- Divide the doses of Penta1 administered (c) by the target population <1 year (b) and multiply by 100.

$$g = \frac{c}{b} \times 100$$

- Column h: Immunization coverage Penta3 (%)

- Divide the doses of Penta3 administered (d) by the target population <1 year (b) and multiply by 100.

$$h = \frac{d}{b} \times 100$$

- Column i: Immunization coverage measles vaccine (%)

- Divide the doses of measles vaccine administered (e) by the target population <1 year (b) and multiply by 100.

$$i = \frac{e}{b} \times 100$$

- Column j: Immunization coverage TT2+ /Td (%)

- Divide the doses of TT2+/Td administered (f) by the target population <1 year (b) and multiply by 100.

$$j = \frac{f}{b} \times 100$$

- Column k: Unimmunized with Penta3

- Subtract the doses of Penta3 administered (d) from the target population <1 year (b)

$$k = b - d$$

- Column l: Unimmunized with measles vaccine

- Subtract the doses of measles vaccine administered (e) from the target population <1 year (b).

$$l = b - e$$

- Column m: Drop-out rates Penta1 to Penta3 (%)
 - Subtract the doses of Penta3 (d) from the doses of Penta1 (c), divide by the doses of penta1 (c) and multiply by 100.
$$m = \frac{c-d}{c} \times 100$$
- Column n: Drop-out rates Penta1 to measles vaccine (%)
 - Subtract the doses of measles vaccine (e) from the doses of Penta1 (c), divide by the doses of Penta1 (c) and multiply by 100.
$$n = \frac{c-e}{c} \times 100$$
- Column o: Identify problems of access
 - Refer to Table 2 (analysis of problems of access and utilization). Write 'good' or 'poor' according to whether Penta1 is at least 80%* or less than 80%.
- Column p: Identify problems of utilization
 - Refer to Table 2 (analysis of problems of access and utilization). Write 'good' or 'poor' according to whether the drop-out rate is 10% or less, or more than 10%.*
- Column q: Category of problem
 - Refer to Table 2 (analysis of problems of access and utilization). In this table problems are categorized 1, 2, 3, 4 according to the level of problems of access and utilization. Use the information in columns (o) and (p) to write the number 1, 2, 3 or 4 in column (q).
- Column r: Prioritize the area.
 - Refer to column (m) and (n) which show the *unimmunized* population for Penta3 or measles vaccine. Now give a priority number to each area starting at priority number 1 for the highest number of *unimmunized*, and continue according to the number of *unimmunized* infants for either of these vaccines. Each area should have an individual priority number assigned; no two areas should have the same number.

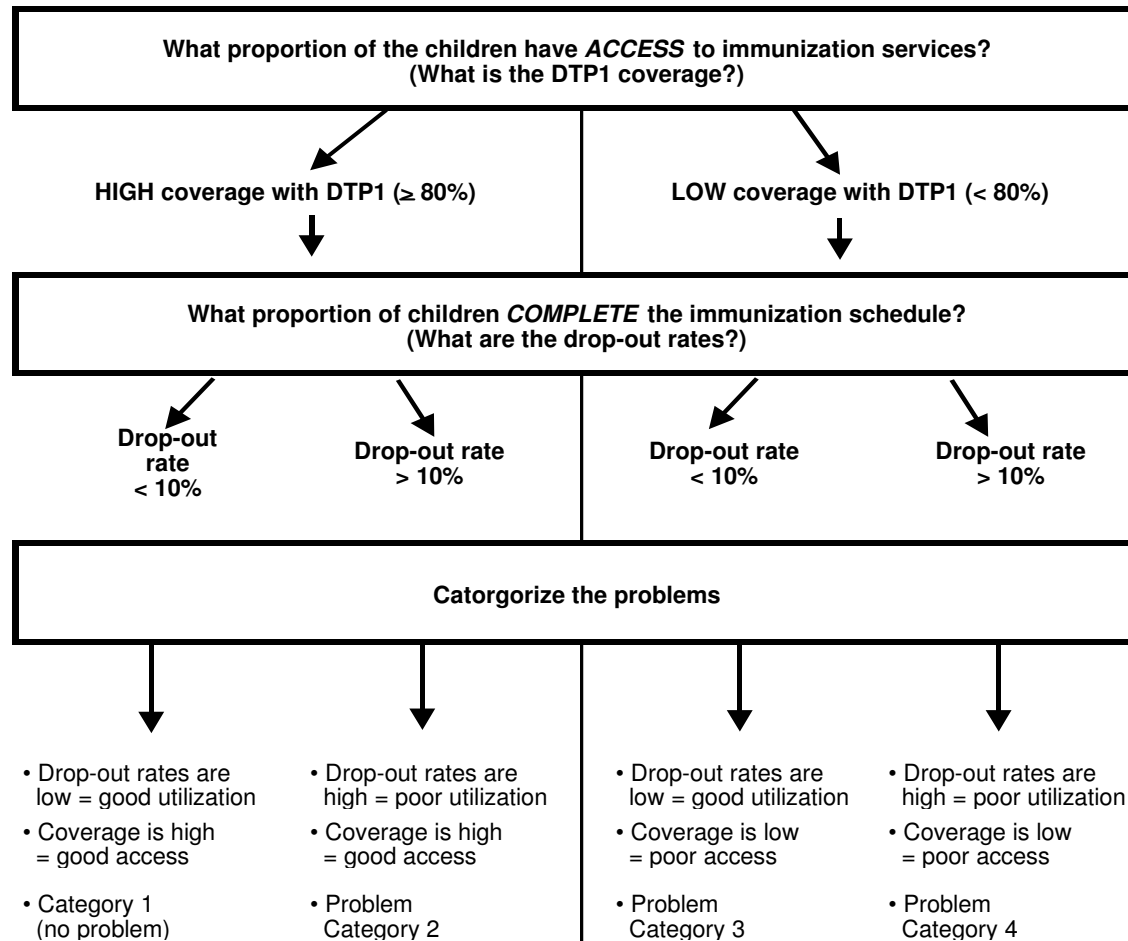
* Remember you can vary the '80%' and '10%' cut off points according to the local situation.

Table 1: Data analysis

Area name	Compile population, immunization coverage data in the previous 12 months									Analyse problem							Prioritize area
	Target population figures	Doses of vaccine administered				Immunization coverage (%)				Un-immunized		Drop out rates (%)		Identify problems		Categorize the problem	
	<1 year	Penta 1	Penta 3	Msl	TT2+/ Td	Penta 1	Penta 3	Msl	TT2+/ Td	Penta 3	Msl	Penta1 to Penta3	Penta1 to Msl	Access ¹	Utilisa- tion ¹	Category 1, 2, 3, 4	Priority 1, 2, 3, 4, 5.....
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r

¹ Refer to Table 2

Table 2: Analyse problems of access and utilization



Step 2: Preparing and reviewing an operational map

KEY POINT: *Don't miss anyone! Make sure all groups of population are included on the map.*

Making an operational map of your catchment area

Draw a map of the area served by your HF catchment area. The map can be simple and hand-drawn, you do not need a computer to draw the map. You may be able to use a map already prepared for polio eradication. The map will show you how the population is situated so that you can decide which populations will be served by fixed sessions and which ones require outreach and/or other strategies such as mobile teams from the district level.

1. Draw a simple map of the HF catchment area. It does not have to be to scale, but it should contain all the important features of the area. Mark the following information on the map:

- each village/area and all other settlements of population;
- the total population and target population of each village/ward;
- the hard-to-reach areas;
- roads and geographical landmarks (rivers, streams, mountains);
- distance between each village and the health facility (if known);
- transport frequently used by the health facility to reach each village and the time taken (if known);
- location of the nomadic populations and their travel/movement plans (if applicable);
- identify the areas that have seasonal accessibility (if applicable).

Refer to Annex 4 for special planning for urban areas.

2. Using the HF catchment area map, decide the type of session suitable for each village/ward in your HF area (fixed, outreach, mobile teams).

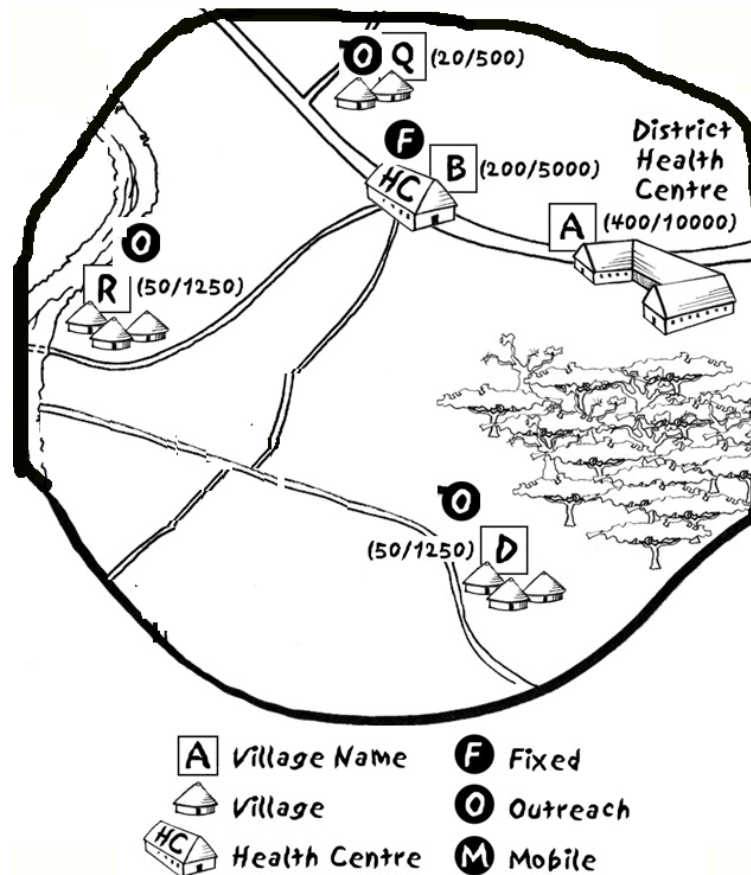
On the map, mark what kind of session will be used to reach each village or area using the letters F (fixed), O (outreach), M (mobile teams). For outreach and mobile, use arrows to show how they will be reached. If possible, for each outreach session identify where it will be held.

If you are not sure which kind of session to use, the following table may help.

