

and can vary with the season. Experienced staff can often provide useful advice.

Transportation

Transportation for primary health-care programmes can include bicycles, motor-bikes, boats, buses and cars. Most programmes need transportation to carry out daily activities. In some programmes, public transportation is used for certain activities, and staff need money for fares. When estimating transportation needs consider:

- Distances (Cars are needed for long distances.)
- Availability of public transportation, the schedule and cost
- Condition of roads (If roads are in poor condition, or non-existent, motor-bikes might be more useful.)
- Amount of travel (How many staff need to travel regularly? How many staff can share vehicles?)
- Renting vehicles (Renting can be cheaper if the vehicles are not needed all the time.)
- Sharing vehicles between programmes to reduce costs

Transportation costs need to include estimates of:

- *fuel – usually estimated as a cost per kilometre driven*
- *maintenance – critical for ensuring that vehicles continue to work.*

6.3.4 Estimating costs of particular events

A budget is also needed for planned meetings, training courses, community events, and other special activities such as adaptation and dissemination of guidelines.

6.3.5 Estimating costs of material resources and special activities

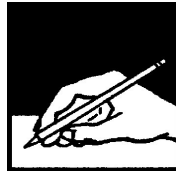
To estimate total costs, first determine the price of each material resource. Sources of prices include:

- Price lists from government supply agencies and/or the MOH (especially relevant if you purchase goods from central level)
- Prices in local shops when you are able to purchase locally
- Prices for medicines and other equipment from national formularies
- Essential medicine lists and in-house purchasing catalogues
- Catalogues from suppliers
- Costs of similar goods purchased recently
- Estimates by suppliers in response to invitation to tender.

The total cost is calculated by multiplying the unit price for each item by the number of items needed. The costs of material resources will appear in the overall budget.

When calculating the total budget for material resources, remember to include costs for:

- *maintenance of equipment and buildings*
- *fuel for transportation*
- *storage and distribution of medicines and other supplies.*



EXERCISE L – Estimate resource needs

In this exercise you will estimate resource needs including:

Part 1: Human resource needs for a district health centre

Part 2: Medicine needs and costs for treating pneumonia with standard case management in first-level health facilities in a region.

Part 1: Estimate human resource needs for a district health centre

The programme manager of the Coastal Region of Integratia is visiting a district-level health centre. She wants to estimate the staff needed for child health services. She talks to the facility manager and to health workers. They all say that more staff are needed. She collects information on the number of staff available now, and on case-load. She asks staff to estimate how long it takes to see different cases. At the end of her visit, she decides that no more staff are needed.

Do you agree with her? Use the data below and make your own analysis of whether additional staff are needed.

Current staff	Current roles
Nurses – 3	Sick child care (IMCI), deliveries, postnatal care for mothers and newborns, sick adult care
Health assistants – 1	Vaccinations, well-child screening, antenatal care
Pharmacist – 1	Medicine management and dispensing
Records manager – 1	Maintains records, manages finances, completes routine reports

Average number of cases per day (last 12 months):

Sick adults – 10	Sick children – 20
Well-child screening – 5	Vaccinations – 10
Antenatal visits – 5	Deliveries – 1
Postnatal care – 3	

Clinic sessions: 0800–1400 (6 hours)

Estimated time required to see each patient:

Sick adults – 20 minutes	Sick children – 30 minutes (using IMCI with counselling)
Well-child screening – 15 minutes	Vaccinations – 10 minutes
Antenatal visit – 15 minutes	Deliveries – variable (3 hours)
Postnatal care – 30 minutes	

1. Use the information on the previous page to complete the estimation of time needed to see patients below:

<p>Average total time required per day to see patients:</p> <p>sick child care = _____</p> <p>well-child screening = _____</p> <p>vaccinations = _____</p> <p>antenatal visits = _____</p> <p>postnatal care = _____</p> <p>deliveries = _____</p> <p>care of sick adults = _____</p> <p>Total time that must be spent by nurses to see the case-load = _____</p> <p>Total time that must be spent by health assistant to see the case-load = _____</p> <p>Total time available: 3 nurses in a 6 hour session = _____</p> <p>Total time available: 1 health assistant in a 6 hour session = _____</p>

2. Do you think more staff are needed at this district health centre, or not?

3. Did your answer above consider that the nurses may have duties and responsibilities beyond seeing patients?

They must supervise the health assistant, coordinate with the pharmacist, and do several other things. List below some of the additional responsibilities that may occupy their time:

-
-
-
-
-
-
-
-
-

4. What is your conclusion about whether additional staff are needed? Do you agree with the manager of the Coastal Region? Why or why not?

Part 2: Estimate medicine needs and costs for treating pneumonia with standard case management at first-level health facilities

In this part, you will estimate the amount of co-trimoxazole needed in the region to treat childhood pneumonia at first-level health facilities with standard case management and estimate the cost.¹⁰ Use the following information to complete the worksheet for Integratia.

Read the following information:

- It is the end of 2007. The manager of child health in the Coastal Region of Integratia is estimating medicine needs so that she can inform the essential medicines programme.
- The population of the Coastal Region of Integratia is about 5 000 000. About 15% of the population is under 5 years of age.
- There is no information on the incidence rate for pneumonia in Integratia, so the manager will use the global incidence rate for childhood pneumonia which is 0.26 episodes per child under age 5 per year.¹¹
- The coverage target set by the national level is:
By 2010, 70% of children under 5 with pneumonia will receive an oral antibiotic
- The child health manager set a target for 2008 for the Coastal Region:
50% of the population will have access to standard case management for pneumonia at health facilities and referral facilities and will come when the child is sick with ARI.
- Using the global estimates of the incidence of severe pneumonia and the medicine policies and guidelines of the child health programme, the child health manager decided that:

¹⁰ This exercise and worksheet does not include costs of management of severe cases as inpatients or management of pneumonia cases in the community. The WHO cost-estimation tool for child health includes a format that includes these costs in addition to those for treating pneumonia at first-level facilities. It is shown in Annex E.

¹¹ Global incidence rate for pneumonia (total) = 0.26 episodes per child-year (about 156 million new cases per year). Global incidence rate for pneumonia (severe) is about 8.7%. (7-13% of the total number of cases are estimated to be severe pneumonia.) References:

Rudan I, Tomaskovic L, Boschi-Pinto C, Campbell H; WHO Child Health Epidemiology Reference Group. Global estimate of the incidence of clinical pneumonia among children under five years of age. *Bulletin of the World Health Organization* 2004; 82:895-903.

Rudan I, Boschi-Pinto C, Bologlav Z, Mulholland KE, Campbell H. The Epidemiology and aetiology of childhood pneumonia. *Bulletin of the World Health Organization* 2008; 86:408-16.

0.91 of all cases of pneumonia would be uncomplicated pneumonia that could be managed at first-level health facilities with oral antibiotics according to standard case management.

- The cost per tablet of co-trimoxazole in Integratia is \$0.025

Refer to the information above as needed to complete the worksheet on the next page.

WORKSHEET: Estimating Medicine Needs and Costs for Treating Pneumonia at First-level Health Facilities

A. ESTIMATE THE NUMBER OF CHILDHOOD PNEUMONIA CASES (UNCOMPLICATED) THAT CAN BE TREATED WITH STANDARD CASE MANAGEMENT AT FIRST-LEVEL HEALTH FACILITIES

A-1 Estimate the number of children under 5 years of age in the region

$$\frac{\text{population of the region}}{\text{population of the region}} \times \frac{\text{proportion of the population under 5}}{\text{proportion of the population under 5}} = \frac{\text{number of children under 5 in the region}}{\text{number of children under 5 in the region}}$$

A-2 Estimate the expected cases of childhood pneumonia per year

$$\frac{\text{number of children in the region}}{\text{number of children in the region}} \times \frac{\text{incidence of pneumonia in children}}{\text{incidence of pneumonia in children}} = \frac{\text{number of childhood pneumonia cases per year}}{\text{number of childhood pneumonia cases per year}}$$

A-3 Estimate the number of childhood pneumonia cases who will have access and will come for treatment

$$\frac{\text{number of childhood pneumonia cases per year}}{\text{number of childhood pneumonia cases per year}} \times \frac{\text{proportion of all child pneumonia cases who will have access and will come for treatment}}{\text{proportion of all child pneumonia cases who will have access and will come for treatment}} = \frac{\text{number of childhood pneumonia cases who will have access and will come for treatment}}{\text{number of childhood pneumonia cases who will have access and will come for treatment}}$$

A-4 Of the childhood pneumonia cases who will come for treatment, estimate the number that will be given **standard case management of pneumonia at first-level health facilities**

$$\frac{\text{number of childhood pneumonia cases who will come for treatment}}{\text{number of childhood pneumonia cases who will come for treatment}} \times \frac{\text{proportion of cases that could be treated with standard case management for pneumonia at first-level health facilities}}{\text{proportion of cases that could be treated with standard case management for pneumonia at first-level health facilities}} = \frac{\text{number of cases to be given standard case management of pneumonia at first-level health facilities}}{\text{number of cases to be given standard case management of pneumonia at first-level health facilities}}$$

B. ESTIMATE QUANTITIES OF MEDICINES NEEDED FOR TREATING CHILD PNEUMONIA CASES WITH STANDARD CASE MANAGEMENT AT FIRST-LEVEL HEALTH FACILITIES

For cases (aged 2 months to 5 years) to be given standard case management of pneumonia, plan to provide co-trimoxazole, in paediatric tablets. The average dose for children 10–14 kg is 4 tablets (20 mg trimethoprim + 100 mg sulfamethoxazole) per day for 5 days, or 20 tablets per case.

$$\frac{\text{number of child pneumonia cases to be given standard case management at first-level health facilities}}{\text{}} \times 20 \text{ tablets per case} = \frac{\text{tablets of co-trimoxazole}}{\text{}}$$

C. ESTIMATE QUANTITY OF MEDICINES TO ORDER AND COST

In column b, enter the required amount of medicine estimated in section B. Multiply by 0.50 to estimate the additional amount for reserve stock (for times of unforeseen use such as during epidemics and logistics breakdowns) plus an amount for wastage (due to improper storage or transport, spoilage, etc.) Record the result in column c. Record the sum of b + c in column d. Record the cost per tablet in column e. Multiply d x e to determine the total cost.

a Medicine	b Estimated amount to treat cases	c Proportion added for reserve (25%) and wastage (25%) (b x 0.5)	d Amount to order (b + c)	e Cost per vial/tablet	f Total cost (d x e)
Co-trimoxazole paediatric tablets					

Cost of medicines to treat children with standard case management for pneumonia at first-level health facilities: \$ _____

When you have completed this exercise, discuss your work with a facilitator.

