EXPANDING THE OWNERSHIP AND USE OF MOSQUITO NETS

Risks and possible mitigation measures for digitalization of ITN mass distribution

The following is a list of potential risks associated with digitalizing ITN mass campaign activities, as well as possible mitigation measures that national malaria programmes should consider. Note that both risks and mitigation measures are not exhaustive. National malaria programmes should work with their digitalization sub-committee and ICT team to identify other potential risks that might be specific to their operating context. The risk assessment and mitigation measures for the digitalization should be included in the overall campaign risk assessment and mitigation plan and, as per the other risks identified, the status for each should be updated on a regular (minimum monthly) basis. Planning for the piloting or deployment of a digital platform should include a full risk and mitigation plan (heat map, risk owner, etc.) developed by the digitalization sub-committee. Refer to AMP toolkit, Chapter 5, Brief 3: *Risk mitigation planning*. https://allianceformalariaprevention.com/wp-content/uploads/2021/03/AMP-Toolkit-report-2015_Chapter5_EN_LR-1.pdf

Campaign area	Example risks	Example mitigation measures
Macroplanning	A digitalization strategy and plan of action is not developed in time, leading to delayed decision-making on the digitalization needs for the campaign and, subsequently, to overall campaign implementation delays.	Ensure that a digitalization sub-committee and/or the ICT4D technical experts are recruited at least ten to twelve months before campaign implementation, and that their terms of reference (ToR) include the development of a detailed digitalization plan of action (DPoA), including timeline and budget.
	Insecurity at field level or in challenging operating environments (CoE) may lead to theft of GPS devices, as well as put the lives of staff in danger given that devices can be highly sought-after commodities.	Ensure that areas with high insecurity have been identified during macroplanning. Once identified, determine approaches that can be considered including (1) deciding to maintain paper-based data collection in areas at high-risk, (2) planning advocacy meetings with security agencies/local leaders etc. to discuss options for ensuring security of personnel and devices, or (3) planning other options based on the context. Base the plans, quantification and budget for digitalization on the decisions taken related to insecurity.

Plan for Mobile Device Management (MDM) software that can lock, erase and remotely locate and access devices. If no MDM software |

Campaign area	Example risks	Example mitigation measures
		budget is planned, consider using "community-owned" devices wherever possible to mitigate against loss of devices.
Microplanning	Inadequate or insufficiently detailed information is requested or collected in advance of microplanning workshops concerning digitalization, leading to incomplete plans and budgets that may negatively affect implementation quality.	Ensure that the digitalization sub-committee and/or the ICT4D technical experts develop the list of information to collect for digitalization in advance of the microplanning workshops. As possible, ask for information to be sent from districts back to the national level in advance of the workshops to provide feedback as needed to improve information quality.
	The profiles of people selected for microplanning, both as facilitators and as participants, lead to insufficient detail and quality in the digitalization microplans, negatively affecting the implementation of campaign activities.	Ensure that planning and budgeting for the microplanning fully incorporates the digitalization aspect. Expand the number of facilitators and participants to ensure sufficient focus on digitalization: detailed microplanning is a major step towards mitigating other implementation challenges. Ensure that facilitators and participants identified for the digitalization component understand the technology and the platform that will be used for different campaign components (e.g. microplanning, household registration, ITN distribution, payments, etc.).
	The microplanning process is planned too late in the campaign process or is delayed, leading to a gap in critical information needed to finalize quantification and procurement in advance of implementation.	Plan for alternative methods for the collection of critical microplanning information (such as network availability) if the microplanning process is planned late or may be delayed. This may include working with MoH or implementing partner staff (at field level) to gather the required information through easy-to-use data collection tools and ensuring the information is sent to the central level as early as possible to finalize quantification and procurement, as well as budgeting.
	Lack of confidence in the accuracy of geospatial data (population estimates, travel distance, previously unknown areas/housing/settlements, etc.) by local authorities.	The microplanning workshop agenda should include time for triangulation and validation of data from other sources. Sufficient time should be allocated to discuss specific examples and build confidence in the use of geospatial data as a basis for planning.
	Lack of familiarity with Geographic Information System (GIS) technology among campaign personnel.	Ensure that the ICT4D team includes personnel with strong GIS profiles/experience. In addition, training on geospatial modules to equip the teams with basic understanding and familiarity with maps and use of Global Positioning System (GPS) data will help reduce the risk of

