

Insecticide-treated net (ITN) distribution channel selection toolkit

Step 2: Assess minimally feasible channels

Objective

- Identify the channels that meet the basic operational requirements for each population group; dismiss channel options that are not currently feasible.

Guidance

- The tables below present core questions to determine whether a channel should be excluded for not meeting minimum operational requirements.
- Aim to complete the questions for each channel by considering all population groups or geographic areas listed in Step 1 together. If the geographic contexts or health system contexts differ substantially between groups, users can consider completing Step 2 for each population group separately. Considering population groups separately will take more time but will target discussions and decisions to the specific contexts.
- For each channel, users should source and record key indicator values as part of a situation analysis prior to answering the questions on minimal requirements. Situation analysis tables should be completed to the extent possible given access to available data within a reasonable timeframe¹. Up-to-date results can help decide whether a channel should be included (this step) and suggest operational gaps (Step 3). Record the most recent, locally relevant data available and cite sources (e.g. Demographic and Health Survey (DHS), Malaria Indicator Survey (MIS), routine health management information system (HMIS), other government data systems, etc.).
- Summary results may mask important variations between and within population groups or geographic areas being considered. Users should review disaggregated data where meaningful differences are known or suspected and consider how conclusions about past channel performance and/or feasibility might differ across these sub-groups. Discussions and conclusions should be documented for transparency. In some cases, it may be necessary to further split one population or geographic group defined in Step 1 into two or more groups based on meaningful differences in the situation analysis. Alternatively, important sub-group differences in performance of an existing channel may lead to different conclusions about operational readiness (Step 3) and/or follow-up actions when developing or revising the channel plan of action (Step 5).
- As you work through the tables for each channel, complete the ITN delivery channel columns in the strategy matrix by marking channels as potentially included or excluded for a population group based on the guidance provided (e.g. put a tick or cross in each column for a given population group).

Expected outputs

- Completed situation analysis and minimum channel requirements tables
- Revised strategy matrix identifying feasible channels
- Accompanying documentation on the data used and discussions held during Step 2

¹ When the toolkit is being used for strategy review or channel review, it is recommended that all situation analysis indicators are completed for the channels under review to provide full evidence on context and historic channel performance.

Step 2

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Aim to complete the questions for each channel by considering all population groups or geographic areas listed in Step 1 together. If the geographic contexts or health system contexts differ substantially between groups, users can consider completing Step 2 for each population group separately. Considering population groups separately will take more time but will target discussions and decisions to the specific contexts.

Population group or ALL	Name of population group from Step 1 or ALL if channels considered for all populations
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Situation analysis: Key indicators for population group				
Summary population indicators		Value	Source	Year
SA1	Target group population (number)			
SA2	Average (mean) household size (number)			
SA3	Population living in urban areas (%)			
Estimates of ITN use and access		Value	Source	Year
SA4	Population-level ITN access (%)			
SA5	Population-level ITN use (%)			
SA6	Ratio of ITN use:access			
SA7	ITN use among pregnant women (%)			
SA8	Percentage of pregnant women who slept under an ITN the previous night among pregnant women in households with at least one ITN (%)			
SA9	ITN use among children under five (%)			
SA10	Percentage of children under five who slept under an ITN the previous night among children under five in households with at least one ITN (%)			

Distribution through routine health services				
Situation analysis		Value	Source	Year
RO1	Pregnant women as a percentage of the population (%)			
RO2	Children under one year old as a percentage of the population (%)			
RO3	Percentage of households with one or more pregnant women (%)			
RO4	Percentage of households with one or more children under one year (%)			
RO5	Antenatal care (1+ visit) (%)			
RO6	Measles-containing-vaccine first-dose (MCV1) immunization coverage among 1-year-olds (%)			
RO7	DPT3 immunization coverage among 1-year-olds (%)			
RO8a	Is the malaria vaccine being deployed to this group?			
RO8b	Malaria vaccine first dose coverage among 1-year-olds (%)			
RO8c	Malaria vaccine last dose coverage among target age group (%)			
RO9	Percentage of target households with ≥1 ITNs from routine health service distribution (%)			