6.3.6 Develop the budget

The budget is the framework for planning how to spend funds. In most settings, budgets are allocated using historic estimates, that is, the same amount as last year is allocated plus a certain percentage increase (e.g. 5%). However, in order to have sufficient funds available to implement planned activities and to achieve targets, a needs-based budgeting approach is more useful. This entails a bottom-up calculation of resource needs based on planned activities. A financing strategy based on a needs-based budget ensures that enough money is available to support the planned activities.

Budgeting includes calculating the amount of funding required, tracking how it is spent, and accounting for having spent it. The budget should be closely linked to the implementation plan. Each task and activity in the plan should have a cost allocated to it.

Budgets should include:

- A budget timeline. The length of the budget period (long-term, short-term) is determined by regulations from the Ministry of Finance or other government institutions at the national or sub-national levels. Budgets usually have to be submitted to a finance department (or other relevant unit) for approval. It is important that budgets are submitted before deadlines.
- Ongoing staff and materials costs (which occur independently of specific activities). These include staff costs for routine services; infrastructure maintenance costs (electricity, heating, mailing, office supplies, telephone); and transportation costs including fuel and vehicle maintenance.
- Costs of activities specified in the implementation plan. A budget line can be attached to each activity, which might include staff, systems (medicines, materials, supplies, transportation), and training costs.
- Estimates of medicines and other supplies and their costs. Some data are based on past experience and estimates from suppliers. Others are supplied by other staff; these need to be checked for accuracy and relevance.
- A standard format. The MOH or other relevant department normally provides templates. An example budget summary template is shown on the next page.
- An estimate of inflation and an adjustment of budget estimates based on this figure. Estimates of inflation can often be obtained from the ministry of finance. It is also normal practice to incorporate a figure for contingencies/unforeseen expenditures.
- Financing sources. Estimating the funding needs is not enough. The programme also needs to identify sources of funds, to assess feasibility of the plans and to obtain the money.

Figure 36

Budget template

Time period _____

Type of cost	Unit	Unit cost	Quantity	Total cost	Financing source
Capital costs					
Infrastructure					
Vehicles					
Equipment					
Training (non-recurrent)					
Communication (non-recurrent)					
Sub-total capital costs					
Recurrent costs					
Personnel					
Medicines					
Other supplies					
Maintenance and operations – infrastructure					
Maintenance and operations – vehicles					
Maintenance and operations – equipment					
Training (recurrent)					
Communication (recurrent)					
Administrative expenses					
Utilities (electricity, water, etc.)					
Sub-total recurrent costs					
Contingencies (inflation/unforeseen expenses)					
Total costs					

Figure 37

Costing tools

One of the major barriers to achieving health objectives and targets is lack of funding. Opportunities for mobilization of resources are often missed when many programmes are not able to make the economic case for the required financial assistance. Different types of tools to provide financial information for child health have been developed and tested. These tools include:

- 1) *Cost projection tools* for projecting resource needs for delivering child health interventions. Sound estimates of costs are required to plan future resource needs and to advocate for additional resources.
- 2) *Expenditure tracking and budget analysis tools* for determining how much is *actually being spent* on health activities by government and donors, to determine whether funds are being used efficiently and according to priorities.
- 3) *Tools for costing and budgeting operational plans*. This is related to translating a strategic plan into an operational plan; defining what activities need to take place in what time frame and in what areas of the country; and assessing the funding needed and the financial resources available.

Some costing tools currently available for estimating resource needs for strategic and/or operational planning are listed below. An overview of costing tools can be found at:

<http://www.who.int/pmnch/topics/economics/costingtoolsbrochure.pdf>

- WHO cost-estimation tools: the Child Health Cost Estimation Tool (CHCET) for estimating incremental financial needs to scale up interventions to address the MDG4 (for 5-10 year strategic planning). The CHCET is linked to the Lives Saved Tool (LiST) which calculates the additional impact of interventions when coverage is increased. Implemented together, CHCET and LiST can help identify which combinations of interventions and delivery approaches are most likely to reach MDG4 and 5 at lowest cost.
- Marginal Budgeting for Bottlenecks (MBB) developed by World Bank and UNICEF – for estimating costs of overcoming barriers to implementing health and nutrition activities related to the MDGs, in order to improve coverage of interventions.
- The Integrated Healthcare Technology Package (iHTP) – for deciding on the mix of resources necessary to deliver a defined set of health interventions and to estimate the costs.
- Integrated Health Model – to assess the costs of health interventions and activities addressing the MDGs.
- Cost Revenue Analysis Tool Plus (CORE Plus) – Primary Health Care tool – to assist managers and planners to determine the costs of individual services and packages of services under different scenarios. The tool is for use at facility or district level.
- Comprehensive-Multi-Year-Plan Costing and Financing Tool (cMYP) for childhood immunization – developed jointly by WHO and UNICEF to make projections of future resource requirements and financing needs to achieve objectives of the national immunization programme, and to analyse the corresponding financing gaps and sustainability.
- HIV- and malaria-specific planning and costing tools.

The various tools take different approaches to costing, financing, budgeting, and identifying financial gaps. They require the user to enter information on demography, epidemiology, unit costs or prices, and health system information such as human resources available. While most of these tools have been used at the central level to help with strategic planning and policy development, there is a push to develop tools that can help with cost projection and budgeting at the lowest level, and therefore have a role in routine planning.

- More information on tools available can be obtained from the organizations developing them, that is, from WHO (www.who.int/cah), and from the Partnership for Maternal, Newborn, and Child Health (PMNCH) which has recently conducted a review of costing tools for the MDGs. <http://www.who.int/pmnch/topics/economics/costtoolsreviews/en/index.html>

The development of financial assessment tools is a dynamic process, with continuous revision and updating of older models as well as the invention of new useful tools.

6.4 Write the workplan and share it with stakeholders

The workplan specifies how the intervention packages will be implemented on the ground. It should describe the programme's activity-related targets, the activities and tasks to be carried out including supervision, the plans for monitoring implementation of activities and for conducting the next review of implementation status. The workplan timetable is used for tracking activities over time, and ensuring that they are implemented as planned. The detailed budget is used to track expenditures and to advocate for additional resources.

The core planning team is responsible for writing the final workplan. The team should decide on the final content of the plan. See Figure 38 for an example of the major headings. It is often more efficient to have one or two members do the writing.

When the workplan is completed, it is essential to share it with stakeholders. Just as it was important to involve stakeholders in the development of the implementation plan, it is important to have discussion of the workplan to obtain consensus on the way forward and commitments of support for the different activities. Disseminating the workplan is one step in mobilizing support and resources for implementation. Sharing the plan should harmonize effort and unite all behind ONE plan for achieving common goals.

Figure 38

EXAMPLE: Content of an implementation workplan

1. Overview (from the assessment of programme status)

- Programme goals and objectives
- Current status of coverage indicators as compared to targets
- Current status of activity-related indicators (related to availability, access, demand, quality of health services and knowledge of families)
- Summary of how well activities in the previous plan were implemented
- Summary of the assessment of the current programme, its strengths and weaknesses, and what is needed to reach targets.

2. Implementation plan (1-2 years)

- Programme goals and objectives; coverage targets set by higher levels
- Activity-related targets
- Activities for delivery of interventions/packages in the home and community, first-level health facilities, and referral facilities
- Tasks in each activity
- Types of resources needed
- Plan for monitoring implementation of activities
 - Plan for tracking whether activities are completed
 - Activity-related indicators: how, when, where and who will monitor them
 - Plan for summarizing, analysing, interpreting monitoring data, using it, and disseminating results from monitoring
- Plan for the next review of implementation status
 - Specific indicators to assess, methods to collect data, how data will be summarized
 - How the review will be conducted, and how results will be used
- How implementation will be scaled up
- How implementation will be shared with other groups or organizations
- Schedule for activities and timetable
- Budget



EXERCISE M – Review a workplan for a child health programme

In this exercise, you will review a workplan document from your own child health programme. Or, if this is not possible, your facilitator will give you one to review.

Review the document and answer the following questions. You may work with a colleague from your programme.

1. Are programme goals and objectives stated?

Are coverage targets included?

Are activity-related targets included?

2. Planned activities should contribute to one or more of the aims listed below. Note some activities in the plan that contribute to each of the aims below.