Fixed session	Delivery of services <u>in</u> a HF	Serves the community within easy access to the HF
Outreach session	Delivery of services in an <u>'outreach site'</u>	Area around the HF that the staff can visit in one day
Mobile teams	Delivery of services <u>beyond</u> the <u>'outreach area'</u>	Areas not possible to cover in one day, requires overnight stay

3. Review the operational map of the HF catchment area.

Figure 1 :Sample health facility map



Step 3: Identifying special activities for the hard-to-reach and problem areas

KEY POINT: *The hard-to-reach and problem areas can be either urban or rural populations. Wherever they are, they will need special activities to reach them.*

In Step 3 you will review the data in Table 1, and decide whether there are hard-to-reach areas and other kinds of problem areas that need some special activities to reach them regularly. You will use Table 3 to do this. Start by listing all the areas in Table 1 in descending order of the number of unimmunized infants. To complete Table 3 you will need local knowledge of the areas concerned, because you will have to decide what special activities are needed to reach them. To help the analysis, areas can be classified as 'hard-to-reach' and 'problem areas'. However, the activities needed to reach them may be the same. When you have identified these activities you will include them in the workplan in Step 6.

Who are the hard-to-reach?

1. **Rural hard-to-reach:** These are the rural populations who have little regular contact with routine immunization services. They may include:
 - i. people living in areas **too far**¹ from the health service
 - ii. seasonally mobile populations (e.g. **nomadic** populations).
2. **Urban hard-to-reach:** These are urban populations living in areas not far from services but who do not make contact with the services for a variety of reasons. This group includes slum dwellers and squatter settlements. For more information on planning to reach urban high-risk areas, see Annex 4.
3. **Socio-economic hard-to-reach:** These are the segments of society that include minority groups who do not use government health services due to social, economic or political reasons. For example:
 - i. **Social reasons:** Reluctance to access health services due to religious and traditional beliefs.
 - ii. **Economic reasons:** Daily wage earners lose a day's pay whenever they stand in queues at a health facility.
 - iii. **Areas with conflict:** Contact between health staff and the community can be limited due to poor security.

¹ The term 'too far' will depend not only on physical distance but also logistic and human resource capacity. For example, people may live only a few kilometres away, but are separated by a river or mountain.

What are problem areas?

In this module we can say that any area that is listed as category 3 or 4 in Table 1, column "r" can be considered as a problem area. However, there may be other problem areas that do not fall into these categories. In Table 3 you will have a chance to decide whether these areas also need special activities.

How to complete Table 3: Planning special activities for hard-to-reach and problem areas.

- Column (a): List all areas according to priority.
 - Refer to Table 1 column (r). List the names of the areas in *descending* order of priority beginning with the area that has the most unimmunized infants and is therefore priority number 1.
- Column (b): Write the category of problem (1 to 4) for each area.
- Column (c): Write 'yes' if the area is hard to reach, or has some hard-to-reach populations living in it.
- Column (d): Write how many times that area was reached in the last calendar year (or 12-month period).
- Column (e): Decide what activities you can do from your health facility that will help to improve access and utilization in the hard-to-reach and category 3 and 4 problem areas you have listed (see Annex 3 of Part 1 for some suggestions).
- Column (f): Decide what activities to improve access and utilization in hard-to-reach and problem areas will need support by the district or higher levels.
- Column (g): Decide what other interventions can be delivered at the same time as immunization in hard-to-reach and problem areas.

Table 3: Planning special activities for hard-to-reach and problem areas

List of areas (according to priority)	Category of problem:1, 2, 3, 4 (refer to Table 1)	Hard to reach (Y/N)	How many times were they reached last year?	Activities that can be conducted by the health facility level to improve access and utilization	Activities that need support by district and/or higher levels	What other interventions can be delivered at the same time as immunization?
<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>

Step 4: Preparing a health facility session plan

KEY POINT: *Every community on the map must be included in the session plan, showing what type of session they need.*

In this guide, we base the session plan on the workload that you can do realistically from the health facility. The session plan will show the type of session, and how frequently the session will be done.

We use an estimate of the number of injections needed in a session as the basis for measuring the workload. For example, you may be able to have a higher workload at a fixed site (80 injections) than an outreach site (40 injections). We use the estimated *workload* because the estimated number of *infants and pregnant women* attending any session is unpredictable. By making a session plan based on *realistic workload* you will always know in advance how much vaccine, supplies, staff and transport to have available for a session. In this way the session plan provides a firm basis for making a workplan. You can always adjust the frequency and type of session and the quantity of supplies, as needed.

1. Using Table 4, complete columns I, II, III, IV

Take Table 1, the map and Table 3. Using Table 4, list each area, its population and target population (columns I, II, III). Against each village/ward, note down the type of session needed according to the map you have made in Step 2 (column IV).

2. Calculate the workload (number of injections needed) per year (column V)

In this guide, we use number of *injections* as a measure of the workload during an immunization session. Referring to the national immunization schedule, count how many injections are needed to fully immunize an infant in your health facility catchment area. At a minimum, an infant will need five injections (BCG x1, pentavalent¹ x3, measles x1) (plus four doses of oral OPV). In addition, two tetanus toxoid (TT or Td) doses are needed to immunize pregnant women. This makes a total of five infant injections, plus two injections of TT or Td for pregnant women², which makes up seven injections in all for full immunization of an infant and pregnant woman. However, some countries may use up to 10 injections (e.g. adding three doses of monodose hepatitis B). Note that this calculation does not include booster doses for older children. Multiply the number of injections to fully immunize one infant and pregnant woman by the infant population to calculate the workload per year (column V).

3. Calculate the workload (number of injections needed) per month (column VI)

To calculate the monthly total workload, divide the yearly total workload (column V) by 12.

4. Calculate the estimated number of sessions needed per month³ at each fixed and outreach site (column VII)

You now need to decide how many injections can reasonably be given by health staff (the reasonable workload) during one fixed session and one outreach session. For this module, we assume that a fixed

¹ If you are using DTP-HepB or DTP vaccine, the number of injections will still be the same (5) to fully immunize an infant.

² In most countries pregnant women are targeted for routine TT immunization. While not every pregnant woman will require two doses of TT, this module assumes that all planning will have to include two doses of TT for each pregnant woman.

³ Some areas may not need a session every month; however, a minimum four sessions per year should be ensured.

session in a health facility can reasonably deliver approximately 80 injections per session, and an outreach session approximately 40 injections per session. However, this number may vary depending on your local conditions, i.e. the number and availability of staff, vaccines and other supplies, distance between the health facility and the outreach post, and the need to provide other health services at the same time.

To calculate the number of sessions needed per month:

Divide the number of injections needed per month by 80 for a fixed site.

Divide the number of injections needed per month by 40 for an outreach site.

5. Make a realistic judgement and write down the actual number of sessions per month at each fixed and outreach site (column VIII)

This step involves making some realistic judgement based on the following: availability of vaccination staff, availability of community volunteers, and distance from outreach.

The calculation you have made for Step 4 may give you an unrealistic number of sessions, for example less than one session per month or three sessions per month. Now you must make realistic judgement of the number of sessions per month at each fixed and outreach site, based on local knowledge. Decide whether an area needs larger less frequent sessions or smaller more frequent sessions.

6. Include other child survival interventions to be delivered with immunization (column IX)

List other child survival interventions that can be delivered with immunization (e.g. insecticide treated bednets, deworming tablets, etc.). Refer to Table 3, column (g) and add these to column IX.

7. Identify if the area is hard to reach (column X)

Refer to Table 3 and note the hard-to-reach areas by placing a 'Yes' in column X. You may decide that you can only visit four times per year. You should note this in column VIII.

KEY POINT: Make your session plan efficient!

- Use your judgment and knowledge of the area to plan the number of sessions needed based on:
 - number of health workers and other staff available
 - time taken to reach the outreach site
 - availability of community volunteers at the session site.

- avoid very small or very large sessions
- decide an appropriate session frequency to make best use of resources.

In deciding the session frequency, try to ensure the most efficient use of time, especially for outreach. Less frequent but better attended outreach sessions can improve the use of resources.

The actual number of sessions planned for any area will depend on many factors. Use your local knowledge and judgement to make efficient use of your local resources.

Table 4: Session plan template

Name of health facility catchment area_____

Date_____

Area name	Total population	Target population	Session type (<i>Fixed, Outreach, Mobile</i>)	Injections per year (<i>target population x 7^a</i>)	No. of injections per month (<i>injections per year/12</i>)	Estimated sessions per month (<i>divide by 80 for Fixed and 40 for Outreach</i>)	Actual sessions planned per month (<i>realistic judgement</i>)	Other child survival interventions planned?	Hard-to-reach area/population (refer to Table 3)
I	II	III	IV	V	VI	VII	VIII	IX	X

^a See Step 4, point 2 to understand the rationale for calculating the number of injections per year

Step 5: Problem solving using the RED strategy

KEY POINT: *Can you list the important problems concerning immunization services in your area? Can you suggest solutions to these problems? The RED strategy will help you to identify problems and solutions.*

In Steps 1 and 3 you identified problems of access and utilization specific to certain areas. In Step 5 you will have the opportunity to consider general or qualitative problems and solutions that may affect the whole or part of your catchment area. The five operational components of the RED strategy can be used to help structure the problems and solutions. Table 5 is organized according to the five operational components of the RED strategy. Some examples of questions are provided in the box below. Use the questions to help you think of real problems and solutions for your area.

How to use Table 5:

- Write a full list of problems against each of the RED components..
- Write a list of activities that will solve the problems:
 - Firstly, those activities that you can do yourself at the health facility (with limited resources) such as re-arranging the session plan, working with community volunteers etc.;
 - Secondly, activities that need resources and assistance from the next level (district or higher) for example:
 - conducting sessions that the HF cannot do;
 - providing supplies, equipment, access to vehicles needed for certain sessions;
 - technical support and information on new aspects of the programme.
- If the activity is specific to a certain area covered by your health facility, name the area, otherwise, indicate that the activity concerns the whole of your catchment area.
- As far as possible write the name of the person responsible for each problem-solving activity and the date when the activity will be done.

When you provide a monthly report, refer to this list to report on activities that you have done, and those that are still outstanding.

Here are some examples of questions to help think about your own problems and solutions

Re-establishment of outreach services

Does your workplan state the time and place of every outreach session that you plan?

Do you monitor outreach sessions planned and completed?

Do some communities receive less than four outreach sessions per year?

