World Health Organization

## Measuring access to assistive technology using the rapid Assistive Technology Assessment (rATA)

# GLOBAL DEPLOYMENT PLAN

GATE

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## Background

**Today, 1 billion people need assistive technology (AT) to lead productive, inclusive and dignified lives, but only 1 in 10 people globally have access to the AT they need.**[1] Access to AT is essential for many people to maintain and improve function, health and well-being, and to participate in education, work and social activities. Among the people who commonly need AT are older people, people with disabilities and people living with chronic conditions. As the world population ages and the prevalence of non-communicable diseases increases, the need for AT will continue to rise.

**The resolution on improving access to AT was adopted at the 71st World Health Assembly**. The resolution mandates WHO to publish the ***Global report on assistive technology* (GReAT) by 2021**, based on best evidence; to provide technical support to Member States in developing national AT policies and programmes; to include AT in universal health coverage (UHC) efforts; and to realize the aspirations of the UN Convention on the Rights for People with Disabilities (CRPD). Progress on access to AT are to be reported in 2026 and 2030.

Despite the urgency and the global imperative to improve access to AT, **few data have been systematically collected in countries to demonstrate the need and unmet need for AT among national populations**. Gathering data for the GReAT provides countries with the opportunity to take critical, coordinated steps towards such data collection, and to collectively forge a path to improving AT access worldwide.

## The rapid Assistive Technology Assessment (rATA)

**WHO has developed a household survey to support countries in obtaining data to understand the need, unmet need, and the barriers to accessing AT in the population**. The rATA aims to 1) obtain data on access to AT in a country's population; 2) support the design, planning or prioritizing of a national AT programme or interventions; and 3) advocate and raise awareness among governments and civil society about the importance of AT. To meet the objective of obtaining data on need and unmet need for AT in a country's population, a national representative sample is required.

The data collection exercise being conducted during 2020–2021 will provide the baseline understanding of AT access that will form the basis of the GReAT. The survey will also be used to collect data to assess interventions to improve access to AT in the two follow-up progress reports in 2026 and 2030.

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[1] Assistive technology factsheet. Geneva: World Health Organization; 2018 (https://www.who.int/en/news-room/fact-sheets/detail/assistive-technology, accessed 27 October 2017).

The data collection is being done using WHO's rATA survey tool – an interviewer-administered household survey that can be used on its own or incorporated into broader population or household surveys or a national census. The survey is simple to administer and non-technical, so it can be used by enumerators from varied backgrounds and experiences and across cultures and contexts. A digital data collection tool for mobile devices has been developed to support field data collection (see Annex A).

## Global and national deployment plans

This document sets out a Global Deployment Plan for the rATA survey that can be used by countries worldwide. It provides a detailed, step-by-step review of the entire rATA process, from planning and preparation, to the compilation of a final data set that can be fed into the GreAT. This will help provide a global picture on access to AT by region, and can be used to give a snapshot of the AT situation at country level. The Global Deployment Plan covers all issues shared across countries, and can form the basis of national deployment plans to be developed at country level, ensuring adherence to general rATA guidelines, and advice on country-level adaptation and specifications.

# Deploying rATA: a step-by-step guide

### 1. Engage with key actors

Successful implementation of a survey using the rATA requires the **Ministry of Health** (**MoH**) to take a lead. **WHO country offices** (**WCO**), **regional offices** (**RO**) and **WHO Headquarters** (**WHO HQ**) will work closely with countries to provide technical guidance and support throughout the process. The MoH should appoint a **National Data Coordinator** (**NDC**) according to the Terms of Reference (ToR).[2] The NDC can be selected from within the MoH or may be an expert recruited from an external agency who has the required qualifications. The NDC will undergo master training organized by WHO HQ.[3]

A kick-start meeting with the NDC, WCO, RO, HQ and GDC will take place as soon as the NDC is nominated in the respective countries.

The **NDC**, **MoH** and **WCO**, **RO** and **Global Data Coordinator** (**GDC**) within **WHO HQ** clarify roles and responsibilities in the data collection process. This will be included in the "master training" sessions carried out prior to country level implementation.

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[2] ToR for the NCD can be obtained from the respective WHO regional office.

