



**International
Medical Corps**

CASE STUDY

**Adapted SMART and IYCF Surveys in Central African Republic
during the COVID-19 Pandemic**

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LIST OF ACRONYMS

CAR	Central African Republic
DRC	Democratic Republic of Congo
IPC	Integrated Food Security Phase Classification
IYCF	Infant and Young-Child Feeding
MEAL	Monitoring, Evaluation, Accountability and Learning
MUAC	Mid-Upper-Arm Circumference
SMART	Standardized Monitoring and Assessment of Relief and Transitions
WASH	Water, Sanitation and Hygiene

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Executive Summary

This case study documents best practices and recommendations from International Medical Corps' experience conducting nutrition assessments adapted for COVID-19. The methods used aimed to comply with global infection prevention and control (IPC) guidance and were piloted in Central African Republic (CAR) during an early period of the country's COVID-19 outbreak.

Since the virus SARS-CoV-2 was first reported to the World Health Organization in December 2019, more than 25 million cases of COVID-19 and 848,000 deaths have been reported worldwide, as of August 31, 2020.¹ Nutrition and food security experts have warned that the incidence of acute malnutrition will rise as a “secondary impact” of the pandemic. At the same time, many organizations have reduced or modified the collection of nutrition data, including cancelling or postponing population-based surveys and mass screenings. In the absence of robust nutrition surveillance, these expected spikes in acute malnutrition could be invisible.

To continue generating information on levels of acute malnutrition, modified assessment methods are needed that reduce the risk of viral transmission. International Medical Corps successfully conducted two combined Standardized Monitoring and Assessment of Relief and Transition (SMART) and Infant and Young-Child Feeding Practices (IYCF) surveys in Central African Republic between March and May 2020. The survey team followed available International Medical Corps and international guidance around anthropometric assessments, using MUAC-only measurements, physical distancing and symptom monitoring of data collectors.

This case study was developed to document the lessons learned and best practices from the survey implementation. It is hoped this case study will encourage International Medical Corps and other organizations to continue conducting nutrition assessments, and to apply these recommendations to carry assessments out safely during the COVID-19 pandemic, as well as during future public health emergencies of a similar nature.

Methodology of the Case Study

This case study was conducted primarily as a desk review, with the aim of documenting best practices in conducting nutrition assessments in settings experiencing—or at risk of—COVID-19 transmission. The case study was developed based on a review of the survey reports and consultations with the consultant Survey Manager; International Medical Corps' Nutrition Manager and Nutrition Coordinator (CAR office); International Medical Corps' nutrition advisors (HQ); and International Medical Corps' MEAL Advisor (HQ). The consultations took place in June 2020, after completion of the surveys.

The consultations provided both background information and a platform for discussion on the implementation of the SMART surveys' adapted protocols and lessons learned. Information was also gathered from communications between the survey consultant and International Medical Corps' nutrition experts, and from presentations developed to disseminate the survey findings. Detailed information about the applied survey methodology is located in the respective survey reports.^{2,3}



Figure 4. Mid-Upper-Arm Circumference (MUAC) measuring.

1 Johns Hopkins University and Medicine. Coronavirus Resource Center. Accessed August 11, 2020.

2 International Medical Corps. Nutrition survey report. Briä – Haute Kotto Prefecture, and Bambari – Ouaka Prefecture, Central African Republic. March 2020.