	Can be derived by secondary analysis of DHS, MIS or other household survey data that included an ITN roster with ITN source data					
RO10	ITN administrative coverage for ANC distribution (% from routine reporting data)					
RO11	ITN administrative coverage for EPI distribution (% from routine reporting data ²)					
Minimum channel requirements						
Q1	Is ANC uptake fair or good in the target populations, considering the percentage of pregnant women who complete ANC1 (see situation analysis and note)?	YES	Consider including ANC distribution in the strategy. Decisions will be required on: <ul style="list-style-type: none">Eligibility criteriaAllocation strategy	Go to Q2		
		NO	Consider including ANC distribution in the strategy but note the need to strengthen service uptake. Plan for additional continuous channels to ensure targets are achieved.	Go to Q2		
Q2	Is EPI uptake fair or good in the target populations, considering the coverage of MCV1, MCV2, or last malaria vaccine (target vaccine and eligibility can vary; see situation analysis and note)?	YES	Consider including EPI distribution in the strategy. Decisions will be required on: <ul style="list-style-type: none">Eligibility criteriaAllocation strategy	Go to Q3		
		NO	Consider including EPI distribution in the strategy but note the need to strengthen service uptake. Plan for additional continuous channels to ensure targets are achieved.	Go to Q3		
Note: Determining whether uptake is “fair” or “good”. There is no guidance on a threshold for ANC and EPI attendance above or below which these channels should be considered. WHO advises that “ANC [and] EPI ... should be considered high-priority continuous ITN distribution channels in countries where these services are used by a large proportion of the population at risk of malaria, as occurs in much of sub-Saharan Africa” ³ . Teams should discuss health facility service attendance with relevant counterparts in assessing whether a channel is likely to be cost-effective in reaching the most vulnerable groups directly. Consider also sub-national variation in both levels of attendance and malaria burden. It will be necessary to consider the reach and effectiveness of other channels in the channel mix after Steps 2 and Step 3, which may lead users to revisit an initial decision.						
Q3	Are there other health facility-based services, within and beyond malaria, which provide opportunities for ITN distribution to this population (see note)?	YES	Consider including other health facility-based distributions in the strategy. Decisions will be required on: <ul style="list-style-type: none">Eligibility criteriaAllocation strategy	Go to Q4		
		NO	Omit other health facility-based distributions from the strategy.	Go to Q4		
Note: Other health facility-based services Examples of other eligible groups include children under five years admitted to a health facility with severe malaria; caregivers of children under five years, at their MNCH, IMCI, or other health contact; patients or caregivers, following completion of treatment for (severe) malaria; people living with HIV/AIDS who enrol for the first time at a care and treatment clinic; other vulnerable populations, e.g. mobile and migrant populations, those affected by natural disasters, orphans, and the elderly.						

² Note: EPI distribution data may undercount actual distribution due to recording limitations. In many settings, DHIS2 lacks a dedicated EPI ITN field. Cross-check with procurement and stock-out data where available.

³ <https://iris.who.int/server/api/core/bitstreams/4b3b8f78-2764-4159-ae2f-0b49dcb3b102/content>

Q4	Would it be practical for health facility staff to distribute ITNs during outreach activities to this population? (e.g. carry ITNs with ANC/EPI supplies or with mobile health and nutrition teams)	YES	Consider including outreach distribution in the strategy. Decisions will be required on: <ul style="list-style-type: none"> • Eligibility criteria • Allocation strategy 	Go to Q5
		NO	Omit outreach activities from the strategy.	Go to Q5
Q5	Can routine health services continue to operate reliably during armed conflict, insecurity, population displacement and other complex operating situations (COE)?	YES	Continue to include the above choices in the strategy. Consider channel adaptations to COEs as outlined in AMP's Operational guidance for ITN distribution in COEs .	
		NO	Consider channel adaptations to COEs as outlined in AMP's Operational guidance for ITN distribution in COEs .	