[3] Master training of all NDCs will be online and carried out by WHO HQ.

## 2. Hosting by MoH

It is an important initial task for the NDC to secure high-level support for in-country data collection from the government/MoH, including the following:

- Agreement to the objectives of the exercise, and ensuring that the purpose and objectives of the rATA are officially acknowledged at ministerial level.
- Ensuring that procedures for communication and reporting to the MoH are in place, and set out the reporting lines for the NDC.
- Gaining ethical clearance: the NDC should identify the relevant ethical board/committee to approve the data collection, obtain application documents and submit the application. As processing of such applications may take some time, the application needs to be submitted as soon as possible. The MoH may be able to speed up the process.
- Gaining formal permission from the MoH for conducting the survey in the country.
- Gaining permission from the MoH for publishing survey data in the GReAT.
- Ensuring the MoH has put in place the necessary infrastructure for survey implementation and communication, including office space, and computer and communication facilities for the NDC (including facilities for international communication).

## 3. Establish work procedures

The NDC will need both practical and expert support relevant for the rATA beyond the formal hosting of the MoH. Organizing the project to ensure that there is sufficient advice and support available for major choices and decisions when planning the rATA, access to resources and networks and assistance with practical tasks will increase the likelihood of smooth implementation, as well as give a role to some key stakeholders. Project organization will need to be adapted to each country context, and some of the options are:

- A steering committee led by the responsible “owner” of the project, in this case the MoH, which decides on the priorities and manages the project.
- A reference group that provides topical advice to the NDC to ensure successful implementation, but does not make decisions. The NDC can choose the topics for discussion/advice and how to act on input from the reference group.
- A project team comprising a small number of selected people that have dedicated time to help the NDC in implementing the rATA.

- Support from experts with experience particularly relevant to rATA implementation, e.g. in statistics and sampling. These experts are on hand to help the NDC as required.
- A secretariat with one or more persons that have dedicated time to assist with practical tasks, such as organizing meetings and venues, arranging accommodation etc.

The NDC needs to decide on the type of organized support that is needed in liaison with the MoH, and include this in the national deployment plan.

## 4. Recruit or subcontract the research group or agency

The practical implementation of the data collection must be carried out by a research group, an agency or similar entity with the necessary competence and relevant experience of similar exercises (national, representative surveys). The subcontracted agency should be an organization with experience in data collection and data management and will be responsible for recruitment of enumerators (interviewers) and data collection. It will also take part in the enumerator training, led by the NDC.

The research group or agency is subcontracted by the MoH, following standard contractual in-country procedures. While the selection of the research group or agency is the responsibility of the MoH and the NDC, it is recommended that this is based on a bidding process that can be either open or limited to a small number of prospective bidders.

It is key to successful data collection that the recruited agency has both the necessary competence and capacity to implement data collection within the strict timelines of the rATA. Terms of Reference and competencies for the research group/agency have been developed to guide the recruitment process in participating countries (see Annex B).

## 5. Develop national deployment plan

This document describes all the steps in the implementation of the rATA at country level. It provides a recommended timeframe and has been developed to guide the country specific deployment plans. It is the responsibility of the NDC to develop a deployment plan for his/her country. The draft deployment plan should be subject to inputs from stakeholders (via a stakeholder meeting), resource persons at national level and HQ/GDC. A national deployment plan must be tailored to the country context, reviewed by WHO/GDC, and must be ready before enumerators training takes place. It is recommended that the structure of all national deployment plans (NDP) adheres to the structure set out in this Global Deployment Plan, and that it includes an indicative project timeline (a reference timeline is included in Annex C). A detailed description of each implementation step should be provided in the plans (Annex D contains a brief summary of what should be included).

## 6. Translate rATA questionnaire

The rATA survey instrument (questionnaire) is available in standard UN languages (Arabic, Chinese, English, French, Spanish, Russian) and Portuguese. This includes the electronic data collection tool. The need for translation into local languages should be considered at country level. If deemed necessary, the NDC should ensure that professional translation is carried out (including back-translation). The digital tool may be translated into the official language of a country, but it is advised that wherever this is necessary, it should be flagged with WHO HQ as technical support may be required from the project team for adaptation. In countries where this process may be too complex and/or if translation is deemed not to be critical or practical, an alternative is to use one of the standard UN languages and to ensure that enumerators are fluent in the local language/s in order to translate it during data collection where necessary.