Supportive supervision

Do you receive regular supervisory visits, for example how many visits in the last six months?

Do the supervisors take time to provide some needed information and help solve problems?

Is there follow-up on findings from previous supervisory visits?

Community links with service delivery

Are the communities you serve involved in planning the place and time of sessions?

Are communities always informed in advance of sessions?

Are community volunteers available at immunization sessions?

Do you receive information on newborns from the community?

Are pregnant women aware of the need for TT/Td immunization and how to receive it?

Are there rumours and concerns about the safety of vaccines?

Monitoring and use of data for action

Do you have a defaulter tracking system in place?

Does the district hold quarterly meetings to review performance?

Are you able to provide complete and timely monthly reports?

Do you receive feedback on monthly reports?

Is there a big difference between official denominator and immunization denominator?

Planning and management of resources

Do you have a session plan and workplan?

Do you receive the resources needed to conduct outreach?

Are there vacant staff posts in your health facility?

Have you had recent stock-outs of vaccine, safe-injection equipment, fuel and other supplies?

Table 5: Using the RED strategy for problem solving

RED component	Problems	Activities with limited resources	Activities needing resources and assistance from district	When and area name	Who (person)
Re-establishment of outreach services					
Supportive supervision					
Community links with service delivery					
Monitoring and use of data for action					
Planning and management of resources					

Step 6: Making a workplan for one quarter

KEY POINT: *Make a dynamic workplan! Show all the sessions and other activities, monitor and adapt the plan regularly.*

Table 6 shows a workplan for one quarter (three months). To complete the workplan you will need:

Table 4: the session plan, to list all sessions according to location and date

Table 3, to list all hard-to-reach activities

Table 5, to list other activities that you will carry out at the health facility.

To complete the workplan you will:

- **Put a timeframe to the session plan.**

Try to schedule:

- fixed sessions on the same day(s) every week;
- outreach sessions on the same day or date every month to make it easier for the community to remember.

- **Identify sessions to be conducted by the district.**

- **Include other activities from Steps 3 and 5 at the bottom of the workplan.**

Assign dates to:

- activities identified in the problem-solving exercise
- other regular activities like training, monitoring etc.
- ensure there is no conflict in dates.

1. List the names of all areas in the health facility catchment area in the same order as in the session plan.

2. In the next column write the number of sessions and type of session per month, for example 'village A: 4 outreach', as written in the session plan.

3. In each month column (January, February, March) write the following:

- the date each session is scheduled;
- the date the session was actually held;
- the type of transport needed if outreach or mobile session;

- the person responsible for doing the session;
- whether the district needs to provide support to do the session. For example, for hard-to-reach areas (Refer to Table 3) is a district vehicle needed? Should district staff conduct the session?

4. Under each month write extra activities and other regular activities.

- Add activities for hard-to-reach and problem areas (see Table 3).
- Add other activities that need to be carried out on a regular basis, such as monthly meetings at the district level, special campaigns etc.
- Include periodic interventions to be delivered with immunization (e.g. bednet distribution).

5. Monitor session implementation.

Under each month note the number of sessions held and the number of sessions planned. If it was not possible to carry out a session as planned, state the reason why in the monthly report to the district (Step 10).

Every quarter revise the activities according to the situation: progress and additional needs.

Keep the Health Facility Workplan on the wall of the health facility.

Table 6: Sample health facility workplan for one quarter (i.e. three months)

Area name	No. of sessions per month	January	February	March
		Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)	Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)	Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)
		Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)	Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)	Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)
		Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)	Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)	Date(s) scheduled Date(s) held Transport Person responsible District support (Y/N)
Activities for hard-to-reach & problem areas		Activities Person responsible	Activities Person responsible	Activities Person responsible
Regular activities		Activities Person responsible	Activities Person responsible	Activities Person responsible
Monitoring of session implementation		Number of sessions held in Jan: Number of sessions planned in Jan:	Number of sessions held in Feb: Number of sessions planned in Feb:	Number of sessions held in Mar. Number of sessions planned in Mar.

Step 7: Using the monitoring charts

KEY POINT: *The monitoring chart is the best tool for showing progress. It should always be displayed on the wall of the health facility next to the workplan.*

You can adapt the monitoring chart to show whatever vaccine doses you wish, for example Penta1-Penta3, BCG-measles, etc.

Using the monitoring chart

The monitoring chart has been developed to track the monthly, and annual, progress towards immunizing infants under one year of age. It also helps you to determine if the target population is completing the series of vaccines (e.g. Penta3), or dropping out.

Calculate the annual and monthly target population to receive immunization services

- Annual target population. You should aim to reach every infant in your catchment area, especially those who are hard to reach. Use existing population figures for infants under one year of age obtained from official census data or your own community census.
- Monthly target. To get a monthly target population, divide the number of infants under one year of age by 12. (If, for example, the annual target under one year is 156, the monthly target will be $156/12 = 13$.)

Label the chart

- Complete the information on the top of the chart, i.e. area and year. Label the left and right side of the chart with the monthly target figures. Label the boxes at the bottom with the name of the vaccine and dose, e.g. Penta1 and measles, or Penta1 and Penta3.
- Draw a diagonal line from zero to the top right-hand corner to show the ideal rate of progress if every infant is immunized on time.

Plot immunization data on the chart

The chart can be used to monitor doses given and dropout rates.

- Locate the row of boxes underneath the graph. Locate the spaces for the month you are recording. Enter the monthly total of Penta1 immunization given.
- Add the current month's total to the previous cumulative total to calculate the current cumulative total and enter it on the right side of the monthly column you are recording.
- Make a dot on the graph for the cumulative¹ total recorded on the right side of the monthly column you are recording.
- Connect the new dot to the previous month's dot with a straight line.
- Repeat the above steps (a to d) every month until the end of the year.

¹ Cumulative means the total number of doses of vaccines given in the current month, plus the monthly totals for all the previous months. Use the same time period for each dose and vaccine. For example, the cumulative number of Penta1 doses given by the end of March is the total number of doses given in January plus the total number given in February plus the total number given in March.

f. Plot Penta3 immunizations given in the same way as Penta1 (follow steps a to e).

Calculate the total number of drop-outs between Penta1 and Penta3 (DO#).

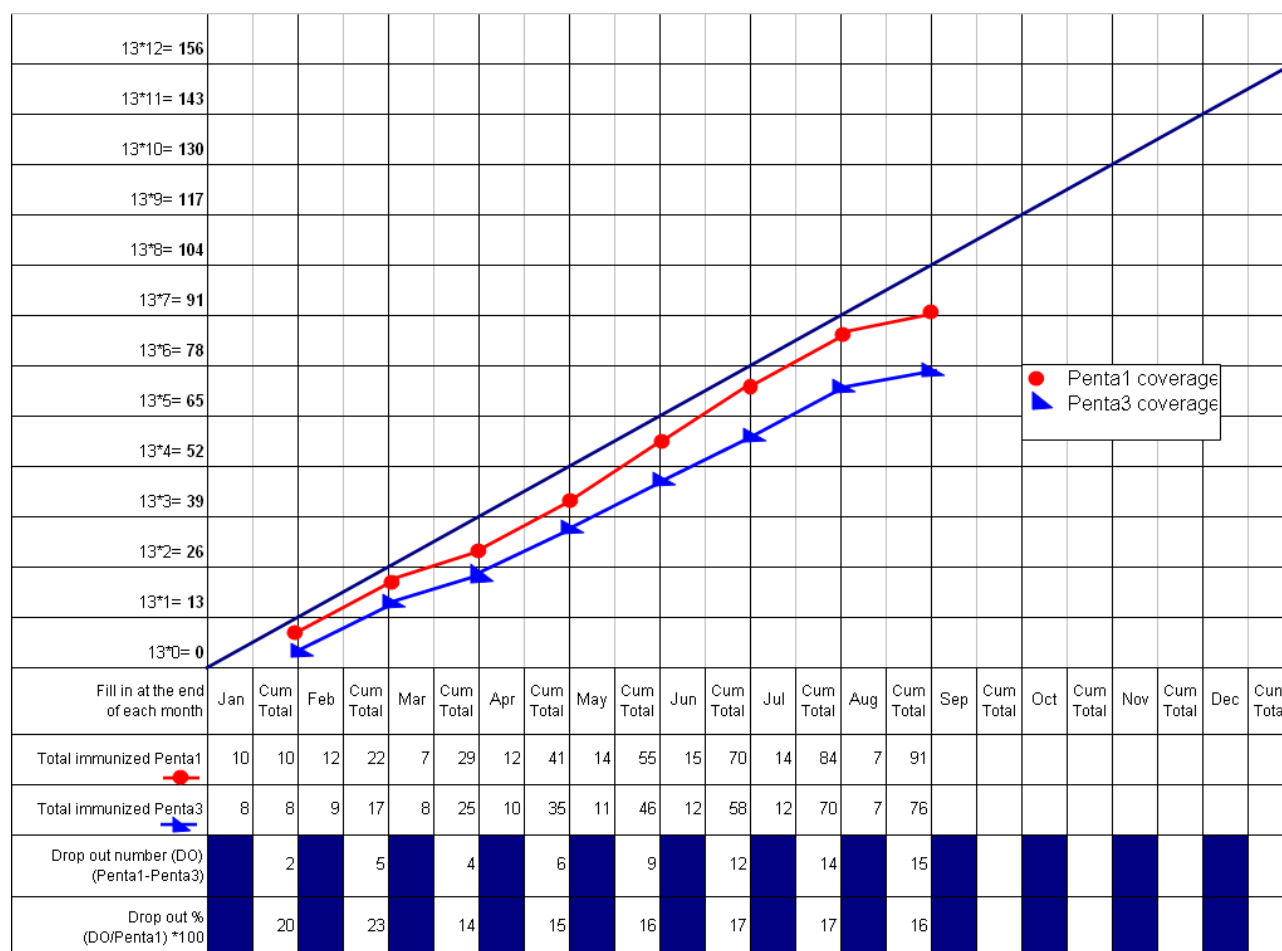
- Subtract the cumulative total for Penta3 from the cumulative total for Penta1.
- Calculate the cumulative drop-out rate (DO%) as follows:

$$\text{DO\%} = \frac{\text{Penta1 cumulative total} - \text{Penta3 cumulative total}}{\text{Penta1 cumulative total}} \times 100$$