3 International Medical Corps. Nutrition survey report. Birao – Vakaga Prefecture, Central African Republic. April 2020.



CAR SMART and IYCF Survey Locations: March/ April 2020

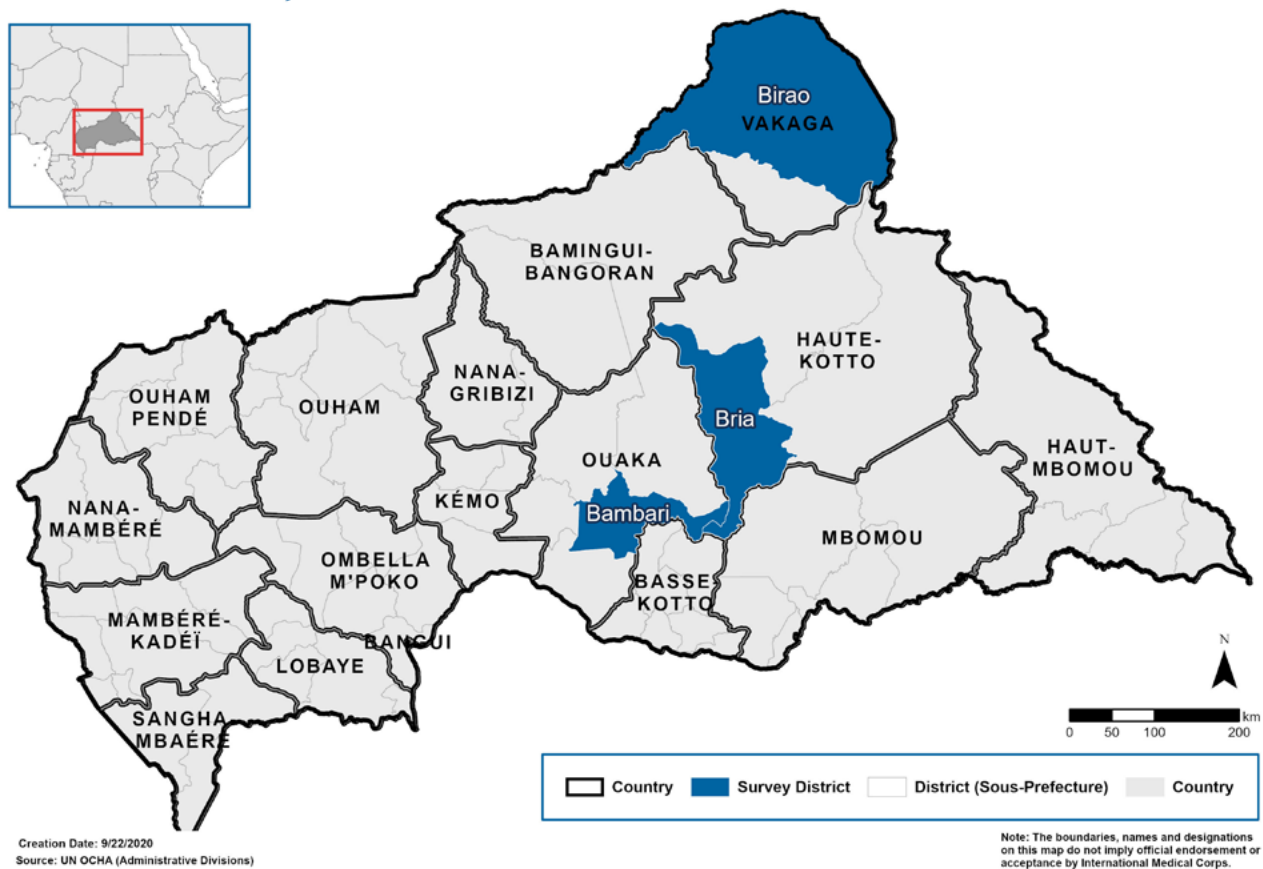


Figure 2. Map of CAR, highlighting districts where the SMART and IYCF surveys were carried out March/April 2020

Background

Central African Republic (CAR) is a country bordered by Cameroon, Chad, Sudan, South Sudan and Democratic Republic of the Congo (DRC). CAR has an estimated population of 4.8 million, with a large proportion facing chronic humanitarian crises and food insecurity. The most recent Integrated Food Security Phase Classification (IPC) estimated that 2.36 million people were at risk of acute food insecurity and 0.75 million were in an emergency state between May and August 2020, coinciding with the lean season and protracted COVID-19 epidemic.^{1,2}

Originally, six separate SMART and IYCF surveys were scheduled between March and April 2020, in Bria, Bambari and Birao health districts (Figure 2). In mid-March, the first cases of COVID-19 were detected in Bangui, the capital of CAR. Shortly after, the UN Global Humanitarian Response Plan was enacted in CAR. The response plan included awareness-raising sessions, creation of isolation spaces, reinforcement

of handwashing and strengthening of epidemiologic surveillance, although these were slow to be implemented.³ Additionally, the government of CAR announced a mandatory 14-day quarantine for those entering the country from areas with local transmission of COVID-19. The government also banned large gatherings, emphasized the use of non-contact greetings and stated that public spaces should have handwashing stations.⁴

Following consultations with International Medical Corps' nutrition advisors, the team proceeded with the scheduled surveys. Although few cases of COVID-19 were reported in CAR during the survey period, with none in the areas where the surveys took place, International Medical Corps took numerous precautions to prevent transmission throughout the data collection process. The global nutrition community was still developing and issuing guidance on anthropometric measurements. This obliged International Medical Corps to develop and test a model in real-time to safely conduct the nutrition surveys.