## 7. Organize a stakeholder meeting

A range of individuals, organizations and institutions may be considered to be AT stakeholders. These can be representatives of disabled people's organizations, producers and providers of AT, the ministry responsible for AT provision in the country, other ministries with responsibilities that are relevant for AT provision, AT professionals, research institutes and teaching institutions, etc. The NDC needs first to obtain an overview of relevant stakeholders and then invite the identified people, organizations and institutions to a stakeholder meeting. The purpose of the meeting is to bring key stakeholders in countries on board, to inform them about the planned rATA and the draft deployment plan, and obtain feedback from the meeting as part of contextualization and preparations for implementation (data collection).

The number of stakeholders to be invited should be balanced against the need for an efficient and effective dialogue. It is recommended that the stakeholder meeting is limited to around 20 people to allow for a good dialogue. One working day is usually sufficient. It is recommended that the agenda includes the following:

- Official opening and welcome by MoH and WCO/RO/HQ
- Background information on the need for AT globally and nationally
- Purpose and content of the rATA
- Presentation of the National Deployment Plan
- Discussion in smaller groups on the relevance of the rATA, need for adaptation to context and application of results
- Reporting questions/feedback from the groups
- Plenary discussion
- Recommendations from the meeting
- Closure of meeting: MoH and WCO/RO/HQ

Invitations to the meeting should come from the NDC, who is also the lead person for the meeting. It is recommended that the meeting has high-level representation from the MoH to demonstrate the importance of the rATA. The NDC will be supported in the meeting by the subcontracted research agency and WCO, RO, WHO HQ and GDC.

## 8. Prepare and complete the sample design

The NDC is responsible for obtaining a sample that is sufficient for the purpose of the rATA. The sample will be a two-stage, random sampling of: small geographical units (enumeration areas – EAs – or primary sampling units) in stage one; and households within the sampled areas in stage two. Special competence is required to do this properly, so this should be done preferably with support from the national statistical office (this title will vary between countries). The statistical office administers the national sampling frame, which should be based on the most recent census, and will be able to provide a national representative sample of households.

The sample size depends on several parameters, including the research questions to be answered, the prevalence of the phenomenon under study, and statistical requirements. Specific contextual conditions also play a role in the estimation of sample size, such as how easy it is to reach the target population and whether they are inclined to volunteer for data collection or not. A quick guide to estimate sample size for rATA in-country deployment is explained in Annex E.

## 9. Define referral procedures

The rATA requires respondents to give up their time to be interviewed, and as such may generate expectations among respondents of an immediate return. It is therefore important that the purpose of the rATA is explained using the standard information text (see the Rapid Assistive Technology Assessment (rATA) tool for national representative survey enumeration: a manual (the *rATA manual* hereafter)) in order to set out how the data collection may benefit individuals in need of AT in the longer run, and to reduce the risk of an expectation gap. Still, the data collection exercise will identify a number of individuals in immediate need of AT but who do not have access to relevant services for a range of reasons. It is thus reasonable to include as part of the data collection procedures for providing information and/or referrals for those with unmet AT needs. This needs to be put in place before training and data collection and must be adapted to each country context. Suggested actions/procedures are:

- a simple procedure for referring individuals with unmet needs for assessment and follow-up;
- in contexts and situations where referrals are not possible, e.g. because services do not exist or are too far away, alternative information and advice should be given;

- include in the data collection teams individuals with the necessary competence to make initial assessments that could be followed-up after the data collection is finalized;
- involve a small team of trained health workers, for instance from a local nongovernmental organization or disabled people's organization who can follow-up individuals in need of an assessment.

Procedures to follow-up unmet needs for AT will need to be country specific. The NDC can use the expertise associated with the rATA in the country, the MoH and the stakeholder meeting to put this is place.