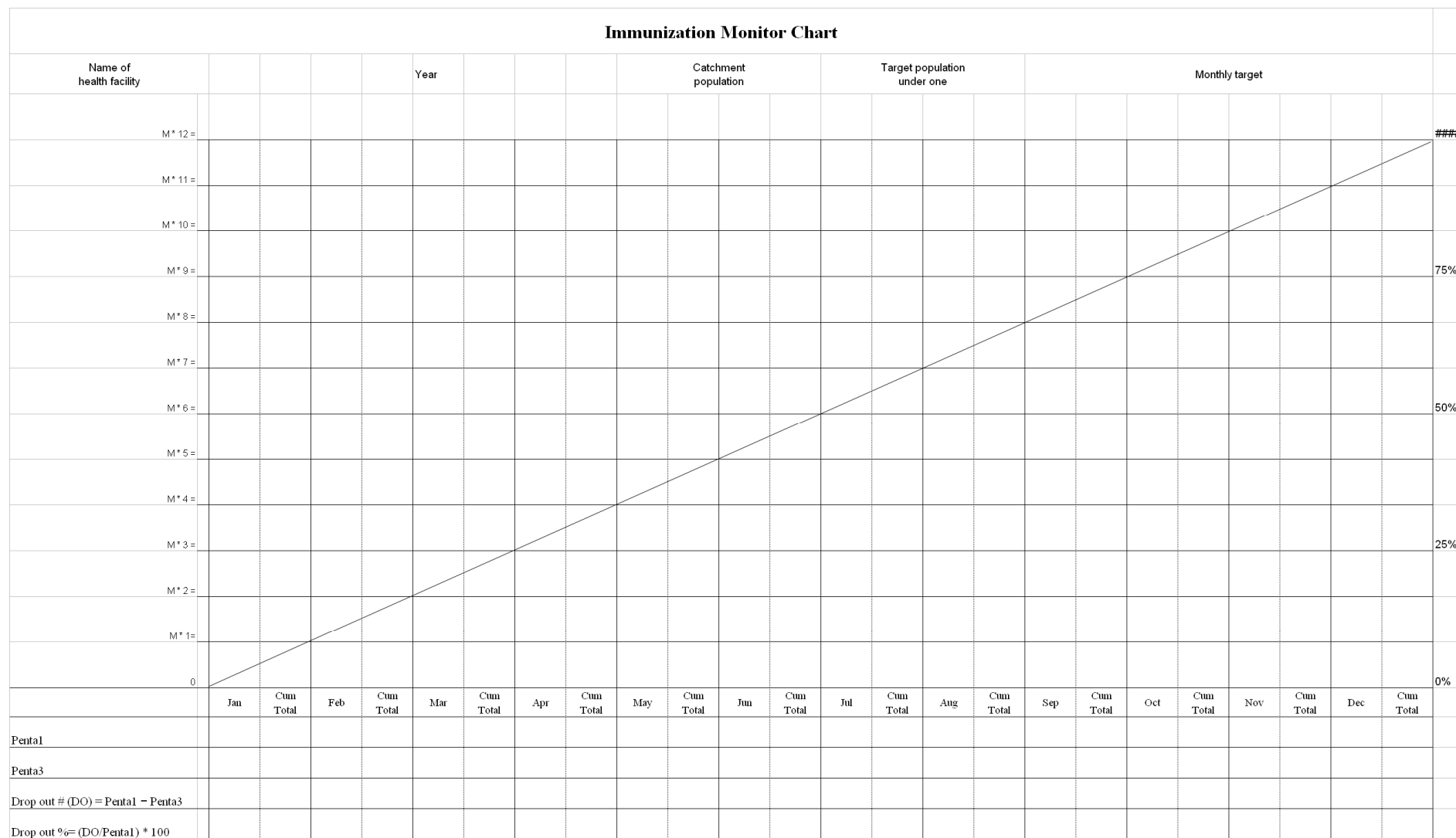
Use the information on the monitoring chart

Follow the line on the monitoring chart. If your performance goes below the line, try to understand why and, if there is a problem, try to take corrective action. For example, it may be possible to make an extra effort to regularly follow up and vaccinate defaulters, which will put your programme back on track.

Here is an example of a monitoring chart in use:



Part 1: Health facility microplanning



Step 8: Working with the community and tracking defaulters

KEY POINT: *Are you meeting the needs of the community? Working closely with the community is one of the best ways to improve the service.*

Access and utilization depend very much on the relationship with the local community. In Step 5 you identified problems and solutions for making links with the local community. In Step 8 you will visit the local communities regularly to ensure they are involved, to find out how well they are able to use the services, and to follow up on defaulters who need to complete the immunization series. Here is a brief list of actions to be made with the community (for a full list see *Immunization in Practice*,¹ module 8).

1. Meet regularly with community leaders to:

- provide information on immunization and the time and place of sessions
- record new births or pregnant women needing antenatal care
- motivate parents to attend sessions
- request the support of volunteers during sessions
- request help in finding defaulters or unimmunized infants and pregnant women.

2. Gather feedback from the community on the quality of the services

A simple questionnaire can be used to investigate reasons for low coverage and drop-outs (See Part 1, Annex 1).

3. Use a system to track defaulters

There are many ways to monitor and follow up on defaulters. Here are two tracking systems that can easily be used.

Using the immunization register

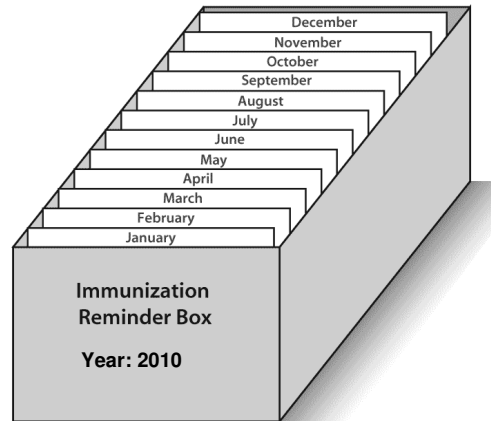
At the end of each month, review immunization to identify infants who may have failed to receive doses of vaccine when due. For example, if an infant received his/her Penta1 dose in February, check to see whether he/she received Penta2 in March when the dose was due. The register can also be used to track women who are TT/Td defaulters.

¹ *Immunization in Practice: A practical guide for health staff*. Geneva, World Health Organization, 2004.

“Reminder” cards

Another way to identify defaulters is to make “reminder” cards, which are copies of each infant’s immunization card. File the copy of the immunization card in a box behind the divider for the month when the infant’s next vaccination is due.

When an infant receives Penta1 in January, place the reminder card in the February section, i.e. the month when Penta2 is due. In February, if the infant attends when due for Penta2, update the reminder card and place it in the March section when Penta3 is due. Every month, review the reminder cards and follow up those who did not attend when due. Ensure that the TT/Td immunization status of pregnant women is included in the antenatal clinic tracking system. When TT immunizations are given to pregnant women outside of antenatal clinics, reminder cards can be used to ensure that each pregnant woman gets their second dose (assuming it is the first pregnancy).



Following up defaulters

Whichever system you use, it will only be effective if you then make sure that every infant receives the vaccinations that are overdue. If you track defaulters regularly every month, it will make the task of follow-up easier. To follow up defaulters, you may be able to contact the mothers directly or ask members of the community to help you.

Step 9: Managing supplies

KEY POINT: After each receipt or issue, the balance in stock should be recalculated and recorded.

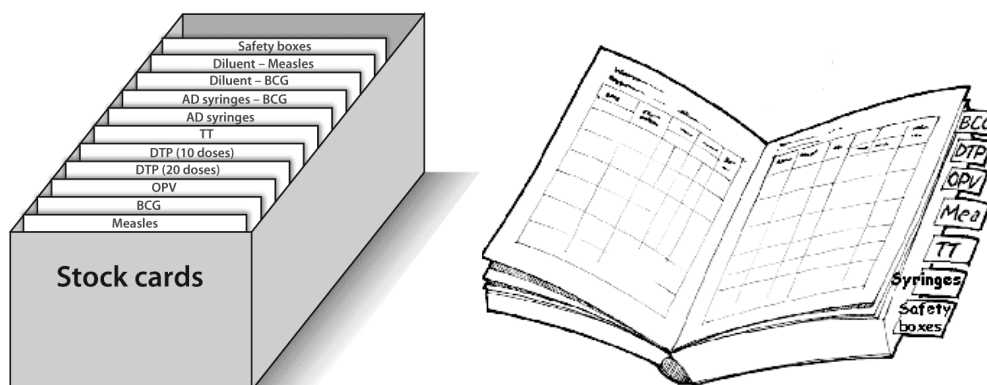
The method for managing supplies can be very simple. Stock cards can be used, or just an exercise book. You should include all vaccines and safe-injection equipment in the stock record. Always check the status of the vaccine: VVM and expiry date.

The balance recorded should be physically checked and verified at periodic intervals.

Method 1: Using a simple exercise book for stock management each year.

- Divide the book into separate sections of several pages for each type of vaccine (or other supplies/equipment) used.
- Prepare tables for each vaccine and label the columns. Facing pages of the exercise book are used to record the details of each vaccine, AD syringes or diluents, or other supplies/equipment.
- For each supply of vaccine received or issued, all details including batch number, date of expiry, vaccine vial monitor (VVM) status, quantity, etc., should be recorded. Quantities of other supplies should be recorded in the same way.
- After each receipt or issue, the balance in stock should be calculated and recorded. The balance recorded should be physically checked and verified at periodic intervals (e.g. once every quarter).

Simple exercise book to keep records of stock received and issued



Method 2: Using stock cards.

- Take a box (this should preferably be of a durable material like aluminium sheet or plastic, but a shoebox can work) and divide it into separate sections that can take several stock cards for each type of vaccine (or other supplies/equipment) used.
- Prepare a card for each vaccine and label the columns. A separate card is used to record the details of each type of vaccine or AD syringes (including a different card for different vial sizes), diluents or other supplies/equipment.
- Between each set of stock cards (for each type of vaccine or other equipment) insert a separator that is slightly bigger than the stock cards. On each separator, indicate the vaccine or other material corresponding to the stock cards placed immediately behind it. For each supply received or issued, all details should be noted – including batch number, date of expiry, VVM status, quantity, etc.

After each receipt or issue, the balance in stock should be recalculated and recorded. The balance recorded should be physically checked and verified at periodic intervals (e.g. once every quarter).