1 OCHA. Humanitarian Data Exchange. Central African Republic Humanitarian Needs Overview. Accessed July 2020.

2 Integrated Food Security Phase Classification. Central African Republic: Acute Food Insecurity Projection May - August 2020. Accessed July 2020.

3 OCHA. Global Humanitarian Response Plan COVID-19. Accessed July 2020.

4 OSAC. Health Alert: Bangui, Central African Republic. March 14, 2020. Accessed July 2020.

International Medical Corps' Approach

A series of recommendations for an adapted approach to the SMART and IYCF surveys were provided by headquarters to optimize data collection and minimize person-to-person contact to ensure the safety of surveyors and surveyed individuals (Table 1).

Although all recommendations were taken into consideration, time constraints and contextual challenges affected the surveyors' ability to implement all the physical-distancing precautions.

The surveys were implemented with the following adaptations.

Anthropometric Measurements

The nutrition status of surveyed children was assessed solely by use of mid-upper-arm circumference (MUAC) measurements. Weight and height measurements were not taken. The survey team adjusted their anthropometric-measurement protocol according to international recommendations that caution against height and weight measurements involving prolonged contact. Additionally, the scales and height boards required for weight and height measurements are large and difficult to sanitize thoroughly after each measurement. Time and resource constraints led the

survey team to conduct the anthropometric assessment by MUAC tape only.

MUAC Tape Precautions

International Medical Corps enforced certain IPC precautions around MUAC tapes throughout the survey process. Although the initial recommendation had been to use one MUAC tape per household, the availability of tapes for single-use measurement varied according to the specific region and sample size required. When the first survey was conducted in Bria, a pandemic had not been declared. There were not enough tapes already in stock to cover the full sample of children, and the team was unable to secure additional tapes from the Ministry of Health and UNICEF until the surveys were underway. In the early periods of the survey, it was necessary to sanitize the MUAC tapes for re-use. Enumerators placed MUAC tapes in a separate bag and collected all used tapes for sanitization with chlorine at the end of each day.

In later surveys, the CAR team was able to coordinate with UNICEF and the Ministry of Health to secure enough additional tapes to limit multiple usage. International Medical Corps headquarters also shipped stock, although it did not arrive until the end of the survey period. Nonetheless, in all three regions only one MUAC tape was used per household per day, to minimize unnecessary contact.

TABLE 1. INTERNATIONAL MEDICAL CORPS HEADQUARTERS RECOMMENDATIONS

<p>MUAC for anthropometry</p>	<ol style="list-style-type: none"> 1. Do not take height and weight measurements to minimize contact. Instead, rely solely on MUAC measurements. 2. If possible, use a new MUAC tape for each child. Printing paper tapes is one option for disposable one-use-only tapes. 3. If single-use tape is not possible, MUAC tapes will have to be properly disinfected after measuring a child.
<p>Physical distancing</p>	<ol style="list-style-type: none"> 1. Ask the mothers to take the measurement of their child, under supervision of the data collector (from >2 meters away). A handout or short YouTube instruction on how to take the measurements should be provided to ensure accuracy. 2. Ensure data collectors are not handing over MUAC tape directly, but place it on the ground, step back and then ask the mother to pick it up. 3. Ask mother/caretaker and child to step outside
<p>Enumerator considerations</p>	<ol style="list-style-type: none"> 1. Enumerators should take all possible precautions. If they begin to present any symptoms, they should quit data collection and be replaced. 2. Enumerators should be properly trained on precautions to prevent contamination during the survey, as well as information to share with the community to control an epidemic.



Figure 3. Physical distancing in SMART survey training, Bambari, April 2020.

Enumerator Precautions

Throughout enumerator training, physical distancing was emphasized and practiced. Enumerators within each team systematically took turns playing various roles in the mortality interview, assessment of MUAC and edema, entering data in the tablet and completing the IYCF interviews from a distance. Enumerators pre-tested the collection of MUAC measurements with children in nearby communities. The use of personal protective equipment (PPE) and handwashing was reinforced during the training sessions and pre-tests.

Though the survey team initially planned to request the children's caregivers to take MUAC measurements, it was not possible, due to higher-than-anticipated numeric illiteracy. Enumerators ultimately conducted the MUAC measurements at nearly every household. This required increased efforts from supervisors of enumerators to ensure proper hygiene and IPC practices throughout the data-collection process.

