**Supplementary material for: Challenges in Measuring Supplemental Immunization Activity Coverage Among Measles Zero-Dose Children**

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**Important Elements of a Post-Campaign Coverage Survey (PCCS) Report**

* Background
	+ Dates & age groups of previous SIAs and this SIA
	+ Routine measles vaccination schedule including whether and when a routine second dose (MCV2) was introduced
* Ethical review
* Dates of implementation of the survey fieldwork
* Reference population(s)
	+ National & sub-national, where appropriate
* What were the survey strata (sampling domains)?
* Inferential objective: estimation or classification (See WHO 2018)
	+ Parameters used in sample size calculation
* Sampling
	+ What was the sampling frame? How old is it?
	+ What are the primary sampling units (PSUs)? How were they selected from the frame?
	+ Document exclusions from the frame with reasons
	+ Were maps available to show PSU boundaries?
	+ Was household (HH) listing done in selected PSUs?
	+ How were HHs selected within PSUs?
	+ Within selected HHs, did interviewers select from among eligible respondents or interview all?
	+ Target and achieved number of PSUs per stratum
	+ Target and achieved number of respondents per PSU
* Who conducted the survey?
	+ Outsourced (to a third party)?
	+ List any external consultants
* Description of measures for quality assurance of fieldwork, including:
	+ Profile of interviewers (for household listing and for interviewing, if different)
	+ Training (duration, how it was done, etc) and supervision
	+ Number of revisits done during household listing and to locate respondents at selected households
* Pilot testing
* What language(s) were used? If more than one, how was translation handled?
* Did the survey include questions about routine immunization (RI)? Which vaccine(s)? For all children in the survey or a specific age-group?
* Were Home Based Records sought for RI data and were these photographed to aid data cleaning (see WHO 2018)
* Did the survey ask about:
	+ Receipt of a dose during the SIA by source of evidence (document/fingermark/recall)
	+ Whether the child was in the SIA area at the time of the SIA?
	+ Caregiver sources of campaign information?
	+ Adverse events following immunization (AEFI)?
	+ Reasons for not receiving the SIA dose?
* Mode of data collection:
	+ Paper forms? Computer assisted personalized interviewing (CAPI)? via phone? tablet?
* Were geo-coordinates of the PSUs collected? Of each respondent’s HH?
* Response
	+ Were areas excluded (during PSU selection or because of access problems during fieldwork)?
		- Population for those areas & prior estimates of coverage there
	+ Demographics of listed households compared to expected
	+ Response rate among selected households
* Description of data cleaning steps
* Analysis
	+ Sample size (by age group)
	+ Analyses appropriately weighted (see WHO 2018)?
	+ List of clusters with surprisingly low SIA coverage
		- Make organ pipe plots (from WHO 2018)
		- Map the locations of those clusters
* SIA coverage outcomes
	+ If goal is coverage estimation (with 95% confidence interval)
		- Point estimates by card/finger-marking/recall with confidence intervals (CIs) calculated using software that accounts for complex design (by stratum, where applicable, and aggregated to highest level e.g. national)
		- Age specific (e.g. distinguishing cohorts eligible for previous SIAs from younger cohorts)
		- Stratified by # of previous MCV doses (zero, one, at least two, or unknown) (including N for each stratum)
	+ If goal is classification (nominal outcomes like high pass, low pass, fail)
		- Classification logic (see WHO 2018)
		- Results by strata and age groups
		- In addition, aggregate data across all strata to show coverage estimate stratified by # of previous MCV doses
* Limitations of the PCCS
* Make the survey dataset available or provide information on how to access it

Annexes to include in the report:

* Copy of PCCS questionnaire (including response options and skip logic)
* Details of survey weight calculation and adjustment steps
* SIA coverage design effects and intra-cluster correlation coefficients, by stratum and subgroup
* PCCS chronogram
* PCCS budget