Sample form used for stock management

[illegible]

Minimum stock	Quarterly supply	Maximum stock (minimum + quarterly supply)

[illegible]

Step 10: Making use of the monthly report

KEY POINT: The monthly report should be useful both for the sender of the report (Health Facility) and the receiver of the report (District).

The HF should use the monthly report to remind the district about unsolved problems and supervisory visits.

Missed sessions are a serious problem and deserve attention and corrective action by the HF and district.

Every health facility is required to provide a report to the next level every month. In this step we will suggest some ways of making the monthly report more effective by adding some important pieces of information.

- a) Complete the monthly report form including all coverage data, disease surveillance, supply and stock levels, and other information that is requested routinely.
- b) Supervisory visits: Include the date of the last supervisory visit.
- c) Record session completeness. Refer to the session plan and note whether any sessions (fixed or outreach) were cancelled. For each cancelled session state the reasons why it was not carried out as planned and any new plan to repeat the session.
- d) Problem solving:
 - i. Refer to your recent list of problems and solutions (Table 5)
 - 1) List any problems that have been solved since the last report.
 - 2) List any outstanding problems to be solved by either the health facility or the district level.

Microplanning for Immunization Service Delivery Using the Reaching Every District (RED) Strategy

PROVINCE : _____ DISTRICT: _____

Health facility: _____ Name of the Manager: _____

Monthly target infants: _____ Fixed sessions planned: _____ No. of outreach planned: _____

Month : _____ Year: _____

MONTHLY VACCINATION REPORT

1. SYNTHESIS OF MONTHLY VACCINATIONS GIVEN

VACCINATION STRATEGIES		TT VACCINATIONS TO PREGNANT WOMEN					BCG		POLIOMYELITIS VACCINATIONS						PENTA VACCINATIONS						MEASLES VACCINATIONS		YF VACCINATIONS		VITAMIN A SUPPLEMENTATION			
		No. of sessions	1st dose	2nd dose	3rd dose	4th dose	5th dose	0–11 mos	≥ 1 year	at birth	≤ 1 year			> 1 year			≤ 1 year			> 1 year			9–11 months	≥ 1 year	9–11 months	> 1 year	mothers	0–11 months
1st dose	2nd dose										3rd dose	1st dose	2nd dose	3rd dose	1st dose	2nd dose	3rd dose	1st dose	2nd dose	3rd dose								
Fixed																												
Outreach																												
Total month																												
Total doses opened																												

2. FACILITY/DISTRICT STOCK MANAGEMENT DATA

Vaccines & injection equipment	Quantity received each month	Stock balance at the end of the month	Vaccine doses discarded due to VVM change	Temperatures at which vaccines have been exposed	
				Min (°C)	Max (°C)
Vaccines & Vitamin A					
BCG					
Penta					
OPV					
Measles					
TT					
YF					
HepB					
Hib					
Vitamin A					
Injection equipment					
AD Syringes 0.05ml					
AD Syringes 0.5ml					
Syringes reconstitution, 2ml					
Syringes reconstitution, 5ml					
Safety boxes					

Date of last supervisory visit

Number of sessions cancelled

Reasons for cancelling planned sessions

Problems solved since last report

Outstanding problems

3. SYNTHESIS OF DISEASE SURVEILLANCE & AEFI

Targeted diseases	0-11 months		1-4 years		5-14 years		15 years & +		Total		Vaccination status (doses received)				
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths	0	1	2	3	unknown
AFP															
Measles															
MNT															
Diphtheria															
Pertussis															
Yellow Fever															
Meningitis															
Malaria															
Others															
Type of AEFI (Events)	Total No. of cases	Vaccines-related events							Additional comments (if any)						
		BCG	Polio	Penta	MSL	TT	YF	HepB							
Abscesses															
Anaphylaxis															
Other allergic reactions															
BCG Lymphadenitis															
Deaths															

Annex 1: Simple questionnaire to investigate reasons for low coverage and dropouts

This questionnaire will assist you to gather feedback about the status of immunization services in areas served on a health facility. It investigates the number of infants and their mothers (for TT/Td immunization) who did not complete their immunization schedule, the number of people who are never reached, why infants and women do not go or return for immunization, and how women think services can be improved. You will not need extra resources nor much time to do this. It can be carried out in a few hours. It is an opportunity to discuss these subjects directly with child caretakers and find out how services could be improved and why they are not used.

The results of this survey are not representative of any population other than the households you interview. This survey is intended to supplement, not replace, routine reporting.

The purpose is to investigate at least five infants under two years of age and their mothers of childbearing age not vaccinated or who did not complete their immunization schedule.

Follow the steps below:

Use the tally sheet and the questionnaire presented on the following page for the interviews and to compile data. If needed you can modify this questionnaire to fit your needs.

Collect and compile data.

- a) Visit the households that can be reached from the health facility without difficulty until you identify at least five infants under two years of age, and their mothers, who are not vaccinated or who are overdue for the next vaccine dose (“partially immunized”). The households do not have to be randomly selected and they may be interviewed in any order. In each household having any infants under two years of age and their mothers, ask for the infant’s and mother’s immunization card(s). If the infant or mother is not completely immunized, each mother should be asked to give one reason why. Enter this information in Item C of the tally sheet. Each woman should also be asked for her suggestions on how to improve the health services: enter this in Item D.
- b) Add up the number of households visited from Item A and the immunization status of infants and mothers interviewed in the survey from Item B. Record the totals in the appropriate space on the form.

Analyse the data.

- c) Investigate why the infants and mothers were not, or were only partially, immunized.
- d) Make a list of all the reasons given (Item C) and of suggestions for improvement (Item D).
- e) Discuss possible solutions with your team given current resources as well as with extra resources (see Steps 3 and 5).

Interpreting the data

There will be some bias in the data because the households visited will not be far from the health facility. Nevertheless, it is often the situation that not all infants and mothers who live nearby are fully immunized, so the results will still be valid.

Who should conduct the questionnaire?

The questionnaire can be conducted by anyone interested in the immunization system; it requires little time and no extra resources. It is recommended that the health facility staff should be present during the household visits so that the successes and problems encountered can be further discussed in the health facility.

Using the data

The various issues raised by the results of the questionnaire should be discussed with HF staff immediately after completing the questionnaire. The questionnaire can serve as a simple means of verifying data quality. If a health facility reports very high coverage, yet several unimmunized infants are found, the data quality should be questioned.

**Investigating reasons for low coverage and drop-outs:
Tally sheet and questionnaire**

Infants under two years of age (0 – 23 months) and their mothers for TT /Td

Health facility: _____ Date of questionnaire: _____

Response	Place tally marks here		Total	
A. Tally the number of households visited				
B. Immunization status:	Tally children (c)	Tally mothers (m)	(c)	(m)
Not immunized				
Partially immunized				
Adequately or fully immunized				
C. Child name	Reasons given for being partially or not immunized			
1.				
2.				
3.				
4.				
5.				
C. Mother's name	Reasons given for being partially or not immunized with TT/Td			
1.				
2.				
3.				
4.				
5.				
D. Suggestions for improvement				
1.				
2.				
3.				

Annex 2: Worked examples

Worked example Table 1: Data analysis (Step 1)

Area name	Compile population, immunization coverage cata in the previous * 2 months									Analyse problem							Prioritize area
	Target population figures	Doses of vaccine administered			Immunization coverage(%)					Unimmunized		Drop out rates (%)		Identify problems		Categorize the problem	
	<1 year	Penta 1	Penta 3	Msl	TT2+ /Td	Penta 1	Penta 3	Msl	TT2+ /Td	Penta 3	Msl	Penta1 to Penta3	Penta1 to Msl	Access	Utilisation	Category 1, 2, 3, 4	Priority 1, 2, 3, 4, 5...
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
Mawa	50	36	32	30	27	72%	64%	60%	64%	18	20	11%	17%	Good	Pcor	4	2
Thana	43	29	27	28	29	67%	63%	65%	67%	16	15	7%	3%	Poor	Gcod	3	3
Mitha	80	60	56	55	43	75%	70%	69%	64%	24	25	7%	8%	Poor	Gcod	3	1

Worked example Table 4: Session plan

Village/ward	Total population	Target population	Session type	Injections per year	Injections per month	Estimated sessions per month	Actual planned sessions per month	Other child survival interventions planned?	Hard-to-reach area/population
		(2.33% of total population for this exercise)	(Fixed/ Outreach/ Mobile)	(Target population x 10)	(Injections per year divided by 12)	Fixed ≥ 80 injections per session, or Outreach ≥ 40 injections per session	Based on judgement		
I	II	III	IV	V	VI	VII	VIII	IX	X
Sgurr	1,840	43	Outreach	430	36	0.9	(1) once every month		
Monadh	2,156	50	Outreach	500	42	1.0	(1) once every month		
Borrowdale	3,590	84	Outreach	840	70	1.8	(2) once every two weeks		
Gairloch	3,411	80	Outreach	800	67	1.7	(1) once a month	Distribution of bednets when available	Yes
Fort William Health centre	10,234	239	Fixed at health facility	2,390	199	2.5	(4) once every week		

Worked example Table 5: Problem solving using the RED strategy

RED component	Examples of problems	Examples of solutions with limited resources	Examples of solutions needing resources and assistance from district
Re-establishment of outreach services	Some planned outreach sessions are not held. Poor attendance at outreach sessions.	Monitor the implementation of the workplan. If any session is not held, record the reason and try to repeat later. Involve the community in planning the type and dates of sessions. Inform in advance of the sessions.	Additional transport (motorcycle required).
Supportive supervision	Supervision of health facility not conducted regularly.	In the next monthly report request regular supervisory visits and a copy of the district supervisory schedule.	District to update district supervisory plan and send out schedule of visits.
Community links with service delivery	The local community is not involved in identification and tracking of newborns and defaulters.	Identify people in the community who can assist at immunization sessions and help with defaulter tracking and reporting births.	District staff to make joint visit with health facility staff to encourage the community.
Monitoring and use of data for action	Health facility not using monitoring chart.	Make a monitoring chart on a piece of paper in the health facility.	Request printed monitoring charts to be distributed to every health facility.
Planning and management of resources	Vaccine and AD syringe stock-outs last quarter.	Keep a careful stock record system in the health facility. Report stock levels in monthly report and request supplies when levels are low.	Monitor health facility stock levels using monthly reports and supervisory visits, take action on health facility reports.