Enumerators also underwent a temperature check each morning of the survey. Any enumerator who presented with flu-like symptoms was not permitted to work. Though the International Medical Corps survey team aimed to enforce this practice as systematically as possible, in practice they lacked a sufficient number of thermometers in all locations.

WASH Precautions

There was insufficient stock of hand sanitizer, so soap and water were the predominant means of handwashing during the survey, and were provided for proper handwashing throughout the training process. Morning briefings took place at PK3 IDP camp clinic in Bria, the International Medical Corps office in Bambari and a hospital in Birao. All required handwashing upon entrance.



Figure 4. Resident of Bambari. © Patrick Meinhardt.

During data collection, enumerators were supplied with soap each morning and instructed to thoroughly wash their hands before and after every household visit. Survey team supervisors continuously re-enforced handwashing practices during the data-collection period.

Minimizing Household Crowding

To reduce household crowding observed in Bria (the first survey location), International Medical Corps' Survey Manager reduced the number of enumerators in each survey team from four to three data collectors per group. Community members, leaders and enumerators were instructed to maintain a distance of at least 1 meter between themselves during the interview process. Enumerators prioritized conducting interviews and anthropometric measurements outside households, to improve ventilation and spacing. When interviews had to be conducted in the household for privacy reasons, only the enumerators and members of the household were allowed to be present for the survey, in an effort to reduce crowding.

Challenges, Successes and Lessons Learned

Challenges

Due to the sudden onset of the pandemic, International Medical Corps did not have a large stock of MUAC tapes prepositioned to meet the recommendation of using one tape per household. Limited access to MUAC tapes required sanitization of already used MUAC tapes in some regions while the survey was conducted. Though sanitizing MUAC tapes offered a safe alternative, enumerators found colors and numbering on MUAC tapes quickly faded using the alcohol-based sanitizer.

The initial recommendation to have mothers measure their children’s MUAC was also unsuccessful, as the team found that numeric literacy was too low. Physical distancing could not be consistently practiced, as enumerators were required to take MUAC measurements for each child.

It was also difficult to enforce IPC protocols with enumerators, especially during the early data-collection period, when there was no reported transmission of

the virus in the survey areas. Because enumerators perceived the threat of the virus to be low, and national risk-communication efforts were not yet fully underway, supervisors struggled initially to enforce protective measures such as handwashing. Globally recommended handwashing practices are already lacking as a social norm in CAR, further increasing the difficulty of handwashing compliance.

Most of the communities assessed in Bria and Bambari had adequate space around each household, making the physical distancing protocol relatively easy to practice. However, in Bria’s PK3 IDP camp and Birao’s IDP camps, households were constructed with less than 1 meter between them. This resulted in unavoidable crowding among household members and the survey team.

Successes

Enumerator compliance with MUAC measurements, MUAC tape sanitization and physical distancing when possible was relatively consistent. Enumerators practiced physical distancing, maintaining as much distance as possible, with the notable exception of the anthropometric measurements. Following an adjustment made by the survey manager, initial



CAR Integrated Food Insecurity Phase Classification: Projections May - August 2020