- increasing availability of services:

- increasing access to services:

- increasing demand:

- increasing quality of services:

- increasing knowledge of families and the community relevant to child health:

3. Is sufficient detail provided on activities planned?

4. Are the budget and timetable feasible and realistic? What could be done differently?

5. Will resources be provided by groups or organizations outside of the MOH?

6. Is the plan for monitoring implementation of activities adequate? What should be changed or added?

7. Does the document include plans for the next review of implementation status? What needs to be changed or added?

8. Is the document readable? Is it too long or too short to be practical? What would you do differently?

When you have completed this exercise, tell your facilitator that you are ready for the group discussion.

Annex A

Information for Planning (with schedule)

Information for Planning

Your country or region has probably prepared many of the items below. Gather together as many as possible to inform an assessment of the programme's current status and to help with planning.

Laws

- A ratified Convention on the Rights of the Child
- A law to ensure universal health care for children
- A human rights institution to oversee child rights (information about the institution)
- International Code of Marketing of Breastmilk Substitutes adopted
- ILO Convention 183 on Maternity Protection ratified

Strategy documents

- National child health/survival strategy
- IMCI strategy (community and facility-based)
- EPI/nutrition/malaria/HIV strategies
- Newborn health strategy
- Micronutrient and Infant and Young Child Feeding strategies
- Health sector reform plans
- Human resources plan - including job descriptions for staff at each level
- Description of role of community health workers
- Financing policies

Clinical case guidelines and standards in use on:

- Breastfeeding and micronutrients
- Baby-friendly hospitals
- Management of pregnant women
- Case management of diarrhoea, pneumonia and malaria
- EPI immunization schedule
- Notification of maternal deaths
- Midwives authorized to administer a core set of life-saving interventions
- IMCI guidelines adapted to cover newborns 0–1 week of age
- Community management of pneumonia with antibiotics

Essential medicines

- Essential medicine lists
- Low osmolarity ORS and zinc supplements for management of diarrhoea

Training materials/courses in use

- IMCI (community and facility-based)
- Midwife skills
- Essential newborn care
- Supervisory skills
- Community health worker training
- Breastfeeding promotion and young infant feeding

Child growth assessment
Essential obstetric care
Communication skills

Communication materials for child health

Counseling cards, flip charts, posters used in health facilities
Mother's card, child health record, child growth record
Counselling materials used by community health workers

Global and regional strategies and targets

Existing strategic and/or implementation plans for each level

National strategic plan for child health, including objectives and targets
Regional or other level strategic plan for child health, including objectives and targets
Costed implementation plan or plans for maternal, newborn, and child health at regional, district, or other levels
Most recent implementation or operational plan for your geographic area/level

Most recent programme status reports

Training summaries
Reports on supervision
Reports on community-based activities
Budget reports

Most recent evaluation data

Household or community-based surveys
Health facility surveys
Programme reviews
Special studies or research

Schedule of action steps for planning and implementing child health programmes

Action	Possible time required
<i>Step 1 – Prepare for planning</i>	
Identify planning coordinator	1-3 months
Meet with MOH and stakeholders group to review planning parameters	1-3 months
Establish a core planning team – ideally appointed by the stakeholders	1-3 months
<i>Planning implementation (steps performed by core planning team)</i>	
Step 2 – Review implementation status	1 week
Step 3 – Decide on programme activities	1 week
Step 4 – Plan for monitoring implementation of activities	
Step 5 – Plan for the next review of implementation status	
Step 6 – Write a workplan and budget	1 week
<i>Managing implementation (steps performed by managers)–Ensure that activities are implemented as planned</i>	
Key steps: Advocate for child health Mobilize resources Manage human, material and financial resources Manage supervision Monitor progress and use results	Ongoing
Regular meetings with stakeholder groups to present updates on progress and to advocate for technical and financial resources or policy support	Ongoing

Annex B

Child Health Interventions and Intervention Packages

Effective interventions for improving newborn and child survival

Pregnancy

Tetanus toxoid immunization

Birth and emergency planning

Detection and management of problems complicating pregnancy (e.g. hypertensive disorders, bleeding, malpresentations, multiple pregnancy, anaemia)

Detection and treatment of syphilis

Intermittent preventive therapy for malaria#

Information and counselling on self-care, nutrition, safer sex, breastfeeding, family planning

Sleeping under insecticide-treated bednets#

Prevention of mother-to-child transmission of HIV⁺ ##

Labour, birth and 1-2 hours after birth

Monitoring progress of labour, maternal and foetal well-being with partograph

Social support (companion) during birth

Immediate newborn care (resuscitation if required, thermal care, hygienic cord care, early initiation of breastfeeding)

Emergency obstetric and newborn care for complications

Antibiotics for preterm premature rupture of membranes*

Antenatal corticosteroids for preterm labour*

Prevention of mother-to-child transmission of HIV⁺ ##

* Requires a stronger health system. Consider introducing when simpler interventions are at high coverage.

Situational intervention only necessary in setting where malaria is endemic

Situational intervention only necessary in setting where HIV prevalence is high

+ The four pillars of prevention of mother-to-child transmission of HIV (**PMTCT**) include:

- (i) preventing HIV infection in women
- (ii) preventing unintended pregnancy among HIV-infected women
- (iii) preventing transmission from an HIV-infected woman to her baby by caesarean section, antiretrovirals and safer infant feeding options
- (iv) providing care, support and treatment for HIV-infected women, their infants and children

Effective interventions for improving newborn and child survival (continued)

Newborn period (after the first 1-2 hours after birth)

Exclusive breastfeeding
Thermal care
Hygienic cord care
Prompt care-seeking for illness
Extra care of LBW infants
Immunization
Management of newborn illness
Prevention of mother-to-child transmission of HIV⁺ ##

Older infants and children (1 month up to 5 years)

Preventive interventions

Exclusive breastfeeding (up to age 6 months)
Safe and appropriate complementary feeding starting at 6 months of age with continued breastfeeding (up to age 2 years and beyond)
Sleeping under insecticide-treated bednets#
Immunization
Vitamin A supplementation
Hand washing and proper disposal of faeces
Birth spacing of 24 months or more

Treatment interventions

Oral rehydration therapy for diarrhoea
Zinc for diarrhoea
Antibiotics for dysentery
Antibiotics for pneumonia
Antimalarials
Management of severe malnutrition
Management of HIV-exposed and HIV-infected children##

Situational intervention only necessary in setting where malaria is endemic

Situational intervention only necessary in setting where HIV prevalence is high

⁺ The four pillars of prevention of mother-to-child transmission of HIV (**PMTCT**) include:

- (i) preventing HIV infection in women
- (ii) preventing unintended pregnancy among HIV-infected women
- (iii) preventing transmission from an HIV-infected woman to her baby by caesarean section, antiretrovirals and safer infant feeding options
- (iv) providing care, support and treatment for HIV-infected women, their infants and children

Intervention packages for child health

	Universal (recommended in all settings)	Situational (where warranted)
Care during pregnancy	<p>Antenatal care package:</p> <ul style="list-style-type: none"> Tetanus toxoid immunization Birth and emergency planning Detection and management of complications Detection and treatment of syphilis Information and counselling on self-care, nutrition, safer sex, breastfeeding, family planning for birth spacing 	<ul style="list-style-type: none"> Intermittent preventive therapy (IPT) for malaria Sleeping under insecticide-treated bednets Prevention of mother-to-child transmission of HIV
Care during labour, birth and 1-2 hours after birth	<p>Skilled care at birth:</p> <ul style="list-style-type: none"> Monitoring progress during labour Social support (companion) during birth Immediate newborn care (resuscitation if required, thermal care, hygienic cord care, early initiation of breastfeeding) <p>Emergency obstetric and newborn care:</p> <ul style="list-style-type: none"> Detection and clinical management of obstetric and newborn complications 	<ul style="list-style-type: none"> Prevention of mother-to-child transmission of HIV
Postnatal/Newborn care	<p>Routine postnatal care of mother and newborn:</p> <ul style="list-style-type: none"> Exclusive breastfeeding Thermal care Hygienic cord care Extra care of LBW infants Prompt care-seeking for illness Immunization Management of newborn illness 	<ul style="list-style-type: none"> Prevention of mother-to-child transmission of HIV
Care during infancy and childhood	<p>Community case management of diarrhoea, pneumonia, malaria and malnutrition</p> <p>IMCI (first-level health facilities): Algorithm-based management of diarrhoea (with ORT and zinc), pneumonia, malaria, malnutrition and newborn illness; care for HIV-exposed and HIV-infected children</p> <p>IMCI (referral facilities): Management of severe infant and child illnesses</p> <p>Community IMCI: Community mobilization and communications to promote:</p> <ul style="list-style-type: none"> Exclusive breastfeeding Safe and appropriate complementary feeding starting at 6 months with continued breastfeeding Hand washing and proper disposal of faeces Care-seeking for preventive interventions (e.g. vaccines) Home care for illness Care-seeking for illness <p>EPI: Delivery of essential vaccines</p>	<ul style="list-style-type: none"> Sleeping under insecticide-treated bednets to prevent malaria Prevention of HIV Care of HIV-exposed and HIV-infected children Vitamin A supplementation

Annex C

Questions and Criteria for Assessing the Quality of Activities

Questions and Criteria for Assessing Quality of Activities

The questions and criteria in this annex can be used to assess the quality of activities the programme has implemented or to plan activities for the next workplan.