Distribution through mass campaigns					
Situation analysis			Value	Source	Year
MC1	Percentage of target households with ≥ 1 ITNs from the last mass campaign (%) <i>Can be derived by secondary analysis of DHS, MIS or other household survey data that captured appropriate data on ITNs</i>				
MC2	Percentage of the population in hard-to-reach or insecure locations (%)				
MC3	Percentage of the population living in urban areas (%)				
Minimum channel requirements					
Q6	Are the target populations large and cohesive enough to justify a mass campaign-style operation (e.g. target populations cover entire regions or districts, cover entire refugee settlements)?	YES		Go to Q7	
		NO		Go to Q7	
Q7	Is it operationally feasible to reach most households within a defined campaign period, considering accessibility, population mobility and security?	YES		Go to Q8	
		NO	Omit mass campaigns from the strategy and consider alternative channels.	Go to next channel	
Q8	Does evidence from previous campaigns indicate that coverage and equity targets were achieved for similar population groups and/or contexts?	YES		Go to Q9	
		NO	Review the campaign lessons learned and assess the likelihood that a future campaign could mitigate or overcome past challenges.	Go to Q9	
Q9	Are there opportunities to integrate ITN distribution with other interventions that target the same population group (e.g. SMC, malaria vaccination or other health campaigns)?	YES	Explore integration options if mass campaigns are included as a channel.	Go to Q10	
		NO	Maintain standalone mass campaigns in the strategy.	Go to Q10	
Q10	Would the target populations be more efficiently reached through continuous channels (routine, school, community-based or commercial) than through a periodic campaign?	YES	Explore the readiness for all feasible channels (including mass campaigns) to inform a final decision on channel mix.	Go to Q11	
		NO	Consider including mass campaigns in the strategy.	Go to Q11	
Q11	Are the target populations or parts of the target geography affected by armed insecurity, population displacement or seasonal inaccessibility that would limit the feasibility of a mass campaign?	YES	In the context of the above guidance, consider including mass campaigns in the strategy with adapted operational approaches for COE environments and implementation outside the seasons that create bottlenecks.		
		NO	In the context of the above guidance, consider including mass campaigns in the strategy. Decisions will be required on: <ul style="list-style-type: none"> Target geographies Eligibility criteria Allocation strategy 		

School-based distribution					
Situation analysis			Value	Source	Year
SB1	Primary gross enrolment (% , disaggregated by gender and urban/rural) <i>Total number of students enrolled in a specific level of education, regardless of age, as a percentage of the population in the official age group for that level of education</i>				
SB2	Secondary gross enrolment (% , disaggregated by gender and urban/rural)				
SB3	Attendance – primary (% of enrolled, by school type and grade)				
SB4	Attendance – secondary (% of enrolled, by school type and grade)				
SB5	Households with primary school-aged children (%)				
SB6	Households with secondary school-aged children (%)				
SB7	Percentage of eligible households with ≥1 ITNs from the last school-based distribution (%) <i>Can be derived by secondary analysis of DHS, MIS or other household survey data that captured appropriate data on ITNs</i>				
SB8	Administrative coverage achieved by last school-based distribution (% of available ITNs that were distributed, from routine reporting data)				
Minimum channel requirements					
Q12	Is the target population served by the primary and/or secondary school network (public, private, boarding, and/or faith-based)?	YES			Go to Q13
		NO	Omit school-based distribution from the strategy and consider alternative channels.		Go to next channel
Q13	Is primary and/or secondary school attendance or enrolment fair to good in the target geography (see situation analysis and note)?	YES	If enrolment is good but attendance is poor, the attraction of ITNs may increase attendance, and the enrolment suggests that access to schools is still reasonably good.		Go to Q14
		NO	Omit school-based distribution from the strategy and consider alternative channels.		Go to next channel
<p>Note: Determining whether enrolment is “fair” or “good”.</p> <p>Practice suggests that in areas of low school enrolment (less than 50% average in primary classes) schools are unlikely to be cost-effective or equitable. However, if geographic reach into communities is good, schools could play a role as distribution hubs to communities (beyond only enrolled students). In areas with average enrolment of 50% to 80%, school-based distribution may reach households not reached by other channels. If schools are considered, careful contextual analysis is required during Step 3, operational readiness. In areas of high school enrolment (over 80% average in primary classes) schools can be a highly efficient channel with the ability to modify the size of the target group in line with the number of ITNs required or available. More details are available in the AMP SBD toolkit and the guide School-based distribution of long-lasting insecticidal nets: a short guide based on recent country experience.</p>					
Q14	Are you reasonably confident that Ministry of Education (MoE) enrolment data are available and accurate enough for planning?	YES			Go to Q15
		NO	If school-based distribution is included in the strategy, note the need to strengthen enrolment data or school data reporting. A standalone micro quantification exercise could inform initial planning if		Go to Q15