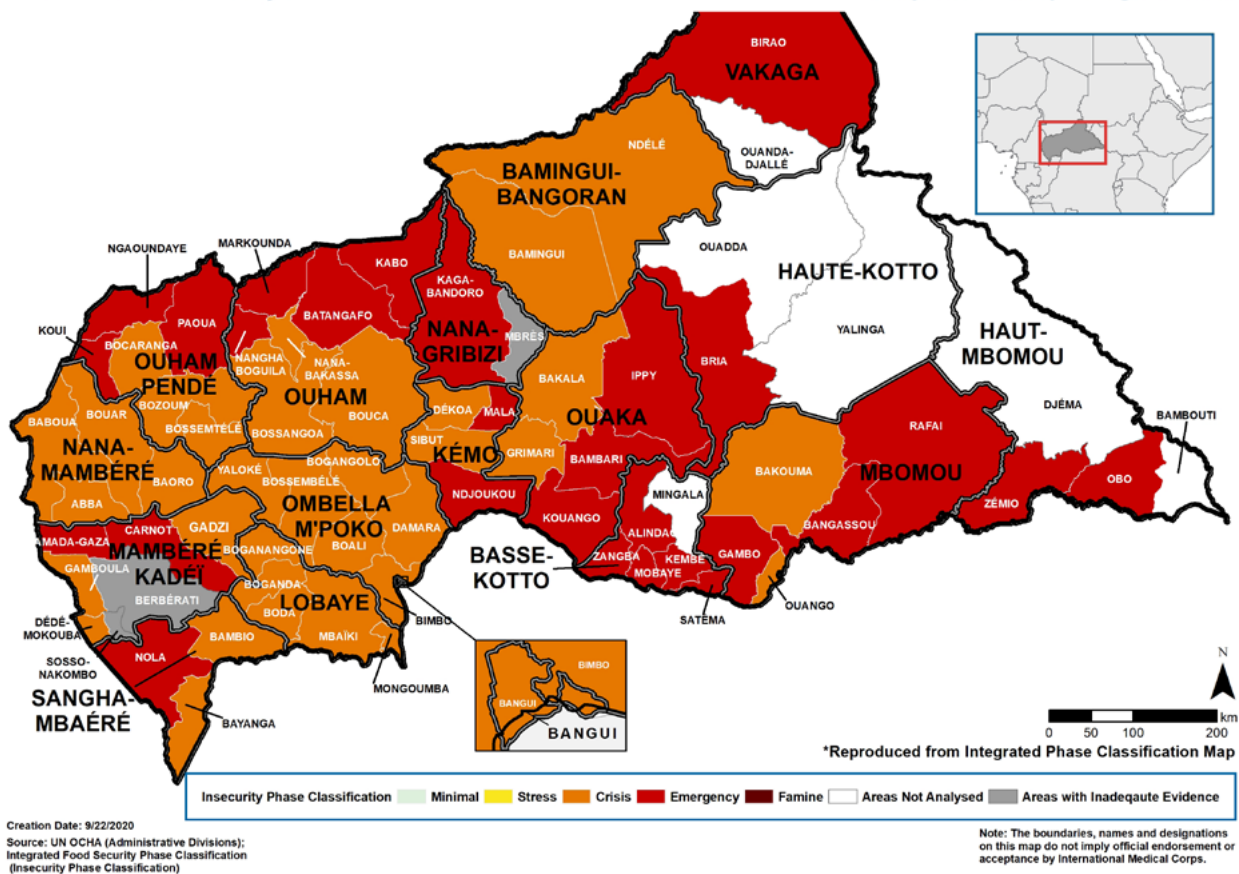


Figure 5. IPC map of CAR, with red indicating emergency conditions and orange indicating crisis. Retrieved from IPC.

challenges with household crowding in Bria was mitigated in Bambari and Birao by reducing the size of enumeration teams for the subsequent surveys.

International Medical Corps prioritized IPC precautions during the surveys and avoided re-use of MUAC tapes in most areas. The country office coordinated urgently with UNICEF and the Ministry of Health to secure additional MUAC tapes. Additionally, sanitization of MUAC tapes was properly practiced, so that no two households had contact with the same MUAC tape without proper decontamination. Each MUAC tape was also only used once per day, which further mitigated any risk to the surveyed households.

Overall, the surveys were successful and collected critical nutrition data to benchmark levels of acute malnutrition during the lean season and pandemic period. Notably, all three districts surveyed were subsequently classified as IPC Phase 4 (Emergency) levels of risk of food security between May and August 2020 (Figure 5). This represents a deterioration in the districts' food security status from 2019, and was linked to COVID-19 outbreaks across the country and movement restrictions impacting the economy and food markets.¹

These projections reinforce an urgent need to continue active nutrition surveillance and case finding. The fact that the SMART/IYCF surveys were carried out rather than postponed or cancelled represents a success in the continuation of services.

Lessons Learned

From the on-the-ground realities of piloting the adjusted survey protocol, a number of lessons were learned that could be applicable to future surveys during the COVID-19 pandemic and in similar environments:

1. In many contexts it remains possible to conduct nutrition assessments, using precautions to prevent the spread of disease.
2. International Medical Corps initially planned to have mothers perform the MUAC measurements. However, enumerators faced challenges with numerical illiteracy among the mothers, so they collectively changed the strategy to measuring the children themselves. It may have been possible to maintain caregiver measurement, with enumerators reading off the tapes. However, this method was not practiced during training and not used during data collection. It is important to practice all possible ways of measuring MUAC during enumerator training, to ensure that enumerators have the ability to adapt to different contexts.
3. International Medical Corps was not able to conduct all surveys outdoors as originally planned. In dense IDP camps, enumerators faced

challenges with privacy, and the surveys had to be conducted within the house. This should be done as infrequently as possible and with few people in the house, to minimize close contact as well as potential spread of the virus due to inadequate ventilation.

