Coverage Monitoring Network
Checklist Development & Coverage Report Assessment

February 2014

Draft 1.4 - 20.02.2014

Paul Binns

Independent Consultant

Abbreviations

ACF	Action Contre La Faim/ Action Against Hunger
AEW	Agricultural Extension Worker
BBs	Barriers & Boosters
BBQ	Barriers, Boosters, Questions (SQUEAC tool)
CBV	Community Based Volunteer
CHW	Community Health Worker
CMAM	Community Based Management of Acute Malnutrition
CMN	Coverage Monitoring Network
LOS	Length of Stay
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring & Evaluation
MAM	Moderate Acute Malnutrition
MUAC	Mid-Upper Arm Circumference
OTP	Outpatient Therapeutic Care
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SAS	Small Area Survey (or Study)
SC	Stabilisation Centre
SFP	Supplementary Feeding Programme
SLEAC	Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage
SQUEAC	Semi Quantitative
TBA	Traditional Birth Attendant
WAS	Wide Area Survey
WFH	Weight For Height

Contents

List of Tables

List of Figures

List of Annexes

Executive Summary

A recent evaluation of the CMN (Godden, 2013) indicated issues of inconsistency in report writing to document SQUEAC investigations. Subsequent recommendations include the development of a more comprehensive reporting format to guide report writing and the exploration of integrating SQUEAC into M&E systems.

The current assessment developed a checklist in collaboration with CMN staff in order to evaluate the SQUEAC coverage reports conducted to date. The checklist used an analytic holistic rubric to assess the range of tools used in each stage of a SQUEAC investigation, the information gathered using the tool and the logical inferences made from that data. Discretionary scores were allowed to assess the use of key terms and concepts, brevity and clarity of the report.

The structure of the reports assessed from the CMN website showed remarkable consistency by comparison with the CMN template provided. Other than conclusions and recommendations approximately 90% of all reports were coherent with the template design. Conclusions and recommendations were absent in 20% of the reports assessed.

The greatest inconsistency in reporting was in the content of each of the sections of the report. The root cause of this variation appears to be the design of the reporting template itself. The template is divided into methods, results and conclusions sections which are not congruent with the iterative nature of a SQUEAC investigation. This report outlines a proposed draft for template revision (See Annex 3). The proposed template follows the iterative nature of SQUEAC and divides the report structure by each stage of the SQUEAC and the development of recommendations and action plans. A brief note identifies the expected content for each section. This more comprehensive description is in line with the recommendations of Godden.

The technical qualities of the report according to the checklist varied greatly. Three classes of report were identified according to score ‘good’ (>60%), ‘moderate’ (51-60%) and ‘poor’ ($\leq$ 50%). Of the reports assessed 50% fell into the good and moderate classes combined. For each separate section of the checklist (stage 1, stage 2 etc.) the trend in scoring was from the ‘poor’ class of report to the ‘good’ class indicating that the weakness in the ‘poor’ reports applied to all sections of the report. The greatest discrepancy for the poor reports was in the logical inferences made from the data. In terms of methodology, Stage 2 of the SQUEAC presented the greatest challenge to scoring for poor reports. In general there was a very limited use of hypotheses which primarily sought to investigate coverage vs. distance despite more obvious study needs arising from the data in Stage 1.

Although the same trend in scoring was observed, the development of conclusions and recommendations from the SQUEAC formed the weakest part of the report score for all classes of report. This arose primarily due to recommendations and the subsequent action plans often being weakly linked or illogical based on the data gathered from the investigation.

This reports identifies areas of focus needed to improve reports generally and recommendations to address specific issues associated with reporting. The primary recommendation of this report is to focus future facilitation and training on the logical inferences made from the data and ensure that the boosters, barriers, recommendations and action plans are clearly derived from the investigation. Recommendations and action plans should prioritise potentially lifesaving interventions aimed at improving coverage over administrative issues or other non-SQUEAC related issues.

Background

The baseline for the assessment was derived from the Terms of Reference for this assessment and by reference to a recent CMN evaluation report by Godden (2013)[1].

From the ToR:

- To develop a simple checklist for evaluating the quality of coverage assessment reports. The checklist should clearly outline the key areas of assessment (under the three key areas below). The checklist should be developed jointly with the CMN team.
- To evaluate the quality of the coverage assessment reports produced during the first 18 months of the CMN project. The evaluation should concentrate on three key areas:
    - Structure of the report (e.g. is the information accessible? Is the balance between methodology and findings appropriate? Are the different sections developed enough?)
    - Language (e.g. is the language used in the report appropriate?)
    - Methodological quality (e.g. did assessments follow standard protocols for the implementation of coverage assessments? If not, which parts of the methodology proved problematic?)