			resources are available but should not replace data system strengthening.	
Q15	Are schools serving the target population consistently functional and accessible during armed conflict, insecurity, population displacement and other complex operating situations?	YES	<p>Consider including school-based distribution in the strategy.</p> <p>Decisions will be required on:</p> <ul style="list-style-type: none"> • Target geographies • Target classes • Allocation strategy <p>Review relevant channel adaptations to COEs as outlined in AMP's Operational guidance for ITN distribution in COEs.</p>	
		NO	<p>Consider channel adaptations to COEs as outlined in AMP's Operational guidance for ITN distribution in COEs.</p> <p>Consider the need for complementary channels to serve COE.</p>	

Community-based distribution					
Situation analysis			Value	Source	Year
CB1	Estimated number of community health workers (CHW) serving the target populations (or active in the target geographies)				
CB2	Percentage of communities with active CHWs (%)				
CB3	Ratio of CHWs to households <i>Ratio of CHWs to population can be used if the number of households is not known or difficult to estimate for this population group.</i>				
CB4	Reach of civil society organizations (CSOs) <i>Indicator will vary depending on availability of data on CSO operations. The purpose is to record a measure of the coverage and/or strength of implementation of CSOs or other community structures that could potentially support community-based distribution.</i>				
CB5	Percentage of target households with ≥1 ITNs from community-based distribution (%)				
CB6	Administrative coverage (% from routine reporting data)				
Minimum channel requirements					
Q16	Is there a functioning CHW network serving the populations or active in the target geographies?	YES			Go to Q17
		NO			Go to Q17
Q17	Are there well-functioning and trusted community-based systems or networks in the target geographies with good community links among the population groups (e.g. religious groups, civil society organizations)?	YES			Go to CHECK
		NO			Go to CHECK
CHECK	Is a functioning CHW network OR a community-based system present? (If Q16 = YES OR Q17 = YES)	YES	This is a minimum requirement for CBD.		Go to Q18
		NO	Omit community-based distribution from the strategy.		Go to next channel
Q18	How confident are you that CHWs and/or other community agents could manage ITN distribution and reporting activities in addition to their current activities (see note 1)?	CONFIDENT			Go to Q19
		NOT CONFIDENT	Omit community-based distribution from the strategy.		Go to next channel
Q19	How confident are you that the health facility network and/or community-based networks could manage ITN logistics, issuing to CHWs or other community distribution agents (see note 2)?	CONFIDENT			Go to Q20
		NOT CONFIDENT	Omit community-based distribution from the strategy.		Go to next channel
Q20	How confident are you that local health facility personal and district health supervisors could reliably oversee community-based distribution activities (see note 2)?	CONFIDENT	Consider including community-based distribution in the strategy. Decisions will be required on: <ul style="list-style-type: none"> Target geographies Allocation strategies 		Go to Q21