1. Advocacy/Resource mobilization

- Have advocacy activities been considered or implemented to:
 - Increase political will for allocation of funds and other resources towards child health?
 - Increase sharing of resources between ministries to assist child health programmes?
 - Increase the likelihood that communities will support child health initiatives?
 - Increase involvement of non-governmental organizations in activities?
 - Increase support from donors towards child health activities?
 - Raise the profile of child health activities among the general public, and thereby increase pressure from the public on politicians and policy-makers?
- Do advocacy plans specify the target group, the advocacy messages, and methods to best deliver the messages?
- Are there clinical standards and guidelines for:
 - IMCI, including practice standards for pneumonia, diarrhoea, malaria, nutrition and micronutrients?
 - essential health behaviours?
 - antenatal care and delivery?
 - emergency obstetric and newborn care?
 - essential newborn care?

Clinical standards and guidelines

Clinical standards and guidelines are critical to ensuring that interventions are technically sound. Clinical standards need to be established and regularly reviewed. Examples of policy decisions that need to be made and reflected in guidelines on management of common conditions include:

- **Diarrhoea:** Appropriate home fluids for the treatment and prevention of dehydration; local fluids that cannot be given; recommended local foods that can be given during diarrhoea; rational use of medicines for diarrhoea (antibiotics and antidiarrhoeals); first- and second-line treatment for bloody diarrhoea (dysentery).
- **Pneumonia:** First- and second-line antibiotics; use of antibiotics by community health workers; rational use of antibiotics and avoidance of antibiotics for simple upper respiratory tract infections; inappropriate local remedies.
- **Malaria:** First- and second-line antimalarials; strategy for monitoring antimicrobial resistance; the provision and impregnation of bednets.
- **Nutrition:** Breastfeeding and complimentary feeding policies including marketing codes for infant formula; appropriate foods for complimentary feeding; micronutrient supplementation; management of malnourished children.
- **HIV:** Approach to the prevention of mother-to-child transmission of HIV, including a breastfeeding policy. Policy on voluntary counselling and testing.

Clinical guidelines used in training should reflect standard case management approaches and should be appropriate for the tasks to be performed by each cadre of health worker. For example, guidelines must be consistent with policy such as whether midwives are allowed to conduct simple obstetric procedures, or whether community health workers are allowed to give antibiotics for pneumonia. The technical guidelines should describe exactly how first-level health facility staff should manage severely ill children when referral is difficult, and this should be addressed in their training.

2. Training/Human resource development

Training may be required for facility and community-based health staff, district staff including staff who will provide supervision, and staff at higher levels. Training may also be needed for members of community groups or committees who will play a leadership role.

In-service training

- Are appropriate staff selected for training? Training should be attended by the individuals who will use the skills being taught.
- Are the training materials and methods appropriate?
 - Was the duration of training adequate to teach the required skills and knowledge?
 - Were materials consistent with WHO or other international guidelines on standard case management?
 - Were training methods interactive, including questions and answers, discussions, demonstrations, individual exercises?
 - Most importantly, was there supervised practice doing case management for each trainee?
 - Did trainers assess each participant's performance and give immediate feedback?
 - Was there enough clinical practice that improvement could be attained and observed by trainers?
 - Was there at least one trainer to every four participants?

- Was training planned appropriately?

Training at a central venue, with facilitators and a course schedule and outline, will be appropriate for some categories of health workers, particularly supervisors.

Training for community group members or community health workers often can be done locally in the community. For example, supervisors might provide training in use of counselling materials when they visit. This kind of training can be quick and cost-effective.

In some cases, the government may already be providing training—for example for CHWs, or skilled birth attendants—and child health training can be linked with these on-going training programmes.

- Was follow-up after training included?

Ideally, all trained staff should be followed-up to assess whether they have been able to put the skills they learned in training into practice on the job. Follow-up should include observation and should provide guidance and support.

Follow-up after training is currently an element of the IMCI case-management training approach. Follow-up after training in other technical areas would also be useful and could use the same principles (the use of a standard checklist, which includes observation of practice). The manual, *IMCI Guidelines for Follow-up After Training*, describes the purposes and activities of follow-up and provides generic job aids for conducting follow-up visits.

Pre-service training

- Is a pre-service training plan available?
- Are training materials based on international standards and guidelines?
- Is enough time allocated to each technical area?
- Are appropriate materials provided to students?
- Does training include demonstrations and clinical experience?
- Are students adequately assessed at the end of training to determine competence in key skills?

Ensuring adequate staffing

- Is there a long-term strategy for human resource development?
- Are there available definitions of roles and responsibilities of staff including CHWs?
- Are adequate numbers of health workers being trained?
- Are new cadres of health workers planned to help scale up/accelerate the child health programme?
- Are data available on adequacy of staffing and on staff turnover?
- Where do staff shortages occur most frequently?
- Are data available on the reasons for staff shortages?
- Are plans available for increasing the supply of staff to those areas that need them?
- What are the barriers to improving the supply of staff to areas that need them?
- Are there plans for limiting the turnover of staff?
- What are the barriers to limiting the turnover of staff?
- What methods have been used to improve staff motivation?

3. Strengthening supplies of medicines and equipment

- Is an essential medicine list available?

It is important that the national essential medicine list includes medicines that are recommended for standard case management of children and newborns at both first-level health facilities and referral facilities as well as micronutrients used for preventive care such as vitamin A or iron. Review and modification of national medicine policy and the essential medicines list is usually done at the national level. If the essential medicines list does not include medicines that are important for first-level care, pre-referral treatment, and referral care, then local managers need to bring this to the attention of higher-level managers.

- Do the medicine procurement and distribution systems at central and district levels function effectively? What is the current availability of medicines and supplies needed to support standard case management services?
 - Are there gaps in the system along the pathway between the central level and the most peripheral level?
 - What is the district role in procuring, distributing and reordering medicines?
 - What can be done to improve the distribution system at each level?

Methods to collect data about the supply system might include document reviews, structured interviews and physical inventory checks. Discussions with staff at the district level who are responsible for medicine procurement and distribution are also essential. Areas that need specific support can be identified, such as improving the skills of the district pharmacist in estimating medicine needs and ordering them in time.

- How effective are medicine management practices at health facilities?
 - Is there a stock card for each item in the store and is it current and correct?
 - Are there any expired items in the store?
 - Is the store kept locked at all times when not in use?
- What are the roles of different levels?
 - Are more supplies or other support needed from the central store?
 - Do district-level reordering or distribution practices need to improve?
 - Do the practices of facility staff need to improve?
- What are the budgetary implications of improving the supply of essential medicines and supplies? Alternative methods for paying for essential medicines and supplies may be needed; these could include cost recovery systems or using private medicine sellers and pharmacists to sell essential medicines for a fixed fee.

4. Strengthening referral pathways

- Does the programme plan include strategies to improve referral pathways and services?
- Are data available on gaps in the referral system?

An assessment of referral practices might include:

- Special studies that track patients from first-level health facilities and communities to referral facilities
- Health facility surveys that investigate quality of care at first-level health facilities and referral facilities
- Qualitative studies that ask about caregiver practices.

Discussions with staff at all levels are useful. Discussions with caregivers can also provide information on barriers to referral. Gaps may occur at several levels including:

- The quality of referral care is poor
 - Geographic access is limited due to long distances
 - Caregivers may not go for care when referred, even if it is accessible (e.g. because of lack of money for transport or for hospital care, cultural beliefs, responsibilities in the home, poor perception of hospital care)
- Have possible solutions been identified to improve referral? Examples include:
 - Improve training for staff at referral facilities
 - Strengthen transportation to referral facilities for severely ill children and newborns, for example, by means of a community fund for special transportation
 - Select and train first-level health facility workers to provide referral care when referral is not possible, in addition to the basic IMCI training. For IMCI, the guidelines *When Referral is Not Possible* can be adapted for local use. In addition, first-level health facilities will need a supply of medicines and equipment that are not routinely available.
 - Improve health education to address beliefs that negatively affect referral, and to increase the willingness of caregivers to seek referral
 - Conduct operational research to find out factors that influence referral, if not enough is known

5. Communications and development of community supports

The communications plan will specify the channels to be used and therefore the types of messages, materials and methods needed.

- Does the programme have a plan for communication activities? It should specify behaviours to be changed, messages to be given, channels and materials to be used, timing of the messages, how and when behavioural outcomes will be measured.
- Do the communication messages focus on changing the key family practices identified for the programme?
- Are messages developed using data on local beliefs and terms, and are they adequately pre-tested in communities? What data were used to develop or adapt messages? Were health education specialists used in the development of materials?

- Were existing health education materials catalogued and reviewed to ensure that currently available materials were used as much as possible?
- Are the duration and methods of communication skills training adequate?
- Will communication methods reach communities effectively?
- Are approaches potentially sustainable in the longer term?
- Are activities adequately funded?

See the tables on the next pages for key decisions when planning communication activities.

Development of community supports

Communities will need to be given support and supervision in order to build community capacity. Often this needs to be intensive at the beginning of a process, and less intensive over time. The following questions need to be asked:

- Does the programme have a plan for developing community supports in order to implement activities in communities?
- What methods are used to implement activities in communities? How were these activities shared with other partners, the MOH and community members?
- Are there policies to encourage community involvement, such as cost-sharing or cost-recovery schemes?
- Was the community plan developed in collaboration with community members or groups? Does it build on existing community activities or structures that have been effective in the past?
- Was a strategy for providing community-level supervision and support for CHWs included?
- How are new CHWs selected? Are there criteria and methods for selecting appropriate candidates? Are they used?
- How are community groups or teams formed? Were criteria and methods for forming groups developed? Are they used?
- Is the budget for community-level activities adequate? Are resources shared with communities?
- Are community activities likely to be sustainable? If not, why not?