Campaign area	Example risks	Example mitigation measures
		errors (at all stages of the campaign) that are due to lack of familiarity with GIS. Ensure that microplanning agendas for the training of facilitators and the workshops themselves are adjusted to include additional time to familiarize participants with GIS/GPS data use.
	Limited internet connectivity for downloading and/or printing capabilities could mean that high resolution maps will not be available for the microplanning process.	Before the microplanning process, assess internet connectivity in the areas where the microplanning workshops will take place. Allocate enough budget for internet connectivity during the microplanning training of facilitators and workshops. If internet connectivity is weak and the downloading and printing of high-resolution maps is not possible at the level where the microplanning workshops will take place, consider printing maps at the national level (either private sector or within United Nations or other partner organizations) to maximize the accuracy of microplanning mapping and benefit from potential triangulation of population and population location data.
	There may be existing restrictions in collecting data locally from government institutions.	Comply with local government data policy and stick to what is available to mitigate any risk of liability. Address correspondence to the authority stating why you need the data and how they will be used.
	Some of the information required for microplanning for digitalization (e.g. mobile phone coverage in hard-to-reach areas) may not be available in advance of or during microplanning workshops. In insecure areas, access to mobile phone networks may vary depending on the context.	If critical information cannot be obtained through other means or is likely to change significantly between planning and implementation, consider options (such as MiFi or local hotspots) or maintaining paper-based data collection where appropriate. Where paper-based data at the registration/distribution team level is maintained, consider options for digitalization of the data as early as possible in the data transmission circuit (e.g. health facility or sub-district level).
Training	Training in digitalization component of the campaign might not be of the required standard, leading to gaps in knowledge and skills at all levels of personnel which, in turn, is likely to lead to poor campaign implementation and outcomes.	Ensure that ICT4D teams are included as facilitators (and have contributed to the development of the training manual) of the ToT at central and district level. ICT4D staff members should be included in planning and budgets for monitoring of decentralized training sessions to ensure quality.

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	Training focus may shift towards the devices and the digital data at the expense of other crucial campaign areas such as ITN accountability and social and behaviour change (SBC).	Ensure sufficient time is allocated in the training agendas at all levels for both the technical (theme-specific) and digitalization aspects of the campaign. As needed, increase the number of days for training to ensure that all topics are sufficiently covered.
Household registration	Lack of familiarity with digitalization devices at the field level leads to errors in data entry.	Make familiarity with mobile devices a prerequisite for recruitment. Where this may be challenging, ensure that sufficient time is spent during training to give participants time to familiarize themselves with the use of mobile devices, which may require extending the training session time. Consider using community leaders and non-tech savvy volunteers and community members for other ITN campaign activities that do not require use of devices, such as crowd control and verification that people are at the right distribution point. Make sure the questionnaire designed to collect the required data has limited free text entry and includes automatic logic checks for inconsistent data. Test the filling in of the questionnaire on the devices before deploying it.
	Over-focus of teams on the digital data collection at the expense of other household-level activities, including dissemination of SBC messages.	Ensure that supervision checklists include all aspects of the household registration and that supervisors focus on both the data collection and the other aspects of the registration, including the SBC.
	Inconsistent electricity supply leads to devices not being charged regularly.	Ensure that power banks are provided to areas with inconsistent electricity supply. Ensure the application or platform selected has an offline data collection option. Make sure that the microplanning process identifies these areas. Use the MDM software to block installation of apps and make sure other unnecessary apps are deactivated and not consuming battery life.
	Data input errors lead to decision-making based on incorrect data/information.	Improve training so that participants can practise inputting information. Improve supervision of door-to-door and fixed distribution point teams and ensure that step-by-step standard operating procedures (SOPs) are available for teams and supervisors to use. Ensure monitoring of household registration (either internal or independent). Train data managers to ensure that data submitted daily are checked for errors