		NOT CONFIDENT	Omit community-based distribution from the strategy.	Go to next channel
<p>Note 1: ITN distribution and reporting activities Community-based distribution designs can be highly flexible to fit the context in which they operate. For example, distribution could be via e-token and referral to a fixed redemption point or by direct delivery to households. CHWs or community agents could take on a range of activities depending on their existing responsibilities. At a minimum, they would be expected to confirm eligibility, distribute coupons/alternatives and/or ITNs, and perform simple reporting. Staff capacity and workload should be assessed to consider implications of ITN reporting and distribution activities.</p> <p>Note 2: Logistics and supervision activities Sufficient capacity should exist within the routine health system and/or among local administrative, commercial or community-based networks to play a supporting role by acting as ITN redemption points, providing transport and conducting supervision of community-based agents. The answers to questions 16 and 17 are likely to be positive if community outreach services are already provided from health centres or health posts to the community, or civil society organizations are already active in promoting, delivering and/or monitoring health or development activities (these do not need to be related to malaria).</p>				
Q21	Are CHWs and/or other community agents able to operate safely and maintain communication during armed conflict, insecurity, population displacement and other complex operating situations?	YES	Consider including community-based distribution in the strategy. Review relevant channel adaptations to COEs as outlined in AMP's Operational guidance for ITN distribution in COEs .	
		NO	Consider channel adaptations to COEs as outlined in AMP's Operational guidance for ITN distribution in COEs . If safety cannot be assured based on the guidance, omit community-based distribution from the strategy.	

Commercial sector				
Situation analysis ⁴		Value	Source	Year
CO1	Percentage of target households with ≥1 mosquito net from the commercial sector (%) <i>Can be derived by secondary analysis of DHS, MIS or other household survey data that captured appropriate data on ITNs</i>			
CO2	Percentage of target households that purchase mosquito control products (coils, plug-in emanators, sprays, incense sticks, etc.) (%)			
CO3	Estimated consumer willingness-to-pay for a standard size ITN (local currency)			
CO4	Volume and value of mosquito control products sold in target markets annually			
CO5	Number of prequalified ITN brands registered for private sector wholesale and retail sale			
CO6	Commercial sector mosquito net availability in shops in target markets (% of retail sales points)			
CO7	Commercial sector ITN availability in shops in target markets (% of retail sales points)			
CO8	Median commercial sector ITN cost for a standard size ITN (local currency)			
CO9	Estimated consumer willingness-to-pay for a standard size ITN (local currency)			
Minimum channel requirements				
Q22	Will some of the target population be willing and able to pay for ITNs?	YES		Go to Q23
		NO	Omit the commercial sector from the strategy.	End
Q23	Is there an existing commercial market for vector control products that could be supported to expand and sell ITNs?	YES	Consider including the commercial sector as a channel in the strategy. Decisions will be required on: <ul style="list-style-type: none"> Types of commercial approaches, considering equity – e.g. social marketing including full and/or partial cost recovery; market facilitation; exploration of local manufacturing Resources to cover coordination, communication, start-up costs, etc. Regulatory framework and requirements for product registration Costs and financial management 	End
		NO		Go to Q24
Q24	Is there an existing commercial market for other goods that has potential to be supported and primed to distribute ITNs?	YES	Consider including the commercial sector as a channel in the strategy. Support will be required to prime the market (e.g. deal brokering, import support, technical	End

⁴ Data on private sector mosquito net and ITN sales may be unavailable or sparse, particularly in settings that have never explored or monitored commercial sector sales. Information to populate CO1 may be available from the regulatory authority that deals with chemicals and insecticides. If existing survey data are unavailable, baseline information for CO2-CO4 can be gathered from light-touch surveys of key formal and informal markets in urban areas. Malaria programmes wanting to explore the ITN commercial sector should plan for a formal baseline market and consumer survey where this information does not already exist.

			<p>assistance to marketing and price subsidies) and the return on investment of this approach will need to be considered against targeting resources to other channels.</p> <p>Decisions will be required on:</p> <ul style="list-style-type: none"> • Private sector engagement model to promote plan and generate demand • Types of commercial approaches, considering equity – e.g. social marketing including full and/or partial cost recovery; market facilitation; exploration of local manufacturing • Resources to cover coordination, communication, start-up costs, etc. • Regulatory framework and requirements for product registration • Costs and financial management 	
		NO	Omit the commercial sector from the strategy.	End