Key decisions in planning health communication activities

Decision	Definitions	Examples	Data or information needed -- qualitative and quantitative
<i>Who should the communication be directed towards?</i>	The target group are the persons to whom the communication is directed. The choice of target group depends on the health behaviours being addressed.	Parents, child caregivers, grandmothers, influential people in the community.	The group(s) in the community who need to change their behaviours, and those who influence decision making
<i>What should be communicated?</i>	Key messages focus on the appropriate family practice(s)	Beliefs, attitudes, cultural practices may be barriers to change. Common barriers to key family practices should be addressed.	Factors that influence the behaviour in the community, including barriers to action
<i>Where should the communication take place?</i>	The setting used to reach to target group	Clinics, schools, workplace, community meeting areas, radio, print media and TV	Where the target group go and what media they use
<i>Who will do the communication?</i>	The staff carrying out the communication	Health workers in clinics, pharmacists, shopkeepers, community volunteers, teachers. Mass media messages are produced in advance.	Who is active in the community and respected by the target group; review media groups that have developed health campaigns.
<i>How will the communication be carried out?</i>	The method used for communication	One-on one counselling; group education; mass media (radio, television, newspapers, billboards.) Can be used separately or in combination.	Method that is most affordable, and most likely to reach the intended target group.
<i>What support activities will be needed?</i>	Training of field staff in communication skills Provision of necessary learning materials	Training can include: workshops or visits to centres already active in communication. Videos, leaflets, flip-charts and wall charts can be used as support materials.	Communication skills of existing staff. Existing materials.
<i>How should the communication be evaluated?</i>	Choice of indicators	Outcome measures of caregiver knowledge and practice	Indicators should be specific for key behaviours targeted

Example communication methods

Approach	Method	Advantages	Disadvantages
MEDIA	Television	<ul style="list-style-type: none"> • Broad reach • Cost per person reached can be low • Can reach both literate and illiterate people • Combines visual dimension with spoken word • Can influence behaviours that are not deeply entrenched • Message can be accurately controlled 	<ul style="list-style-type: none"> • Television ownership may be restricted to higher-income, urban population • High initial cost for production • Difficult to meet needs of specific groups • Lack of immediate feedback • High cost of air time
	Radio	<ul style="list-style-type: none"> • Very broad reach • Regional radio provides opportunity to broadcast in local languages • Easy to include content from interviews/music recorded in local communities 	<ul style="list-style-type: none"> • Similar problems as TV: difficulty making content specific to different local communities and obtaining feedback • Lacks a visual dimension
	Newspapers, posters	<ul style="list-style-type: none"> • Reach can be broad • Can be distributed to highly targeted group and influential persons • Can include pictures • Can provide information 	<ul style="list-style-type: none"> • Written material unsuitable for non-literate communities • Reach of newspapers may be limited
INTER - PERSONAL	Community-based Using field workers, volunteers or peers in community settings	<ul style="list-style-type: none"> • Takes education activities to the community and is therefore good for difficult-to-reach groups • Allows education to be focused on the target groups' special needs • Can be very effective in influencing beliefs, attitudes and behaviours, and providing specific skills 	<ul style="list-style-type: none"> • Field staff may not be available • Takes longer to reach the audience • Message given to target audience may be distorted unless there is close supervision of field staff
	Facility-based for example, patient education, schools, workplace	<ul style="list-style-type: none"> • Allows the education to be tailored to the audience's specific needs • Can be very effective in influencing beliefs, attitudes and behaviours, providing specific skills and generating empowerment 	<ul style="list-style-type: none"> • Only reaches those people who use services • Formal setting can inhibit the use of participatory methods • Time may be limited because of work pressure
	Large meetings	<ul style="list-style-type: none"> • Capable of generating a large amount of interest • Can lead to community participation 	<ul style="list-style-type: none"> • Without advance preparation and follow-up may not lead to lasting change

6. Supervision

- Has the programme designated supervisors for all staff? Do the supervisors who supervise clinical case management have the authority and skills to do so?
- Has the programme trained supervisors to supervise? Did they participate in supervisory skills training?
- Does supervisory skills training teach:
 - ✓ Observation of the health workers' performance managing cases, including giving feedback?
 - ✓ A review of health facility conditions that affect the implementation of standard case management, including problem solving?
 - ✓ Other activities, such as collection of data for monitoring?
- Are standard supervisory checklists or standardized reporting forms used? Are checklists integrated, so that one supervisor can conduct supervision for several different technical areas at the same time?
- What kind of feedback is provided to health workers? Examples include on-site meetings with health workers or written reports sent back to the health facility.
- Were supervisory visits conducted regularly? They should occur at least twice a year.
- Was training of health workers followed up by supervision and on-the-job training and reinforcement of skills?

7. *Monitoring of implementation of activities*

- Does the programme have a monitoring plan?
- What data are routinely collected for monitoring?
- What methods are used to collect routine data?
- Who is responsible for collecting data?
- How often are data collected?
- Is a standard recording form used to record data? How are data stored?
- How are data summarized?
- How often do managers review and interpret monitoring data?
- Are data used immediately to make programme decisions?
- Are monitoring data for different programme areas linked so that all data are collected at the same time to reduce waste or duplication of effort?

Annual review of implementation

- Does the programme have plan for an annual review of implementation?
- Does the plan specify the activity-related indicators to be assessed?
- Are programme targets specified for coverage with interventions?

- Does the implementation plan specify activities to collect and summarize data for a review? To calculate indicators? Are the proposed data collection activities adequate to measure all the proposed indicators?
- Are special data collection activities planned (e.g. surveys), and if so, is there a timetable and budget for them?
- When was the most recent review of implementation?
- Were staff given feedback about the findings of the review? Were the results used to revise programme activities?

Annex D

Standard Child Health Coverage Indicators

**Population-Based Coverage Indicators for Priority Child Health
Interventions
Agreed by WHO/UNICEF/USAID**

DEFINITIONS OF PRIORITY CHILD HEALTH INDICATORS FOR HEALTH FACILITY LEVEL

Note: The usual method for collecting data to measure these indicators is a health facility survey of a representative sample of outpatient health facilities. The technical standard used for these indicators is IMCI. A validated classification is a classification made by an IMCI-trained expert clinician after re-examining the child. The indicators listed below refer to children two months up to five years of age, unless otherwise stated.

1. *Child checked for three general danger signs.* The proportion of children checked for the three general danger signs.

Numerator: Number of sick children aged 2 months up to five years seen who are checked for three danger signs (is the child able to drink or breastfeed, does the child vomit everything, has the child had convulsions)

Denominator: Number of sick children aged 2 months up to five years seen
2. *Child checked for the presence of cough, diarrhoea and fever.* The proportion of children checked for the presence of cough, diarrhoea, and fever.

Numerator: Number of sick children seen whose caregivers were asked about the presence of cough, diarrhoea, and fever

Denominator: Number of sick children seen
3. *Child's weight checked against a growth chart.* The proportion of children who have been weighed the same day and have their weight checked against a recommended growth chart.

Numerator: Number of sick children seen who have been weighed the same day and have their weight checked against a recommended growth chart

Denominator: Number of sick children seen
4. *Child vaccination status checked.* The proportion of children who have their vaccination status checked.

Numerator: Number of sick children seen who have their vaccination card or vaccination history checked.

Denominator: Number of sick children seen
5. *Index of integrated assessment.* Mean of assessment tasks performed per sick child assessed.

Definition: Arithmetic mean of 10 assessment tasks performed for each child (checked for three danger signs, checked for the three main symptoms, child weighed and weight checked against a growth chart, checked for palmar pallor, and checked for vaccination status divided by ten)

Calculation: checked for “ability to drink or breastfeed”, “vomits everything”, and convulsions”, 1 point each
 checked for presence of “cough & fast/difficult breathing”, “diarrhoea”, and “fever”, 1 point each
 child weighed the same day and child’s weight plotted against a recommended growth chart, 1 point each
 checked for palmar pallor, 1 point
 vaccination status checked (card or history), 1 point

6. *Child under two years of age assessed for feeding practices.* The proportion of children under two years of age whose caregivers are asked about breastfeeding, complementary foods, and feeding practices during this episode of illness.

Numerator: Number of sick children under two years of age whose caregivers are asked if they breastfeed this child, whether the child takes any other food or fluids other than breastmilk, and if during this illness the child’s feeding has changed

Denominator: Number of sick children under two years of age seen

7. *Child needing an oral antibiotic and/or an antimalarial is prescribed the medicine correctly.* The proportion of children who do not need urgent referral, who need an oral antibiotic and/or an antimalarial, who are prescribed the medicine(s) correctly.

Numerator: Number of sick children with validated classifications, who do not need urgent referral, who need an oral antibiotic and/or an antimalarial (pneumonia, and/or dysentery, and/or malaria, and/or acute ear infection, and/or anaemia in high malaria risk areas) who are correctly prescribed them, including dose, number of times per day, and number of days

Denominator: Number of sick children with validated classifications who do not need urgent referral, who need an oral antibiotic and/or an antimalarial.

8. *Child not needing antibiotic leaves the facility without antibiotic.* The proportion of children who do not need urgent referral and who do not need an antibiotic for one or more IMCI classifications who leave the facility without having received or having been prescribed antibiotics.