Annex 3: Special considerations for health facilities serving the hard-to-reach

Common Problems

- The population data are inaccurate (especially for urban slums).
- Maps are out of date and do not show newly settled rural areas and slum urban areas.
- Some communities are reluctant to use health facilities.

Proposed solutions to reach the hard-to-reach

1. *Map the hard-to-reach areas*

- Mark the hard-to-reach rural or urban areas on the map of the catchment area of the health centre by colouring them red.

2. *Estimate the population of the hard-to-reach areas*

- Review results of previous polio or measles campaigns in the area to get a better idea of the population under 5 years of age.
- Meet the residents of the areas and ask for their help in counting the number of families in the area to determine the population size.
- If the populations are highly mobile, meet with the residents regularly to revise the population estimates.

3. *Plan to improve access to immunization*

- Decide what changes are needed to improve access and utilization:
 - Are more fixed sessions needed?
 - Are more outreach sessions needed?
- Meet with the community to discuss the frequency and timing of services and the location of outreach sites.
 - If available, invite local NGOs to participate.
- Make sure all communities know the dates and times of sessions.
- Ensure a regular service to gain the trust of the community.

4. *Decide what other interventions can be added to sessions*

- If available, consider whether other needed interventions, such as malaria bednets, anthelmintic medicines, nutritional supplements, etc. can be added to the sessions for hard-to-reach populations.

5. *Monitor and follow up*

- Review monthly results to determine whether all communities are being reached.
- Communicate regularly with communities to discuss results and encourage defaulters to attend.

6. *Report*

- Include a report of achievements in reaching the urban hard-to-reach in monthly reports to district level and request extra resources if needed.

Annex 4: Planning to reach high-risk urban areas

Preparing a map for urban immunization

Key point : *The purpose of urban immunization mapping is to identify and quantify populations in high-risk urban areas.*

In densely populated cities, many children are not immunized for a variety of reasons, and are therefore at high risk. Often the areas where missed children live are depressed areas of the urban poor that do not appear on a map, the areas may not even have street names, and the size of the population may be unknown. The map that you will prepare will identify these areas and provide an approximate population estimate that can be used to deliver services to the areas.

How to develop a Detailed Urban Map

a. Find a suitable map as a starting point.

- A city street map will do if the scale is large enough.
- If a detailed map is not available, you can draw map of the area by hand. *Google Earth has useful maps that can be used as a starting point for making urban maps.*
- School teachers often have much local knowledge and can help with maps and planning too.
- Use maps that are available for polio and measles campaign planning.

Whatever the source of the map, you must show the location of houses, and type of housing (formal housing, squatter areas, etc.) street by street.

b. Mark the following on the map:

- health facilities and sites used for health purposes;
- boundaries of the catchment area of the health facility (this will clarify who is responsible for which area);
- roads with their names;
- other landmarks, such as schools, government buildings, mosques, churches etc.;
- time it would take to reach the health facility from various points on the map (walking/public transport).

c. Using your local knowledge colour the high-risk areas on the map:

- Name the high-risk areas and colour them in red, including densely urbanized or depressed areas, areas with families living in makeshift houses, in places without street names, or unpaved streets, homeless, mobile, transients, others you believe are high risk.
- Use a different colour or no shading for other areas that are not at high risk. This will include middle class, formal housing.

Special planning issues for reaching the urban poor

Key point: *Urban areas, like rural areas, need regular, reliable, high quality services at accessible delivery points. Fixed sites may not be adequate and urban outreach through temporary sites must be considered.*

Identify the many barriers to high coverage among the urban poor, and develop session plans and workplans to overcome them:

- poor primary health care infrastructure in some urban areas;
- high mobility of the resident population in and out of the city;
- high cost of transport to health facilities for fixed site services;
- the existence of “illegal” settlements that are not officially recognized by the government;
- the existence of marginalized populations (religious or ethnic minorities, refugees);
- absence of information on the size of the population living in “slum” areas;
- inadequate government planning and budget to provide primary health care services to these areas.

Strategies for reaching the urban poor

Step 1: Session planning

Use the urban map with population marked on it to make an immunization session plan and workplan as described in steps 4 and 6.

- Decide how the session plan can improve access and utilization:
 - More fixed sites?
 - More outreach sites?
 - More frequent sessions? Or perhaps less sessions to be more efficient with resources.
- Plan location of sites, frequency, and timing of service, to suit the local population.
 - Discuss alternatives for times and dates of sessions with the community.
 - Ensure a regular uninterrupted service to gain the trust and cooperation of the community. Keep to the agreed schedule of sessions.
 - Negotiate local support from the community to help run sessions, set up a temporary site etc.
- Decide what other activities should be added to the workplan:
 - follow up of defaulters
 - advocacy for immunization
 - increase of vaccine, and other supplies
 - adding other interventions.
- Involve other sectors in urban service delivery:
 - dispensaries, clinics and hospitals in the public sector
 - NGOs engaged in providing health care in urban areas
 - any private practitioner willing and able to be part of this network.

- Communicate through health workers, NGOs active in the area, print media, television, radio about the following:
 - the timing of local immunization services
 - local service delivery points
 - the vaccines and schedule of immunization
 - the benefits of immunization.

Step 2: Monitoring the services

Once you have planned to improve the service to an urban slum you should monitor the service carefully by collating tally sheets from each session conducted for that area.

- Use the data you have collected to report back to the slum residents on progress or otherwise.
- Use the feedback as an advocacy tool to promote immunization.
- Report the results to higher levels to request extra resources, or better deployment of staff etc.

Step 3: Adapting to changing circumstances

Urban slum populations are very unstable, populations may suddenly increase or decrease according to economic and social circumstances in the area.

- The session plan and workplans for these areas will need to be flexible to adapt readily to the changes.
- Always involve the local slum leaders. Remember slums may appear chaotic because the populations are poor; nevertheless, they are likely to have a well organized social structure which can be very supportive for its own population.

Part 2: District microplanning

Step 1: Analyses of district level data to identify priority areas

Step 2: Making a map to show all health facilities and outreach sites

Step 3: Making a district workplan

Step 4: Making an estimate of resource requirements

Step 5: Conducting regular monitoring and review of progress

Step 6: Taking action based on a review of progress

Step 1: Analyses of district level data to identify priority areas

KEY POINT: *Do you know your district priority areas? District data analysis will help you indentify the priorities.*

As a first step in preparing the workplan, the district staff should analyse the reported data for a 12-month period provided by the health facilities in the district. In the same way described in the health facility guide, but using data received at the district level, the district should identify access and utilization problems according to each health facility, and calculate the number of immunized listing the order of priority according to the number of unimmunized infants as described in Table 1, Part 1.

The method is the same as the HF level, but will begin with a list of each HF in column 1 (area). You can adapt the table to various different antigens or drop-out measurements. Make sure the data are consistent with those that each HF is using. The final column will show a list of health facilities in order of priority of unimmunized infants. It is also useful to add data on reported measles and MNT cases to get a more complete understanding of district performance.

Step 2: Making a map to show all health facilities and outreach sites

KEY POINT: *Are the HF and district maps consistent? Make sure the district map covers all areas and communities.*

The district map should show:

- the entire catchment area of the district
- each HF and its catchment population
- roads, towns, villages and other features and landmarks
- if possible, use the data from Table 1 to show priority areas.

Step 1: Draw a simple map of your district. It does not have to be to scale, but it should contain all the important features of the district. Mark the following information on the map:

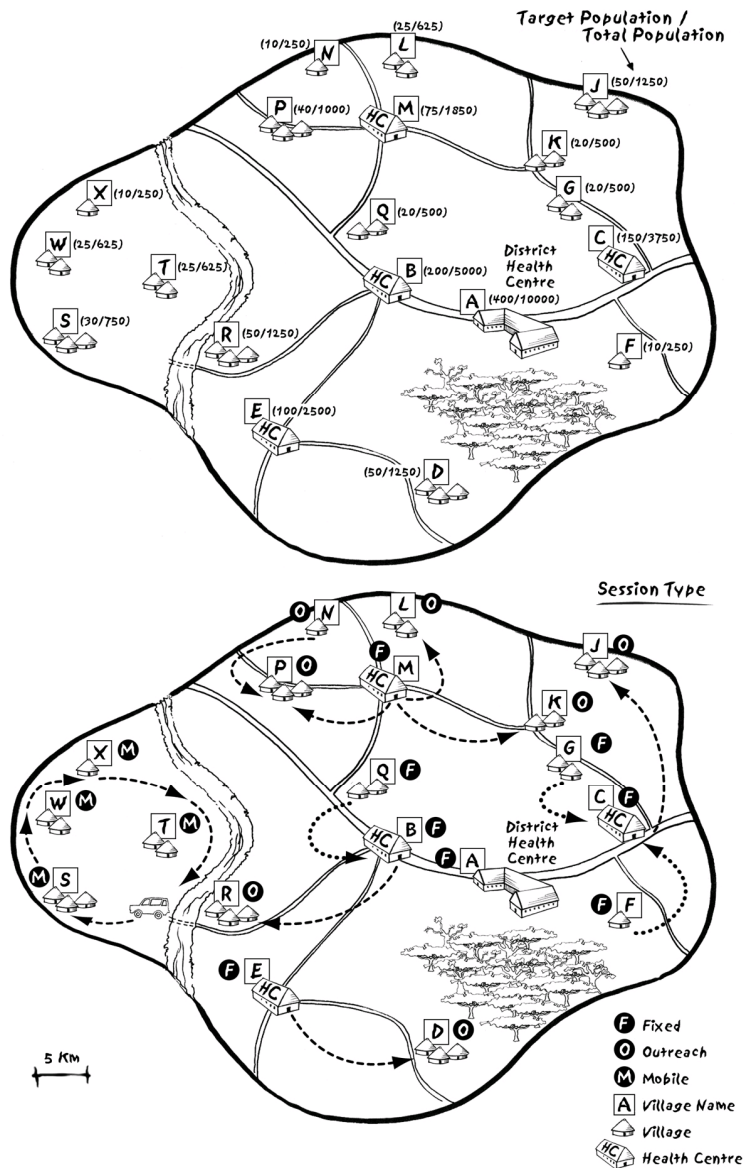
- each village, town and health facility
- the total population and target population of each village and town
- all known high risk or priority areas
- roads
- geographical landmarks (rivers, streams, mountains).