## 10. Finalize the national deployment plan

The national deployment plan can be finalized, based on:

- inputs from (national) experts associated with the study;
- inputs from stakeholders (from the stakeholder meeting);
- inputs from WHO: CO, RO, HQ/GDC

## 11. Recruit enumerators and supervisors

The subcontracted agency has the responsibility for recruitment of enumerators, preferably from a pool of experienced enumerators. If this is not available, specific criteria adapted to the context should be in place regarding the required level of competence and experience.

The number of enumerators needed for the rATA is decided at country level. A balance is needed between having a manageable number of individuals for training and data collection, and total time needed for data collection. As an example, 25 enumerators can form five data collection teams, cover an average of seven households per enumerator per day, which is a total of 175 households per day, and implement the data collection in two weeks (2232 households/35 households per team x 5). This is a crude estimate and will vary between countries due to contextual differences such as travel distance, concentration of population, level of infrastructure etc.

It is recommended that the number of enumerators recruited in each country is larger than the target of (for instance) 20, to account for instances for illness, unexpected events or in cases where enumerators are not up to required standard.

The composition of the group of enumerators needs to reflect the diversity of the study population. This concerns both male/female representation and considerations of ethnic and language diversity. It should be possible to establish data collection teams that include men and women, and enumerators fluent in the local languages of the areas to which they are assigned.

Supervisors (one per data collection team) will be recruited among the enumerators. Supervisors may be identified prior to or during training (see the next section) and, to take a leading role in the field, should be individuals with extensive experience and qualifications. The role of the supervisors will be to lead the respective data collection teams, be responsible for random sampling of households (second-stage sampling), oversee data collection, solve any problems appearing during data collection, and report immediately any problems to the lead researcher and the NDC.

## 12. Provide training to enumerators and supervisors

Training enumerators for rATA will be led by the NDC based on the *rATA manual* that will be provided by WHO HQ. The NDC will be trained to lead the in-country training in his/her country and will be supported during training by the subcontracted research agency and the GDC. A venue with audio-visual equipment, including a reliable Internet connection for accessing necessary resources and eventual remote participation of resource personnel, needs to be in place.

The subcontracted research agency is responsible for the practical organization of participants' travel and accommodation during the training.

## 13. Test survey tool, process in the field, and data inflow

As part of enumerator training, trainees will carry out a small number of interviews in selected households close to the training venue to test procedures for entering households, introducing the rATA, conducting the rATA questionnaire, using referral procedures where necessary, and using the digital data entry tool. Approximate total number of interviews (with 20 enumerators) will be 40–60. Following this exercise, enumerators will discuss experiences and any problems in a plenary session.

As part of field testing, enumerators will record data on electronic devices, and transmit the data directly to the WHO HQ server. This will provide an opportunity for WHO HQ to check the efficiency of data transmission and remedy any technical problems prior to the main data collection in each country. Please notify the focal person at HQ when the field testing starts by emailing assistivetechnology@who.int so that the technical team at HQ can provide timely support for troubleshooting and feedback during the testing phase.

## 14. Final adaptation of data collection tool

Feedback from field testing may lead to adjustments in the language used in the survey instrument – adjustments that the NDC will report to HQ/GDC. The survey instrument has been subject to a thorough development process involving a large number of experts in the field from all regions and had been tested and used in practice in several countries. As the current data collection is part of a large multi-country exercise to feed into the Global Report on AT (GReAT), major changes (including adding or removing elements from the questionnaire) should not be made. However, if major issues are discovered at this point, this should be reported to WHO HQ.

## 15. Collect data in the field

Data collection will start as soon as possible after training, allowing sufficient time for final minor adjustments in the data collection tool, the last practical preparations for the field work and travel to respective regions. Data collection will start on the same day for all teams (official field start date). Both the start data and an official end date are important for the data cleaning process. Training in the use of the electronic devices for data collection is included in the training package.

The subcontracted research agency will be responsible for data collection. The role of the NDC will be to monitor the process. This is best done through continuous communication with the executing agency, establishing a simple procedure for regular situational reports/feedback and being present in the field to observe implementation. The *rATA manual* covers all aspects on how to carry out interviews in the field.