Numerator: Number of children with validated classification who do not need urgent referral and do not need an antibiotic for one or more IMCI classifications (no pneumonia: cough or cold, diarrhoea with or without dehydration, persistent diarrhoea, malaria, fever-malaria unlikely, measles, chronic ear infection, no ear infection, anaemia or very low weight, and/or no anaemia and not very low weight) who leave the facility without receiving antibiotics or a prescription for antibiotics for those validated classifications

Denominator: Number of children seen who do not need urgent referral and who do not need an antibiotic for one or more IMCI classifications

9. *Caregiver of sick child is advised to give extra fluids and continue feeding.* The proportion of sick children whose caregivers are advised to give extra fluid and continue feeding.

Numerator: Number of sick children with validated classifications, who do not need urgent referral, whose caregivers are advised to give extra fluid **and** continue feeding

Denominator: Number of sick children with validated classifications, who do not need urgent referral

10. *Child needing vaccinations leaves facility with all needed vaccinations.* The proportion of children needing vaccinations (based on vaccination card or history) who leave the health facility with all needed vaccinations (according to national immunization schedule).

Numerator: Number of children who need vaccinations (based on vaccination card or history) who leave the health facility with all needed vaccinations

Denominator: Number of children seen who need vaccinations (based on vaccination card or history)

11. *Caregiver of child who is prescribed ORS, and/or an oral antibiotic and/or an oral antimalarial knows how to give the treatment.* The proportion of children prescribed ORS, and/or an oral antibiotic and/or an oral antimalarial whose caregivers can describe correctly how to give the treatment.

Numerator: Number of sick children prescribed ORS, and/or an oral antibiotic and/or an oral antimalarial whose caregivers can describe how to give the correct treatment including the amount, number of times per day, and number of days

Denominator: Number of sick children prescribed ORS and/or an antibiotic and/or an antimalarial

12. *Child needing referral is referred.* The proportion of children needing referral who are referred by the health workers.

Numerator: Number of sick children with a validated classification of severe disease needing referral (one or more danger signs, severe pneumonia or very severe disease, and/or severe dehydration with any other severe classification, and/or severe persistent diarrhoea, and/or very severe febrile disease, and/or severe complicated measles, and/or mastoiditis, and/or severe malnutrition or severe anaemia) who were referred by the health workers

Denominator: Number of sick children with a validated classification of severe disease needing referral

13. *Health facility received at least one supervisory visit that included observation of case management during the previous six months.* The proportion of health facilities that received at least one visit of routine supervision that included the observation of case management during the previous six months.

Numerator: Number of health facilities that received at least one visit of routine supervision (excluding the follow-up visits to health workers shortly after their training that are part of IMCI training) that included the observation of case management during the previous six months

Denominator: Number of health facilities surveyed

14. *Index of availability of essential oral treatments.* Essential oral medicines for home treatment of sick children present the day of visit.
- Definition:** Arithmetic mean of essential oral medicines recommended for home treatment of diarrhoea, dysentery, pneumonia, fever, malaria, and anaemia available at each facility the day of visit, divided by eight
- Calculation:**
- ORS, 1 point
 - recommended antibiotic for pneumonia, 1 point
 - recommended antibiotic for dysentery, 1 point
 - recommended antimalarial, 1 point
 - vitamin A, 1 point
 - iron, 1 point
 - mebendazole, 1 point
 - paracetamol/aspirin, 1 point
15. *Index of availability of injectable medicines for pre-referral treatment.* Injectable antibiotics and antimalarials for pre-referral treatment of sick children and young infants that are available in each facility on the day of visit.
- Definition:** Arithmetic mean of recommended injectable pre-referral treatment for children and young infants with severe classification needing immediate referral, divided by four
- Calculation:**
- recommended IM antibiotic for children, 1 point
 - quinine, 1 point
 - gentamycin, 1 point
 - benzylpenicillin, 1 point
16. *Health facility has the equipment and supplies to support full vaccination services.* The proportion of health facilities that have the equipment and supplies to provide full vaccination services on the day of the survey.
- Numerator:** Number of health facilities that have available the equipment and supplies to support full vaccination services (functioning refrigerator or cold chain, and functioning sterilizer and needles/syringes or disposable needles/syringes) on the day of survey
- Denominator:** Number of health facilities surveyed
17. *Index of availability of four vaccines.* Mean of four recommended antigens available at each facility the day of visit.
- Definition:** Arithmetic mean of recommended vaccines available at each facility the days of visits, divided by four
- Calculation:**
- BCG, 1 point
 - Polio, 1 point
 - DPT, 1 point
 - Measles, 1 point
18. *Health facilities with at least 60% of workers managing children trained in IMCI.* The proportion of first-level health facilities with at least 60% of health workers managing children trained in IMCI.
- Numerator:** Number of health facilities with at least 60% of health workers managing children trained in IMCI
- Denominator:** Number of health facilities surveyed

19. *Health facilities providing emergency obstetric care.* The proportion of facilities providing basic or comprehensive obstetric care functions per 500,000 population.

Numerator: Number of health facilities providing all standardized basic and comprehensive obstetric care functions

Denominator: Total population of catchment area

Components of emergency obstetric care package to be defined according to standard guidelines

20. *Health facilities designated as baby-friendly.* The proportion of hospitals and maternity facilities accredited as baby-friendly according to the 10 UNICEF/WHO criteria for breastfeeding and newborn care.

Numerator: Number of hospitals and maternity facilities accredited as baby-friendly

Denominator: Total number of hospitals and maternity facilities that handle deliveries

DEFINITIONS OF PRIORITY INDICATORS AT HOUSEHOLD LEVEL

Note: The usual method for collecting data to measure these indicators is a household survey of a representative sample of households. Unless otherwise specified, indicators are calculated for children up to five years of age

1. *Under-five mortality.* The number of children who died between birth and 59 months in a given period, per 1000 live births in the same period.
Numerator: Number of liveborn children who died between birth and 59 months in a given period (reported by women of childbearing age surveyed) x 1000
Denominator: Number of liveborn children in the same period (reported by women of childbearing age surveyed)
2. *Neonatal mortality.* The number of neonatal deaths per 1000 live births in a given period.
Numerator: Number liveborn babies who die in within the first 28 days of completed life (0-27 days) in a given period (reported by women of childbearing age surveyed) x 1000
Denominator: Number of liveborn babies born in the same period (reported by women of childbearing age surveyed)
3. *Pregnant women make at least 2 antenatal care visits.* Proportion of women who made at least 2 antenatal care visits during their last pregnancy.
Numerator: Number of pregnant women who had a live birth in a specified period who made at least 2 antenatal care visits during their pregnancy
Denominator: Total number of live births in the same period
4. *Women received at least 2 doses of tetanus-toxoid (TT) during their last pregnancy.* Proportion of pregnant women receiving at least 2 doses of TT during their last pregnancy.
Numerator: Number of women giving birth during a reference period (e.g. 5 years) who report receiving at least 2 doses of TT during their last pregnancy
Denominator: Total number of live births in the same period
5. *Women are delivered by a skilled birth attendant.* Proportion of women whose last delivery was delivered by a skilled birth attendant.
Numerator: Number of deliveries with a skilled attendant at the birth during a specified period
Denominator: Total number of live births during the same period

6. *Babies with a birth weight of 2500 grams or less.* Proportion of live births with a low birth weight in a specified period (usually 12 months).

Numerator: Number of liveborn babies weighing < 2500 grams in a specified period

Denominator: Total number of live births in the same period

7. *Breastfeeding is initiated within an hour of birth.* Proportion of infants less than 12 months of age who were put to the breast within one hour of delivery.

Numerator: Number of infants less than 12 months of age put to the breast within one hour of delivery

Denominator: Total number of infants less than 12 months of age surveyed

8. *Women and newborns receive postnatal care within 3 days of delivery.* Proportion of infants less than 12 months of age who were seen by a trained provider within 3 days of birth.

Numerator: Number of infants less than 12 months of age who were seen by a trained provider within 3 days of birth

Denominator: Total number of infants less than 12 months of age surveyed

9. *Children under 6 months of age exclusively breastfed.* Proportion of infants aged less than 6 months who were exclusively breastfed in the last 24 hours.

Numerator: Number of infants aged 0-5 months (less than 180 days) who were given nothing but breastmilk in the past 24 hours

Denominator: Total number of infants 0-5 months (less than 180 days) surveyed

10. *Children aged 6-9 months receive appropriate breastfeeding and complementary feeding.* Proportion of infants aged 6-9 months receiving breastmilk and appropriate complementary foods.

Numerator: Number infants aged 6-9 months who received breastmilk and complementary foods¹² in the last 24 hours

Denominator: Total number of infants aged 6-9 months surveyed

¹² Solid and/or semi-solid foods. Foods must be locally defined as appropriate and must be given in an adequate frequency.