Step 2: Using the map and session plans of individual health facilities, include the type of session suitable for each village/town in your district (fixed, outreach, mobile).

On the map, mark what kind of session will be used to reach each village or town using the letters F (fixed), O (outreach), M (mobile). For outreach and mobile, use arrows to show how they will be reached. Figure 2 shows an example of a district map drawn in two stages for the purpose of this module. In real situations you will need one map that shows all the information together – populations, features and session types. Figure 2 shows a rural area. For an urban area, however, it is still useful to have a map showing population distribution and location of health facilities (an example is given in Part 1).

Figure 2 : Sample district map with all health facilities, villages/towns, their total population, target population, and session type

This example has been drawn in two stages, the first showing population and major features, the second showing session types needed to reach the population. In a real situation all the information should be displayed on one map.



Step 3: Making a district workplan

KEY POINT: *The district workplan should show all HF and district sessions and other district activities.*

The district workplan consists of two parts:

1. a calendar of events that includes all sessions carried out by health facilities in the district, which will help to schedule supervision and supplies throughout the district;
2. a district activity plan that contains a list of activities for which the district is responsible.

3.1 Make a district calendar of events (Table 7)

3.1.1 Consolidate all the health facility workplans into a calendar type format

Display all the sessions taking place in every HF in the district (see Table 7 for an example).

3.1.2 Indicate which sessions will need support from districts.

Review each health facility workplan and identify sessions for which district support is needed. These sessions can be marked or shaded in a different colour on the calendar of events. Provide as much detail and clarity as possible, including the name of the health facility requesting support, type of support, etc.

3.1.3 Add supervisory visits according to priority.

Add a schedule of supervisory visits to the calendar of events. Where possible, ensure that a supervisory visit is planned on a day when the health facility is holding a session. Ensure that priority districts receive sufficient supervisory visits. Table 7 shows supervisory visits marked with the letter 'S'.

3.1.4 Mark the day on which vaccine, safe-injection equipment and other supplies will be delivered each month to each health facility.

Using the calendar of events, mark the day of the month on which vaccine, safe-injection equipment and other supplies will be delivered to each health facility.

3.2 Make a district activity plan

3.2.1 List all the activities that the district is planning to do in the next quarter

Activities that are the responsibility of the district.

- List by health facility all problem-solving activities for hard-to-reach areas and problem areas for which district support is needed showing dates and persons responsible.
- List all district-wide activities, SIAs, meetings, trainings etc. showing dates and persons responsible.

Complete Table 8: District activity plan for one quarter.

1. In the first column list all health facilities.
2. In the next column write the activities for which district support is needed as identified by each HF:
 - Problem-solving activities for hard-to-reach and problem areas for which district support is needed (Table 3 of Part 1);
 - RED problem-solving activities for which additional district resources are needed (Table 5 of Part 1).
3. In the relevant month column write the date on which these activities will be carried out.
4. Under 'persons responsible' indicate who would be responsible at district level for doing this activity.
5. In the separate section below marked 'district level activities', list the district-wide activities (monthly meetings, training sessions, SIAs, campaigns etc.) which will be carried out, according to the date.
6. Indicate who is responsible for the district-wide activities.

Table 7: Sample calendar of events

JANUARY

Health Centre	Mon	Tues	1 Wed	2 Thu	3 Fri	4 Sat	5 Sun	6 Mon	7 Tue	8 Wed	9 Thu	10 Fri	11 Sat	12 Sun	13 Mon	14 Tue	15 Wed	16 Thu	17 Fri	18 Sat	19 Sun	20 Mon	21 Tue	22 Wed	23 Thu	24 Fri	25 Sat	26 Sun	27 Mon
M			Fixed M S														Outreach at K							Outreach at L S					
E			Fixed E		Outreach at D																								
C			Fixed C		Outreach at J												Fixed C												
B			Fixed B					Outreach at R S									Fixed B												
A			Fixed A							Fixed A	Mobile to S & W S	Mobile to T & X S					Fixed A							Fixed A					

New activities for January based on data analysis: **Supply** – Review stock recording system in all health centres | **Staff** – Organize training on AD syringes | **Service** – Meeting with community leader

FEBRUARY

Health Centre	3 Mon	4 Tue	5 Wed	6 Thu	7 Fri	8 Sat	9 Sun	10 Mon	11 Tue	12 Wed	13 Thu	14 Fri	15 Sat	16 Sun	17 Mon	18 Tue	19 Wed	20 Thu	21 Fri	22 Sat	23 Sun	24 Mon	25 Tue	26 Wed	27 Thu	28 Fri	29 Sat	30 Sun
M			Fixed M							Outreach at K S							Outreach at L							Outreach at P				
E			Fixed E S		Outreach at D S																							
C			Fixed C		Outreach at J												Fixed C S											
B	Outreach at R		Fixed B														Fixed B											
A			Fixed A							Fixed A							Fixed A							Fixed A S				

New activities for February based on data analysis: **Supply** – Review cold chain management system | **Staff** – | **Service** –

MARCH

Health Centre	3 Mon	4 Tue	5 Wed	6 Thu	7 Fri	8 Sat	9 Sun	10 Mon	11 Tue	12 Wed	13 Thu	14 Fri	15 Sat	16 Sun	17 Mon	18 Tue	19 Wed	20 Thu	21 Fri	22 Sat	23 Sun	24 Mon	25 Tue	26 Wed	27 Thu	28 Fri	29 Sat	30 Sun	31 Mon
M			Fixed M							Outreach at K							Outreach at L							Outreach at P S					
E			Fixed E		Outreach at D																								
C			Fixed C		Outreach at J S												Fixed C S												
B	Outreach at R		Fixed B														Fixed B												
A			Fixed A							Fixed A S							Fixed A							Fixed A					

Table 8: District activity plan for one quarter

[illegible]

Microplanning for Immunization Service Delivery Using the Reaching Every District (RED) Strategy

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Step 4: Making an estimate of resource requirements

KEY POINT: *The district budget has two parts:*

- *costs associated with conducting all sessions;*
- *running costs, maintenance costs, training, social mobilization and communication, programme management, etc.*

The district should prepare its budget based on the requirements of the health facility workplans, and other district level requirements. The following tables are an example only. Each country will have its own way of budgeting.

- Table 9:
 - sample sheet for preparing a budget to conduct outreach as well as routine activities;
 - sample sheet for running costs, etc.
- Table 10:
 - Checklist to decide whether all costs have been included in the district budget. The funds available to the district may not be sufficient for all activities, and so decisions should be made on prioritizing activities, especially for the unreached.

Points to consider

1. Review last year's budget and determine if the money and other resources requested were sufficient and received on time.
2. Were there problems in the flow of funds to the district level or within the district, and if so, how can the situation be improved?
3. Compared to last year, what new activities have been included (e.g. more outreach sessions) for which extra money would be required?
4. Can resources for immunization be mobilized locally (e.g. local partners might provide outreach transport or gas for a refrigerator)?
5. Can certain tasks be done more efficiently to save resources (e.g. combining distribution of vaccines with review visits or training)?
6. How to advocate for extra money at provincial or national level?
7. District inputs and other facility inputs for mobile team sessions.

Table 9: Sample sheet for preparing a district budget for a quarter (three months)**District Budget**

Health centre/villages	Target number of sessions per year	Manpower	Transport		
		Staff outreach per diem (1 staff per session x number of sessions x per diem)	Car fuel	Motorcycle fuel	Bus allowance (number of sessions x 1 staff x average bus fare)
Outreach					
TOTAL					
Mobile					
GRAND TOTAL					

Health centre	Maintenance			Training		Social mobilization and communication			Programme management		
	Cold-chain running costs	Buildings	Cars and motorcycles, cycles	For routine services	For campaigns	Meetings with the community	Purchase of public address systems	Printing of posters, booklets	Review meetings every month	Computers and stationery	Feedback (monthly newsletters)
TOTAL											

It is assumed that vaccines, syringes and safety boxes, as well as cars and motorcycles, are procured and budgeted for at provincial or national level.

Table 10: Budgeting checklist for a quarter (three months)

Budgeting Checklist	
Cost category	
Routine recurrent cost	
Personnel	
Per diems for outreach and mobile team vaccinators and volunteers	
Per diems for supervision and monitoring	
Transportation	
Fixed site and vaccine delivery	
Outreach activities	
Supervision	
Maintenance and overheads	
Cold-chain maintenance and running costs	
Maintenance of other capital equipment	
Buildings' overheads (electricity, water, etc.)	
Training	
Social mobilization and communication	
Programme management	
Other routine recurrent costs	
Routine capital cost	
Cold-chain equipment (e.g. refrigerator, cold box or vaccine carrier)	
Other capital equipment (e.g. computers)	
Campaigns operational costs	
Polio	
Measles	
Yellow fever	
MNT campaigns	
Other campaigns	

Step 5: Conducting regular monitoring and review of progress

KEY POINT: *Conduct regular monitoring and review of progress by using:*

- *monthly reports*
- *monitoring charts*
- *quarterly reviews*
- *supportive supervisory visits.*

(a) Monthly reports (See Part 1, Step 10). Monthly reports are received from all health facilities and compiled at the district level. These reports provide much information that can be used by the district to take programmatic action (e.g. response to outbreaks, scheduling sessions in villages where sessions were missed, etc.). District monthly meetings can be used to review the data provided by each health facility. Reporting completeness and timeliness can be monitored as shown in Table 11.

(b) Quarterly review of workplan. A quarterly review is a meeting between district and HF staff that takes place once every three months (every quarter) to discuss what went right and what went wrong, and how to take action to solve problems. Its outcome should be an update and revision of the district activity plan.

Process of quarterly review.

- Schedule quarterly meetings in advance.
- Health facility staff should bring their session plans, workplans, monitoring charts, and a list of the sessions that could not be held as planned with reasons for not holding these sessions.
- Review performance as displayed on the monitoring charts of each HF:
 - a) discuss access, dropouts and session completeness;
 - b) discuss additional problems faced (e.g. vaccine shortages, cold-chain issues, or mobility constraints).
- Review session plans and workplans. Check if the current sessions are adequate in number and sufficiently utilized by the community, and revise these if necessary to improve efficiency.
- Discuss other corrective action needed, according to the type of problem and knowledge of the service delivery area. The responsibilities for carrying out each activity should be clear, and added to the health facility and district workplans for the next three months.
- Discuss how the quality of the sessions can be improved, together with better communication, improved safety, waste disposal, etc.
- Agree on a revised set of priorities for the district.
- Revise the schedule of supportive supervisory visits according to the new priorities.