Prior to data collection, the subcontracted agency will produce a simple survey implementation plan to be reviewed by the NDC. The plan should include at least the following elements:

- Specifying who is the responsible lead researcher
- A list of all enumerators and supervisors with contact details (cellphone numbers)
- Organization of data collection in teams, specifying composition of each team, including one supervisor per team
- Communication during data collection – in the teams, between supervisors and lead researcher and between the lead researcher and the NDC
- An overview of the EAs where data collection will take place, and which teams are responsible for the respective areas
- Logistics; transport and accommodation
- Timeline

Enumerators can be organized in teams of five, each led by a supervisor. The teams are assigned to a geographic area (e.g. one or more regions) and will carry out data collection in the sampled EAs within their respective areas. In each EA, the team first needs to list all households, assigning unique numbers to each. Then a random sampling of 20 households is carried out by the supervisor, based on instructions given during training.

## 16. Data handling and analyses

Data will be automatically transferred from the data collection devices to the server at HQ.  The NDC makes sure that guidance on input of region, EA, respondent, household and enumerator ID numbers, and sample weights are followed. Detailed instructions on using the digital data collection tool for data input will be provided in the *rATA manual* and in the master training for NDCs. Annex F suggests the mechanisms for field data monitoring to maximumly ensure the data quality.

WHO HQ is responsible for data analyses to be presented in the GReAT. In each country the MoH will have access to their country's clean, raw data. Further use of data at country level is encouraged, and HQ can provide support. Results will be presented in two formats.

## 17. Report results I

Results will first be presented in a chapter with regional breakdown and country fact sheets in the *Global Report on Assistive Technology* (GReAT), to be published by WHO late 2021.

## 18. Report results II

Following the launch of the GReAT, in-depth analyses of data at country level will be carried out in-country or by WHO HQ. WCO and RO will organize a policy dialogue and stakeholder meetings in each country where detailed country level results are presented and discussed. The outcome of the discussions and consultations is expected to be an action plan for using the results of the rATA in countries.

# Annexes

## Annex A: Digital rATA data collection tool for testing

Survey123 rATA 2020 testing version (English only)
Available at https://arcg.is/1ivH5W0 on your PC, mobile phone or tablet. Or scan the QR code below to access the digital rATA survey.
Please login with the following account for testing.

Username: whomedsurvey_TEST
Password: WHOtest123

# Annex B: Competencies for subcontracted research group or agency

The rATA data collection will be co-ordinated by a National Data Coordinator (NDC) appointed by the relevant ministry in each of the participating countries. While it is expected that the NDC will take the lead in all matters related to the data collection, successful implementation and delivery of high quality data requires the NDC ensures that the required competence and capacity to carry out the rATA are incorporated in the project. The recommended strategy will be to subcontract an agency, a research group or a statistical office that can be responsible for implementing the study, guided by the NDC.

The entity to be subcontracted needs the following competencies:

- A good understanding of the rATA and the purpose of the data collection
- Experience in implementing larger surveys for different funding agencies, including both national and international organizations
- A good understanding of research ethics and the national system for approval of research projects
- Knowledge about adaptation of survey instruments, including proper testing and translation
- Knowledge about sampling, and either has access to the national sampling frame or a working relationship with the National Statistics Bureau

- Experience in using tablets/cellphones or other digital instruments in data collection, including having an established system for technical support
- Deploy a pool of experienced enumerators that can perform the data collection at relatively short notice, including an established practice for handling non-performers
- Be able to handle logistical challenges concerning organization, transport and communication during data collection
- Have the capacity to handle data management

The subcontracted agency should be an organization with data collection, data management and research as core or main activities. Sharing of tasks between the NDC and the collaborating agency, research group, and the statistical office need to be specified at national level.