11. *Children receive continued breastfeeding to 12-15 months and 20-23 months.* Proportion of children aged 12-15 months and 20-23 months who continue to receive breastfeeding.
- Numerator:** Number of children aged 12-15 months and 20-23 months who received breastmilk in the last 24 hours
- Denominator:** Total number of children aged 12-15 months and 20-23 months surveyed
12. *Children under 2 years of age who are low weight-for-age (underweight prevalence).* Proportion of children who are below -2SD from the median weight-for-age according to the WHO/NCHS reference population.
- Numerator:** Number of children under 2 years of age whose weight is below -2 standard deviations from the median weight-for-age of the WHO/NCHS reference population
- Denominator:** Number of children under 2 years of age surveyed
13. *Children have received a dose of vitamin A in the previous 6 months.* Proportion of children 6-59 months of age who have received a vitamin A capsule from any source in the previous 6 months.
- Numerator:** Number children 6-59 months of age who have received a dose of vitamin A in the previous 6 months
- Denominator:** Total number of children aged 6-59 months surveyed
14. *Measles coverage.* Proportion of children aged 12-23 months vaccinated against measles before 12 months of age.
- Numerator:** Number of children aged 12-23 months vaccinated against measles before 12 months of age (by card or history)
- Denominator:** Total number of children aged 12-23 months surveyed
15. *DPT3 coverage.* Proportion of children aged 12-23 months vaccinated with DPT3 by age 12 months.
- Numerator:** Number of children aged 12-23 months who received 3 doses of DPT by 12 months of age (by card or history)
- Denominator:** Total number of children aged 12-23 months surveyed

16. *Children sleep under an insecticide-treated net (in malaria risk areas).* Proportion of children aged 0-59 months who slept under an insecticide-treated¹³ net in malaria risk areas.
- Numerator:** Number children aged 0-59 months who slept under an insecticide-treated net the previous night
- Denominator:** Total number of children aged 0-59 months surveyed
17. *Households use improved sources of drinking water.* Proportion of households with access to a source of drinking water that is defined as being clean and safe (safe or protected well, or appropriate water treatment).
- Numerator:** Number households with access to clean and safe sources of drinking water
- Denominator:** Total number of households surveyed
18. *Households use adequate sanitary means of excreta disposal.* Proportion of households with access to a clean, covered and protected pit latrine or better for regular daily use.
- Numerator:** Number households with access to a clean, covered and protected pit latrine or better for regular daily use
- Denominator:** Total number of households surveyed
19. *Households store water safely.* Proportion of households storing water in a covered, narrow-neck container, or in a cistern or roof-tank.
- Numerator:** Number households storing water in a covered, narrow-neck container or in a cistern or roof-tank
- Denominator:** Total number of households surveyed
20. *Sick children are offered increased fluids and continued feeding.* Proportion of sick children who received increased fluids and continued feeding during the illness.
- Numerator:** Number of children aged 0-59 months who were sick in the previous two weeks who received increased fluids and the same amount of food or more during the illness
- Denominator:** Total number of children aged 0-59 surveyed who were sick in the previous 2 weeks.
21. *Children with fever receive appropriate treatment.* Proportion of children with fever who received an appropriate antimalarial treatment (in malaria risk areas).
- Numerator:** Number of children aged 0-59 with fever in the previous two weeks who received a locally recommended antimalarial
- Denominator:** Total number of children aged 0-59 months surveyed with fever in the previous two weeks

¹³ Insecticide-treated net includes immersion in an insecticide solution and/or regular direct spraying.

22. *ORT use rate.* Proportion of children with diarrhoea who were given ORS and/or a recommended home fluid.

Numerator: Number of children aged 0-59 months with watery diarrhoea in the previous two weeks who were treated with ORS and/or a recommended home fluid

Denominator: Number of children aged 0-59 months surveyed who had watery diarrhoea in the previous two weeks

23. *Children with pneumonia receive an antibiotic from a trained provider.* Proportion of children with pneumonia who were given an antibiotic by a trained provider.

Numerator: Number of children aged 0-59 months with cough and fast and/or difficult breathing in the previous two weeks who received an antibiotic from a trained provider

Denominator: Number of children aged 0-59 months surveyed who had cough and fast and/or difficult breathing in the previous two weeks

24. *Caregiver knows at least two signs for seeking care immediately.* Proportion of caregivers of children aged 0-59 months who know at least 2 signs for seeking care immediately when their child is sick.

Numerator: Number of caregivers of children aged 0-59 months who know at least 2 of the following signs for seeking care immediately¹⁴: Child not able to drink or breastfeed, child becomes sicker despite home care, child develops a fever (in malaria risk areas or if child is aged less than 2 months), child has fast breathing, child has difficult breathing, child has blood in the stools, child is drinking poorly

Denominator: Number of caregivers of children aged 0-59 months surveyed

¹⁴ Local terms to be identified

Annex E

Tool for Estimating Medicine Needs and Costs for Treatment of ARI

Status: Not Started

ALRI/ Pneumonia

Step 1: Determine Case Severity and Need

a) Determine Case Incidence:

Incidence of Pneumonia (cases per child per year): 0.35 of which:
(which equals 192,275 cases in the current year)

0%	Cough/Cold
86%	Non-Severe ARI
12%	Severe ARI
2%	Very Severe ARI

b) Determine points of delivery and referral:

Of which treated at community level (CHW):

40% of which

Of which treated at facility level (HC):

60% of which

Of which treated at hospital level:

0%

57%	are referred to:	HC	Hospital
		75%	25%

14% are referred

Step 2: Determine Cost of Drugs and Administration for Cough/Cold & Non-Severe Cases

Treatment Patterns

Delivery Point

Community (CHW)

Health Center

Hospital Outpatient

Number of follow-up visits			
Community (CHW)	Outreach	Health Center	Hospital Outpatient
0	0	0	0
0	0	0	0

Treatment Protocols

Cough/Cold

Select Drug and Dose:

Paracetamol
 Drug <Please Select>
 Drug <Please Select>
 Drug <Please Select>

Percentage of cases needing this drug	Doses Administered (Total)	Cost per Dose
100%	2	\$ 0.01
		\$ -
		\$ -
		\$ -

Percentage of cases needing this supply

Select a supply
 Supply <Please Select>
 Supply <Please Select>

Number Administered	Cost per Item
	\$ -
	\$ -

Cost pr case: 0.01

Non-Severe

Cost of referral (transport):

Cost

Percentage of cases needing this drug

Select Drug and Dose:

Cotrimoxazole
 Paracetamol
 Salbutamol
 Drug <Please Select>

Percentage of cases needing this drug	Doses Administered (Total)	Cost per Dose
100%	20	\$ 0.02
100%	6	\$ 0.01
10%	9	\$ 0.02
		\$ -

Percentage of cases needing this supply

Select a supply
 Supply <Please Select>
 Supply <Please Select>

Number Administered	Cost per Item
	\$ -
	\$ -

Cost pr case: 0.45

Step 3: Determine Cost of Drugs and Administration for Severe Cases

Treatment Patterns

Delivery Point

Community (CHW)	0
Health Center	0
Hospital Outpatient	0

Number of follow-up visits

Community (CHW)	0	0	0
Outreach	0	0	0
Health Center	0	0	0
Hospital Outpatient	0	0	0

Cost

Cost of referral (transport):

Number of Hospital In-patient days per case (average): 3

Treatment Protocols

Select Drug and Dose:

Select Drug and Dose:	Percentage of cases needing this drug	Doses Administered (Total)	Cost per Dose
Antibiotic, IV	100%	12	\$ -
Amoxicillin, Oral	100%	4	\$ 0.01
Salbutamol, Nebulized	50%	20	\$ 0.01
Oxygen	20%	4	\$ -
Drug <Please Select>	100%	3	\$ -
Drug <Please Select>			\$ -

Percentage of cases needing this test

Percentage of cases needing this test	Times Administered (Total)	Cost per Test
100%	1	\$ -
		\$ -
		\$ -
		\$ -

Select a test

Chest X-Ray
Test <Please Select>
Test <Please Select>
Test <Please Select>

Select a supply
 IV Kit
 Oxygen Tubing
 Aspirator, Nasal
 Supply <Please Select>
 Supply <Please Select>
 Supply <Please Select>

Percentage of cases needing	Number Administered	Cost per Item
100%	12	\$ -
20%	3	\$ -
50%	20	\$ -
		\$ -
		\$ -
		\$ -

Cost pr case: 0.14

User's notes:

Step 4: Determine Cost of Drugs and Administration for Very Severe Cases

Treatment Patterns

Delivery Point
 Community (CHW)
 Health Center
 Hospital Outpatient

Number of follow-up visits			
Community (CHW)	Outreach	Health Center	Hospital Outpatient
0	0	0	0
0	0	0	0

Cost

Cost of referral (transport):

Number of Hospital In-patient days per case (average): 5

Treatment Protocols

Select Drug and Dose:

Percentage of cases needing this drug	Doses Administered (Total)	Cost per Dose
100%	20	\$ -
100%	10	\$ 0.04
100%	10	\$ 0.01
50%	5	-
50%	20	\$ 0.01
5%	3	-
		\$ -
		\$ -

Antibiotics, injectable (ampicillin)
 Gentamicin, injectable
 Amoxicillin, Oral
 Oxygen
 Salbutamol, Nebulized
 Prednisolone, oral
 Drug <Please Select>
 Drug <Please Select>

Select a test

Percentage of cases needing this test	Times Administered (Total)	Cost per Test
100%	1	\$ -
		\$ -
		\$ -
		\$ -

Chest X-Ray
 Test <Please Select>
 Test <Please Select>
 Test <Please Select>

Select a supply

Percentage of cases needing	Number Administered	Cost per Item
100%	1	\$ -
50%	5	\$ -
50%	20	\$ -
100%	30	\$ -
		\$ -
		\$ -

IV Kit
 Oxygen Tubing
 Aspirator, Nasal
 Injection Supplies (cotton, tape,
 Supply <Please Select>
 Supply <Please Select>

Cost pr case:

User's notes:

Annex F

Estimating Medicine Needs and Costs for Treating Diarrhoea

EXERCISE: Estimate medicine needs and costs for treating diarrhoea

In this exercise, you will estimate the quantities of ORS packets and zinc tablets needed for treating diarrhoea at first-level health facilities and in the community and estimate the cost of those medicines. Use the following information and worksheet to make these estimates for a region in Integratia.