(c) Supportive supervisory visits. These are a means of monitoring the work in the field, providing on-the-job training, and taking notes for future discussion at review meetings.

(d) Ensuring data quality. Some of the following simple methods help to ensure good data quality. This review can be conducted during the quarterly review meeting mentioned above.

1. Is the numerator correct? Are all doses of vaccine administered and all vaccine-preventable disease (VPD) cases being reported? A good place to start checking is for completeness of reporting from the health facilities, for instance have full reports been received from all health facilities? A simple tool with the list of health facilities in the left-hand column and the months in the top row will help to keep track of this.

Table 11: Table to track completeness and timeliness of reporting

Month \ Health facility	1	2	3	4	5	6	7	8	9	10	11	12	Total
A	√												
B		√											
C	√	√											
D	√	√											
E	√												

Note: This table shows that the January report from HF 'B' and February reports from HFs 'A' and 'E' have not yet been received.

2. Is the denominator correct? Are all children and mothers residing in the catchment area included in the health facility register? Do you have an accurate estimate of the total population living in your area? In the absence of accurate population estimates, the coverage and other 'rates' are likely to be exaggerated (estimate too high) or underestimated (estimate too low).
3. Are the data consistent? Check and see if the data at the health facility and district levels are the same for a given village/area. If the data are consistent, it should be the same at all levels.
4. Are the calculations correct? Always double-check the additions, divisions and other arithmetical functions to eliminate any errors. Have the number of 'tally marks' been correctly transferred to the summary form?
5. Check the tally sheets randomly. Have all tally marks been counted and correctly noted in the summary?
6. Check the infant and maternal TT/Td registers. Are they updated? Are the numbers on record consistent with the population estimate?
7. Conduct a simple household questionnaire in a village or urban area to validate coverage rates (See Part 1, Annex 1).

Step 6: Taking action based on a review of progress

KEY POINT: *Use the review of progress to take action and solve problems.*

All the monitoring and review activities listed above can lead to short- or long-term corrective action. Here are some examples of data that can lead to corrective action:

Example 1: High reported measles vaccination coverage and high numbers of reported measles cases.

This could indicate:

- overall high coverage with vaccines but the existence of pockets of unreached children where disease continues to occur;
- lack of accuracy of reported coverage data which could be due to errors in counting the number of doses given or inaccurate population estimates;
- lack of training of health facility staff to recognize cases of VPDs or over-reporting of VPDs due to inaccurate diagnosis.

Example 2: Low reported measles vaccination coverage and low numbers of measles cases.

This could indicate:

- lack of training of health facility staff to recognize cases of VPDs and under-reporting of VPDs due to missing the diagnosis;
- the existence of large areas of unreached children with no services and no data on VPDs;
- missing monthly reports from HFs;
- lack of accuracy of reported coverage data which could be due to inaccurate population estimates.

Based on the conclusions drawn from analysis of the data, long- and short-term activities may need to be planned and implemented.

Short term:

- visit and support poor performing areas;
- adjust workplan in consultation with HF;
- investigate outbreaks and adverse events following immunization (AEFI);
- assist with reporting problems;
- respond to stock out report from a HF;
- train health workers in identified weak areas.

Long term:

- expand outreach services and budget accordingly;
- changes in vaccine distribution plans and schedule;
- cold-chain rehabilitation;
- carry out census in the catchment area to quantify the denominator;
- increase social mobilization to improve community acceptance of immunization programmes, etc.;
- establish community-based newborn and defaulter tracking systems;
- organize mobile teams and delivery of other interventions with immunization.

Any change in the session plan (frequency, change of date or location) should be done in consultation with the community, and mothers should be informed well in advance about the changes.

Part 3: Microplanning FAQs

FAQs: Conducting a data analysis

1. What target population data should I use?

The infant target population may range from 2% to 4% of the total population, but this will vary from country to country and from district to district. Compare population figures from different sources, such as national census, head count, NGO estimates, polio, measles, and supplemental immunization activities (SIA) results, and discuss which one is most accurate. Always look at the records from past national immunization days (NIDs) and other SIAs. The tally sheets and reports from SIAs often list the total number of children under five reached by village for each round. Dividing this total by five will give an approximate number for the infant population, i.e. your target population.

2. What drop-out calculation should I use?

For consistency, Penta1 minus Penta3 is often used. However, other calculations such as BCG minus measles coverage can be useful. Penta3 to measles can also be useful as a drop-out measure in some countries, and it suggests special efforts to remind parents to return for measles vaccine.

3. What criteria should be used to prioritize villages?

The areas with the highest number of unimmunized infants must be given high priority. This is the simplest way to make a priority list and that is why it is used for Table 1. However, certain other factors should also be considered, such as areas that are never reached, areas with high disease incidence, or factors such as feasibility, all of which require local knowledge to decide on priority. In Table 3 these other factors can be incorporated.

FAQs: Preparing a map

1. What is the purpose of preparing a map?

A map helps to visually represent the area served by the health facility. It also helps in identifying the unreached populations. You can use a map to decide the appropriate delivery strategy (fixed, outreach or mobile) to reach every infant and pregnant woman in the catchment area.

2. I am not an expert in drawing, so how can I draw a map of my catchment area?

You do not need to draw a perfectly accurate map. A rough map of your catchment area will do. You can use an official map as a starting point. However, there may already be good maps in use for polio eradication or other programmes. Look for these first, and decide how they can be modified for the purpose of routine immunization microplanning.

3. How do I decide the immunization strategy relevant for each area?

Distance and time are often the main criteria for deciding the immunization delivery strategy. Other factors such as population size of communities, number of available staff, available budget, road conditions, and social and economic condition of the target population, play an important role in deciding the delivery strategy. For example, in urban settings the slums may not be very far from the health facility, but outreach may be required as parents may be too busy to bring their infants to the health facility.

FAQs: Preparing a session plan

1. What is the purpose of a session plan?

A session plan determines the appropriate number and type of immunization sessions needed to cover every area of the target population. In this guide, session delivery strategies are classified as fixed, outreach or mobile team. Individual health facility session plans can be combined into a district session plan, this will enable the district to plan for the resources needed, and to make a supervision plan.

2. What is the difference between a session plan and a workplan?

A session plan is based upon an estimate of the workload and details the number of sessions, and therefore days or visits, needed to serve the entire target population. A workplan states when, where and by whom the planned sessions will be held, and also contains other immunization-related activities planned by the health facility (e.g. community visits, training, etc.). Using the session plan as a basis, a workplan details how the session plan will be implemented.

3. Our health facilities offer immunization sessions every day, so why do we need to prepare a session plan?

A session plan will help you decide whether having immunization sessions every day is the most efficient use of time and resources. It will also help you decide whether there needs to be a different balance of fixed and outreach sessions. By going through the calculations needed for the session plan, you can decide on the most efficient use of your time and resources. For example, it may be more efficient to perform other activities (such as outreach, following up defaulters, etc.) rather than holding a session everyday.

4. I conduct sessions based on a session plan, but some sessions have poor attendance. What should I do?

A session plan is based on the target population and expected workload. So, if there is poor attendance the first thing to do is understand why. You should discuss the possible reasons for poor attendance with the community. It may be possible to adjust the session times and locations, or there may be other reasons that need to be addressed.

5. Even though I hold sessions according to my plan, parents complain that they have to wait for a very long time.

If parents have to wait for a long time to get their children immunized, they may not return for immunization. First you should think why this occurs. Do staff arrive late? Are there enough staff for the session? Are there unexpectedly large numbers of infants and pregnant women. Then think of possible solutions that can be included in the session plan and workplan. Maybe it is possible to increase the number of sessions. Can you get extra help on immunization days? Can waiting be made comfortable for the parents? Is the outreach setting and immunization table set so as to make it easy for the health workers to give immunization easily and quickly?

6. How can I plan to integrate with other interventions?

Normally the decision on which interventions will be integrated with immunization is taken at national or sub-national level. However, the district and health facility staff can plan how other interventions will be delivered. Logistics and supply planning will depend on the type of intervention, and its availability. You may begin by considering what is needed, for example malaria bednets, deworming tablets, nutritional supplements, all of which are usually available at district level. Then you should make sure the supplies are available at the health facility level, and who will be responsible for their delivery.

FAQs: Using the RED strategy

1. What is the RED strategy?

(see also the Introduction).

The RED strategy was developed and introduced in 2002 by WHO, UNICEF and other partners to help improve immunization systems. The RED strategy provides five operational components to be included in district and health facility microplans:

- re-establishment of outreach services
- supportive supervision
- community links with service delivery
- monitoring and use of data for action
- planning and management of resources.

The RED strategy is a strategy to guide immunization programmes, not a separate initiative or programme.

2. The RED strategy is a useful list, but how should it be used?

In this guide we present the RED strategy as a framework to guide problem-solving, which a health facility and district can use to decide for themselves what activities they need to improve their immunization service. You can use the RED problem-solving framework as a kind of checklist, to make sure the microplan includes all the activities that are needed. For

example, microplans often overlook activities to involve the local community. By using the RED strategy as a framework, you will be reminded to consider existing community links, and think how the situation can be improved.

3. How can we monitor the use of the RED strategy?

It is not essential to monitor the use of the RED strategy *itself*, but it is essential to monitor the *various activities in the microplan*. For example, if you intend to re-establish and improve outreach services, then you should be able to measure progress by reporting on the frequency of fixed and outreach sessions in the monthly report. The same applies for all five components of the RED strategy. The information you provide in your monthly report, for example, community meetings held, supervisory visits made, follow up of defaulters, will show how the RED strategy is being implemented.

FAQs: Preparing a workplan.

1. What should I do if I have a heavy workload and not enough time to perform activities planned on the workplan?

Always start by deciding on priorities. If a specific area or activity is high priority, try to make sure the activity takes place on time. If a heavy workload makes it difficult to implement an activity, request assistance from the district level. You should discuss your difficulties with supervisors and include comments in the monthly report.

2. What should I do if there are any small villages in my catchment area that I think I will not be able to cover?

When discussing your workplan with the district, consider if you can visit smaller villages in the vicinity of larger ones in one trip, and on the same day. Alternatively, try to cover several smaller villages on the same day. Discuss also with district staff the possibility of district support to cover these