# Annex C: Timeline for in-country rATA data collection

| Week | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 15 | 17 | Follow-up |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NDC appointed and complete master training | ■ | | | | | | | | | | | | | | | | | | |
| Engage with key actors | | ■ | ■ | | | | | | | | | | | | | | | | |
| Hosting by MoH | | ■ | ■ | ■ | | | | | | | | | | | | | | | |
| Establish work procedures | | ■ | ■ | | | | | | | | | | | | | | | | |
| Recruit or subcontract the research group or agency | | | | ■ | | | | | | | | | | | | | | | |
| Develop national deployment plan | | ■ | ■ | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| Translate rATA questionnaire | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | | |
| Organize stakeholder meetings | | | | | ■ | | | ■ | | | | | | | | | | | |
| Prepare and complete the sample design | | | | | ■ | ■ | ■ | ■ | | | | | | | | | | | |
| Define referral procedures | | | | | | ■ | ■ | ■ | ■ | | | | | | | | | | |
| Finalize the national deployment plan | | | | | | | | | ■ | | | | | | | | | | |
| Recruit enumerators and supervisors | | | | | | ■ | ■ | ■ | | | | | | | | | | | |
| Provide training to enumerators and supervisors | | | | | | | | | | ■ | | | | | | | | | |
| Test survey tool, process in the field, and data inflow | | | | | | | | | | ■ | | | | | | | | | |
| Final adaptation of data collection tool | | | | | | | | | | ■ | | | | | | | | | |
| Collect data in the field | | | | | | | | | | | ■ | ■ | ■ | ■ | | | | | |
| Data handling and analyses | | | | | | | | | | | | | | | ▨ | ▨ | ▨ | ▨ | |
| Report results I | | | | | | | | | | | | | | | | | | | ■ |
| Report results II | | | | | | | | | | | | | | | | | | | |

# Annex D. Suggested outline of required steps for a national deployment plan

1. **Engage with key actors:** list the key actors and describe their roles in the rATA deployment in country.
2. **Hosting by MoH:** describe how the rATA data collection is placed within MoH and reporting lines to decision making level.
3. **Establish work procedures**: describe how rATA will be organized in-country, including routines for reporting on progress.
4. **Recruit or subcontract research group or agency:** describe the selection process, including identification, assessment of capacity to deliver, experience and qualification in conducting similar surveys.
5. **Translate rATA questionnaire:** explain if and why translation is necessary and how translation will be carried out.
6. **Organize a stakeholder meetings:** list relevant stakeholders to be invited as well as preliminary agenda and resources to be used.
7. **Prepare and complete the sample design:** describe the sample design, sample size calculation and sampling procedure.
8. **Define referral procedures**: describe how identified need gaps will be handled during data collection.
9. **Recruit enumerators and supervisors:** describe how the NDC will review the recruitment process and make sure that an optimal number of enumerators and supervisors with sufficient experience are recruited, motivated and available.
10. **Provide training to enumerators and supervisors:** describe how training will be organized and the resources needed.
11. **Test survey tool, process in the field, and data inflow:** describe the procedure for field testing as part of the enumerator training.
12. **Collect data in the field:** describe data collection process in the field including how the progress will be monitored and how to control the quality.
13. **Data handling and analyses:** describe tentatively how data will be further utilized at country level, including the liaison with HQ.

See Annex C for a sample timeline. A similar chart should be included in the National deployment plan.

# Annex E: Sample size calculation

A simple online tool is available to help NDCs with a quick estimate of the required sample size for rATA data collection in their countries. The recommendations for the choice of key parameters in the calculation meet the minimum requirements for rATA outcomes published in the GReAT – i.e. the need and unmet need for AT in national populations. If the rATA data collection aims to support national AT programme planning (e.g. specific AT service provision), NDCs are encouraged to discuss with WHO RO and HQ sample size requirements for additional study objectives (key indicators).

Users of the tool can select values for changeable parameters that best fit to their country specific context. Recommended parameter values are:

- **Proportion of target population:** rATA targets 100% of a country's population. Hence, 1 is recommended and changing is not suggested unless justification is provided.
- **Estimate of key indicator of study:** the key indicator for rATA outcomes in the GReAT is to estimate the prevalence of need and unmet need for AT in the country's population. Based on the WHO estimate – 1 billion people need AT and only 10% of those in need have access to it –current access is approximately 1% of the population. Hence, 0.01 is recommended it is suggested that this is not changed unless justification is provided by country statistics from published studies.
- **Estimate of non-response rate:** this should be based on the non-response rate in similar surveys in the country. Based on experiences from other similar surveys, the non-response rate is usually below 10%. Hence, 0.1 is recommended.
- **Critical value for confidence level of statistics:** 95% confidence for the estimated key indicators is commonly used. Hence, 1.96 is recommended and should not be changed unless justification is provided.
- **Relative error of the key indicator:** the relative error allowed around the key indicators is critical for the reliability of the statistics derived from the data. For the rATA key indicators for the GReAT, a confidence interval between 0.75% and 1.25% of prevalence of access (25% error around 1%) is acceptable. Hence, 0.25 is recommended and it should not be set below 0.15 unless justification is provided.
- **Margin of error:** automatically calculated based on the estimate of key indicators and the relative error.
- **Design effect:** the design effect increases when clustering is applied in the sampling. For the sampling strategy in this the quick guide a value of 2 is recommended and should not be lowered unless justification is provided.
- **Average household size:** according to UNDESA statistics, six people in one household is normally seen in low- and middle-income countries. Please select a value between 2 to 10 that fits your country's context.
- **Sample size:** the estimated number of persons to be interviewed is 13 392 and the number of households to be interviewed is 2232 based on the average number of six people per household.

# Annex F: Mechanisms for field data monitoring

The quality of data depends on a range of factors before and during the field data collection. Well planning in the NDP with the guidance from the *rATA manual* and continuous monitoring of the field data collection to prevent and timely correct any misconduct will ensure the quality of data. While the NDC has the overall responsibility for the implementation of the survey in countries, the supervisors will be instrumental in the field data collection monitoring process.

Field data collection monitoring by the supervisors comprises the following items:

1. The general observation of the field data collection by the supervisors should ensure that

- enumerators act according to instructions and expectations
- interviews are carried out as planned
- interviewees and the local population are treated correctly and in a respectful manner
- data collection devices are taken good care of
- all enumerators can easily be contacted (cell phones; WhatsApp, etc.)
- daily wrap up meetings in the field for information sharing and summing up interview tracking forms

2. Additional observation in one or more household interviews in each EA/PSU during the field data collection by the supervisors should ensure that

- enumerators use the data collection device correctly
- the interview tracking form is correctly used
- standard instructions are read out to respondents
- consent is explained, understood and given voluntary
- enumerators follow through with the questionnaire
- questions are asked in a non-biased way and according to the questionnaire
- any translations are carefully executed

3. Communication between the NDC and the supervisors should ensure that:

- complete and clear communication from the supervisors on the daily progress following the agreed mode of communication (WhatsApp, phone call, etc)
- report from the supervisors on deviations and/or problems during the data collection to the NDC based on observations in the field, communication with enumerators and the interview tracking forms4
- any critical incidents in the field are reported to the NDC immediately
- decisions by the NDC are followed-up immediately or as agreed

4. Data inflow monitoring by the GDC and the NDC

Monitoring data inflow requires access to country data that has been successfully submitted to the server at WHO HQ. Access to the server can be given to WHO RO, WCO and the NDC (to be agreed per country).

Data inflow on the server side will be monitored regularly by the GDC. Feedback to countries during the data collection will take place as follows:

- In the beginning of data collection in country, daily (or frequent) reports will be sent to the NDC. The report will include number of surveys successfully received in each EA. The NDC will receive the information from the supervisors in the field on the number of surveys submitted to the server from each EA. A match in these two numbers indicates that data has been submitted and received correctly. Any deviation should be reported back to the GDC (via email, telephone, WhatsApp) and actions taken in collaboration between the NDC and the GDC. The frequency of reporting will reduce as the data collection progresses according to the NDP and no obvious need for daily reporting.
- Further quality checks of data inflow to the server will be carried out by the GDC as long as data collection is taking place in countries:
    - Unexpected high and low number of surveys per day per team/ enumerators
    - Identify very short and very long time used on surveys
    - GPS/geolocations; clusters and single HHs in wrong places
    - Unexpected high or low proportion of people with functional difficulties
    - High number of don’t knows
    - Systematic deviation from average/expected household size and structure

Any detected anomaly will immediately be reported back to the concerned NDC (e-mail, telephone, WhatsApp) and actions should be taken in collaboration between the NDC and the GDC.

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4 This report can take in a form of a field note including extracted key information from the interview tracking forms with additional informatoin from the observations of the supervisors.