4. It was difficult for the survey manager to enforce hygiene and infection-control practices that are related to the risk environment and daily behaviors. It may be necessary to increase supervision of enumerators to enforce physical distancing and handwashing in early stages of an epidemic, when perceived risks are low.
5. International Medical Corps needs to ensure availability of thermometers for consistent temperature checks of the survey team. During the surveys in CAR, temperature checks of enumerators were not conducted every day, due to a shortage of thermometers. Consistent access to sufficient thermometers is necessary to properly measure fever, especially when individuals may not have other visible signs. Data collectors should be screened daily for symptoms and be excluded from data collection if they present with symptoms such as fever or dry cough.
6. Sanitization of MUAC tapes was easy to enforce and effective; however, the numbers on the MUAC tape fade when they are cleaned and used multiple times during surveys.

Conclusion and Recommendations

Conducting the SMART and IYCF surveys during the period of COVID-19 poses a challenge, but can be done safely with an adapted protocol. A number of adjustments should be made to enforce physical distancing, improve data collection and control disease transmission in the surveyed population and among enumerators.

The following are recommendations arising from the International Medical Corps pilot of an adapted protocol in CAR:

1. Continue to plan and carry out SMART surveys to detect spikes in malnutrition that are expected during the pandemic, utilizing adapted protocols for transmission prevention.
2. Prioritize caregiver-led MUAC measurements to avoid enumerators' direct contact with the children. If this is not possible due to illiteracy, a color-based MUAC reporting system could be considered.
3. Communities should be thoroughly informed about the survey objectives and safety measures. Discussions should be held with the community

1 Integrated Food Security Phase Classification. Central African Republic: Acute Food Insecurity Projection May - August 2020. Accessed July 2020.

- leadership to engage their support in preventing overcrowding and addressing any households' concerns regarding the survey.
- To avoid MUAC contamination, survey teams should prioritize using a new tape for each child, and leave the tape with the caregiver. Additional stock can often be acquired through requests to UNICEF or the Ministry of Health. If a sufficient number of tapes is not secured for the entire sample of children, enumerators must thoroughly sanitize the tapes between household contacts.
 - Consider phone-based interviews in settings with a high level of cellular coverage and cell-phone ownership. For caregivers trained to take their children's MUAC, and where MUAC tapes are prepositioned in the households, the entire SMART / IYCF survey could be conducted over the phone. A model could be piloted in which stocks of MUAC tape are pre-positioned at the community level (e.g., in health centers) to facilitate entirely remote nutrition assessments during future outbreaks of infectious disease.
 - Provide single-use masks and gloves to all enumerators. To the extent possible, enumerators should also work with community leaders to request that household members involved in the survey (caregiver and child) apply a facial covering, such as a scarf.
 - Ensure availability of products needed for thorough IPC during nutrition assessments by pre-positioning ample stock of MUAC tapes, sanitizers, soap, thermometers, face masks, gloves and alcohol pads to use during the surveys and training of enumerators.
 - Reduce crowding in the households by conducting interviews outside to increase ventilation. Crowding should also be minimized during outdoor interviews by preventing individuals from gathering to watch the survey.
 - Only use the minimum sample size required, to reduce the number of contacts and time spent between the enumeration team and household members. Consider rapid SMART or IYCF survey methods, which produce less-precise prevalence estimates but use a smaller sample size per survey.
 - Planning SMART surveys during epidemics should include additional funds for PPE, hand sanitizers/ soap and supervisors, as well as enough MUAC tapes to enable one tape per child.
 - Conduct daily assessment of all enumerators for signs of infection, including temperature checks with thermometers. Enumerators should also be screened during recruitment for contact with confirmed or suspected cases of COVID 19, as well as recent contact with anyone having ARI symptoms. These candidates should be excluded to reduce risk of asymptomatic / pre-symptomatic transmission. From day one of enumerator training, enumerators should be constantly reminded to stay home if they have any symptoms.
 - Ensure vigilant supervision of enumerator handwashing, physical distancing and mask use. Enhanced oversight may be needed when the local perceived threat of disease is low. Enumerators should be dismissed if they are observed not following IPC protocols during the training and pre-tests.

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