Read the following information:

- It is the end of 2007. The manager of child health in the Coastal Region of Integratia is estimating medicine needs so that she can inform the essential medicines programme.
- The population of the Coastal Region of Integratia is about 5 000 000. About 15% of the population is under 5 years of age.
- The programme manager set a target for 2008: 10% of children will be brought to a health facility when the child is sick with diarrhoea. (This estimate was based on survey information from 2004, which found that 7% of diarrhoea cases were treated at a facility.)
- She estimates that in 2008 about 60% of the cases of diarrhoea who come to a facility will be assessed and treated correctly (will receive ORS and zinc tablets). This estimate is based on the fact that follow-up after IMCI training found that 80% of cases were treated correctly. However, not all health staff who manage sick children will be trained in IMCI by the end of 2008.
- The programme manager also estimates that in 2008 40% of cases of diarrhoea will be treated at home or in the community. She estimates that in 5 years, all episodes treated at home or in the community will be given ORS and zinc. However, she expects that by the end of 2008, only 50% of episodes will be treated with ORS and only 15% will be treated with zinc. Plans are to increase the availability and access to ORS and zinc for home and community treatment every year and to teach increasing numbers of CHWs and family members to use them for treatment of diarrhoea.
- She estimates that 50% of childhood diarrhoea cases will receive no treatment in 2008.
- Based on a household survey, the annual incidence rate of childhood diarrhoea is 2 episodes per child per year.

Refer to the information above as needed to complete the worksheet on the next page.

WORKSHEET: Estimating Medicine Needs and Costs to Treat Child Diarrhoea

A. ESTIMATE THE NUMBER OF CHILDHOOD DIARRHOEA CASES THAT CAN BE TREATED AT FIRST-LEVEL HEALTH FACILITIES

A-1 Estimate the number of children under age 5 years

$$\frac{\text{population of the region}}{\text{population of the region}} \times \frac{\text{proportion of the population under age 5}}{\text{proportion of the population under age 5}} = \frac{\text{number of children under age 5 in the region}}{\text{number of children under age 5 in the region}}$$

A-2 Estimate the expected cases of diarrhoea

$$\frac{\text{number of children under age 5 in the region}}{\text{number of children under age 5 in the region}} \times \frac{\text{expected cases of diarrhoea per child per year}}{\text{expected cases of diarrhoea per child per year}} = \frac{\text{number of childhood diarrhoea cases}}{\text{number of childhood diarrhoea cases}}$$

A-3 Estimate the number of childhood diarrhoea cases who will be treated at health facilities

$$\frac{\text{number of childhood diarrhoea cases}}{\text{number of childhood diarrhoea cases}} \times \frac{\text{proportion of all child diarrhoea cases to be treated at first-level health facilities}}{\text{proportion of all child diarrhoea cases to be treated at first-level health facilities}} = \frac{\text{number of childhood diarrhoea cases to be treated at first-level health facilities}}{\text{number of childhood diarrhoea cases to be treated at first-level health facilities}}$$

A-4 Of the childhood diarrhoea cases to be treated at first-level health facilities, estimate the number that will be given standard case management of diarrhoea (ORS and zinc)

$$\frac{\text{number of childhood diarrhoea cases to be treated at first-level health facilities}}{\text{number of childhood diarrhoea cases to be treated at first-level health facilities}} \times \frac{\text{proportion of cases treated at first-level health facilities that will be treated correctly (with ORS and zinc)}}{\text{proportion of cases treated at first-level health facilities that will be treated correctly (with ORS and zinc)}} = \frac{\text{number of cases to be given standard case management of diarrhoea (ORS and zinc) at first-level health facilities}}{\text{number of cases to be given standard case management of diarrhoea (ORS and zinc) at first-level health facilities}}$$

A-5 Estimate the number of childhood diarrhoea cases who will be treated at home or in the community

$$\frac{\text{number of childhood diarrhoea cases}}{\text{number of childhood diarrhoea cases}} \times \frac{\text{proportion of all child diarrhoea cases to be treated at home or in the community}}{\text{proportion of all child diarrhoea cases to be treated at home or in the community}} = \frac{\text{number of childhood diarrhoea cases to be treated at home or in the community}}{\text{number of childhood diarrhoea cases to be treated at home or in the community}}$$

A-6 Of the childhood diarrhoea cases to be treated at home or in the community, estimate the number that will be given standard case management of diarrhoea (ORS and zinc)

$$\frac{\text{number of childhood diarrhoea cases to be treated at home or in the community}}{\text{number of childhood diarrhoea cases to be treated at home or in the community}} \times \frac{\text{proportion of cases treated at home or in the community that will be treated with ORS}}{\text{proportion of cases treated at home or in the community that will be treated with ORS}} = \frac{\text{number of diarrhoea cases to be given ORS at home or in the community}}{\text{number of diarrhoea cases to be given ORS at home or in the community}}$$

$$\frac{\text{number of childhood diarrhoea cases to be treated at home or in the community}}{\text{number of childhood diarrhoea cases to be treated at home or in the community}} \times \frac{\text{proportion of cases treated at home or in the community that will be treated with zinc}}{\text{proportion of cases treated at home or in the community that will be treated with zinc}} = \frac{\text{number of cases to be given zinc at home or in the community}}{\text{number of cases to be given zinc at home or in the community}}$$

B. ESTIMATE QUANTITIES OF MEDICINES NEEDED FOR TREATING DIARRHOEA CASES

For cases of childhood diarrhoea to be given standard case management with ORS and zinc, plan to provide ORS packets, 2 per case, and zinc, one blister of 10 tablets per case.

B-1 Estimate the number of packets of ORS needed to treat childhood diarrhoea cases at health facilities and at home or in the community

$$\left(\frac{\text{number of cases to be given ORS at a health facility}}{\text{number of cases to be given ORS at a health facility}} + \frac{\text{number of cases to be given ORS at home or in community}}{\text{number of cases to be given ORS at home or in community}} \right) \times 2 \text{ packets per case} = \frac{\text{packets of ORS}}{\text{packets of ORS}}$$

B-2 Estimate the number of blisters of zinc needed to treat childhood diarrhoea cases at health facilities and at home or in the community

$$\left(\frac{\text{number of cases to be given zinc at a health facility}}{\text{number of cases to be given zinc at a health facility}} + \frac{\text{number of cases to be given zinc at home or in community}}{\text{number of cases to be given zinc at home or in community}} \right) \times 10 \text{ tablets per case} = \frac{\text{tablets of zinc}}{\text{tablets of zinc}}$$

$$\frac{\text{tablets of zinc}}{\text{tablets of zinc}} \div 10 = \frac{\text{blisters of zinc tablets}}{\text{blisters of zinc tablets}}$$

C. ESTIMATE QUANTITY OF MEDICINES TO ORDER AND COST

In column b, enter the required amount of each medicine estimated in section B.

For column c, multiply by 0.5 to estimate the additional amount for reserve stock (for times of unforeseen use such as during epidemics and logistics breakdowns) plus an amount for wastage (due to improper storage or transport, spoilage, etc.)

Record the sum of b + c in column d.

In Integratia, the cost of a packet of ORS is \$0.10. The cost of a blister of 10 zinc tablets is also \$0.10.

a Medicine	b Estimated amount to treat cases	c Proportion added for reserve (25%) and wastage (25%)	d Amount to order (b + c)	e Cost per packet/blister	f Total cost
ORS packets					
Blisters of zinc tablets					

Annex G

Short Programme Review

Short Programme Review

A Short Programme Review (SPR) is a process for evaluating the results of implementation of a programme for child health every 1–2 years. For an SPR, the programme gathers together and summarizes the monitoring and other data that has been collected by various methods so that a review team may then analyse and interpret the results. The SPR is most often organized by the national level.

The SPR is conducted in a team which includes ministry of health programme staff (central, regional, district, and facility levels could be included), staff from partner organizations who are involved in child health programming, local experts with knowledge of the programme, and an external facilitator. It is recommended that the size of the review team be limited to 10-20 participants to make work more efficient. It is important to include representatives of staff responsible for implementing the programme at different levels of the health system.

The objectives of an SPR are to:

- assess how well the programme implemented its plans to deliver child health interventions
- assess progress towards achieving population-based programme coverage targets (where data are available)
- identify problems the programme has faced and suggest solutions
- develop recommendations about what the programme needs to do

The SPR includes 7 steps which the SPR team completes in sequence in about one week. Participants start by reviewing the status of maternal and child health using available data. They then review how well the program has implemented child health interventions. Activities in each of the main programme areas in the workplan are reviewed.

Depending on the data collection activities that have been carried out by the child health programme(s) or other organizations, the team may review results of health facility surveys, small-scale household surveys, cumulative monitoring data, and any additional data that may be available (such as from a DHS or MICS3 survey, or research). (The data should have been collected in the previous year or two, but some may be older.)

Based on the findings, the team defines the main problems for further analysis. They then discuss these problems and identify feasible solutions. They use these solutions as the basis for developing detailed recommendations about what the programme should do in major activity areas, and then decide on next steps for ensuring that these recommendations are incorporated into workplans.

The SPR helps the programme identify which areas need strengthening and set new priorities if needed. The SPR should lead into the development of a new one-year implementation plan. Feedback should also be given to staff at all levels to help improve practices and awareness.

A protocol for conducting an SPR is available.¹⁵ It describes the preparation required, provides instructions for each step of the review and includes worksheets and handouts.

¹⁵ *Using Data for Reviewing Child Health Programme (Guidelines for conducting short programme reviews)*. Geneva, World Health Organization, 2009.

Annex H

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