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		and feedback is provided as quickly as possible for corrective action. Build controls into the questionnaire to mitigate predictable errors.
	The use of "community-owned" devices that do not meet basic minimum technical requirements may lead to delays in implementation.	Ensure that a minimum standard for technical requirements of devices is established so that devices can operate with the selected data collection platform.
	Poor to no internet connectivity to upload collected data.	Ensure that microplanning includes mapping of areas of coverage for different telecommunications companies operating in the country. Make sure that the chosen digital solution allows for offline data collection. Provide mobile devices with enough capacity to handle data collected. Identify the closest network coverage area to synchronize with the server. Consider a paper-based option or back-up.
	Insecurity at field level or in COE may lead to theft of devices critical to the digitalization process, as well as putting the lives of staff in danger given that mobile devices can be highly sought-after commodities.	Ensure that areas with high insecurity have been identified during macroplanning and verified during the microplanning process. Once identified, determine approaches that can be considered including (1) maintaining paper-based collection in areas at high risk, (2) organizing advocacy meetings with security agencies/local leaders etc. to discuss options for ensuring security of personnel and devices, or (3) other options based on the context.
Supply chain	Lack of familiarity with digitalization devices/processes throughout the supply chain leads to errors in data transmission that affect ITN accountability.	Ensure that logistics staff (at all levels) are properly trained in the digitalization process and protocols and have time to practise the use of the digital tools for record-keeping. Track data submitted against data expected to be submitted and proactively investigate data not transmitted in time using the platform or the MDM software.
	Insecurity at sub-national storage levels or in COE may lead to theft of devices critical to the digitalization process.	Ensure that areas with high insecurity have been identified during macroplanning and verified during the microplanning process. Once identified, determine approaches that can be considered including (1) maintaining paper-based data collection in areas at high risk, (2) organizing advocacy meetings with security agencies/local leaders etc. to discuss options for ensuring security of personnel and devices, or (3) other options based on the context.

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Social and behaviour change	Households with low access to digital tools (e.g. mobile devices, internet connection etc.) are not receiving key SBC messages.	Ensure that the digitalization plan of action uses data (such as phone and smartphone penetration, social media use, etc.) to inform decisions about SBC and use of digitalization and online platforms for message dissemination. Ensure that the microplanning process identifies areas/populations with little to no access to digital tools and that alternative SBC activities and message dissemination channels are identified to increase reach to all targeted households.
ITN distribution	Lack of familiarity with digitalization devices at the field level leads to errors in data entry during ITN distribution.	Make familiarity with mobile devices a prerequisite for recruitment. Where this may be challenging, ensure that sufficient time is spent during training to give participants time to familiarize themselves with the use of mobile devices, which may require extending the training session time. Consider using community leaders and non-tech savvy volunteers and community members for other ITN campaign activities that do not require use of devices, such as crowd control, and verification that people are at the right distribution point. Develop SOPs for the devices and troubleshooting that data collectors can quickly refer to for guidance. Ensure the SOPs include procedures for when and how to escalate an issue, as well as to whom, before it becomes critical.
	Inconsistent electricity supply means that devices may not be charged regularly.	Ensure that power banks are provided to areas with inconsistent electricity supply. Make sure that the microplanning process identifies these areas.
	Data input errors mean that decisions might be taken on incorrect data/information.	Improve training so that participants can practise inputting information. Improve monitoring of ITN distribution data submitted online for identification of data errors. Build in controls in the application to automatically catch common errors.
Supervision	Data collected do not allow for easy identification of errors and targeting of corrective measures.	Make sure that metadata are enabled when completing the questionnaire to collect device ID, time, date and geolocated data to facilitate monitoring and corrective measures where needed.
Monitoring	Low or inconsistent internet access may mean that monitoring data are not received in real/near real-time, leading to delays in decision-making.	Ensure that areas of low or inconsistent internet connectivity are identified during microplanning and that alternatives (such as MiFi or

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		other means of connectivity, transmission of data collected by SMS prior to synchronization to the database, etc.) are planned for these areas.
Payment	Insufficient cash at the point of payment	Coordinate with the preferred telecom network providing the mobile payment in each location and provide information about amounts and dates for payments to campaign actors to facilitate early planning.
	Identification alignment between campaign workers and numbers provided for payment as, for example, when a phone is "borrowed" for payment purposes	Check with mobile telecom companies for technical means of mitigation, e.g. company provides one-off SIM card to each user.