From the Godden report: (paraphrased for the purpose of summarising)

- There is an apparent lack of standardisation in the reports which was not dependent on whether remote support was given or not
- Discussion revealed the use of different tools & different definitions of barriers and boosters
- The report template should be extended to include a comprehensive plan of action and a clear outline of what should be included in the methods, results, discussion and recommendations sections
- Further exploration of the potential for integrating SQUEAC into on-going M&E systems

[1] Godden K. (2013) Draft Report: Final Evaluation of the Coverage Monitoring Network: Improving nutrition programmes through the promotion of quality coverage assessment tools, capacity building and information sharing

Methodology

Review of Database

A spreadsheet listing of the CMN reports was provided for review during January 2014. The list of reports on the spreadsheet was compared with the CMN website. At the time of the comparison, 5 reports listed on the spreadsheet were not yet posted to the website as the reports were undergoing review and finalisation.

Classification of Reports

The reports on the CMN website were classified by geographical region, namely;

1. Americas (1 report)
2. Asia (17 reports)
3. East Africa (28 reports)
4. South Africa (4 reports)
5. West Africa (29 reports)
6. Archived (17 reports)

For the purpose of reviewing the reports for structure and technical content and the development of an evaluation checklist a sample of the reports on the website were taken.

Within each regional category of reports on the website each report was assigned a number between 1 → n (where n is the total number of reports in that category). A stratified random sample of (approximately) 25% of reports from each region was selected using a web-based random number generator (http://www.random.org). The sampling framework is indicated below:

- Americas 1 report (100%) Randomisation not applicable
- Asia 4 reports (24%) Report random # 15, 3, 14, 4
- East Africa 7 reports (25%) Report random # 26, 10, 18, 25, 1, 23, 27
- South Africa 1 report (25%) Randomisation not applicable
- West Africa 7 Reports (24%) Report random # 12, 7, 18, 10, 5, 28, 16

Report Structure

An Excel spreadsheet was compiled based on the structure of the CMN report template posted on the CMN website in order to review the selected reports solely based on structure rather than technical content.

In total 29 Reports, in both English and French, were selected from the website and examined for structure using the CMN template as the standard.

Checklist Development

In order to inform the development of a checklist to evaluate the reports, a detailed examination of technical issues arising from the reports was done using a purposive sample of reports written in English (CMN database ID # 17, 20, 54, 29, 12, 6, 56, 43)

The SQUEAC / SLEAC manual (06.12.2011) formed the standard for the review of technical issues with the technical language standard formed by the SQUEAC manual (Myatt, 2012) glossary.

A checklist was developed in Excel with successive versions being refined, in collaboration with CMN staff, as the sample reports were reviewed. Version 5 of the checklist was tested against a subjective review of a sample of reports that had been completed independently of the checklist by an expert in SQUEAC coverage assessments.

A finalised checklist (Version 6) with a modified scoring system was used to evaluate the reports posted to the CMN website. The scores for reports previously assessed using version 5 of the checklist were updated in accordance with version 6. The following reports, written in English, were purposively selected for assessment; ID # 3, 6, 10, 12, 14, 17, 20, 22, 28, 32, 35, 40, 42, 51, 56, 60, 69 & 71.

The finalised checklist (Version 6.1) is provided in English and French as an attachment to this report. The revision from version 6 included only a change in conditional formatting and does not affect the scoring system for the reports.

Findings

Table 1 below presents a summary of the analysis of report structure based on the CMN template provided on the website.

Table 1 Summary of the properties of a sample of 20 SQUEAC reports

Property	Value
Average Size	2.1 MB (Range: 1.1 – 5.3)
Average # Pages	43.6 (Range 26 – 58)
Contents	100 %
Acknowledgements	90 %
Acronyms	95 %
Executive Summary	95 %
Introduction	100 %
Objectives	75 %
Methodology	100 %
Results	85 %
Discussion*	70 %
Conclusions*	30 %
Recommendations	100 %

** 15 % of reports contained both a discussion and conclusion section while 20% contained neither*

The general structure of the body of the reports was consistent with some minor variations. The greatest variance occurred in the presentation of the discussion or conclusions, primarily a variation in the naming of the heading however 20% of the reports sampled contained neither a discussion of conclusions section. The name of the implementing organisation and / or supporting partners was usually contained within the executive summary or introduction.

There was variation in the digital size of the reports and the number of pages. The larger report was able to be reduced by 200% (5.3 to 2.3 MB) by the removal of photographs which did not add to the technical issues addressed in the report. Removal of photographs from other reports reduced the size by an approximate average 0.8 MB.

Reports were also analysed for properties including font (and font size) for headings and the body of the report and the presentation of bar graphs against the suggested template. These showed some minor variation however the font was reader friendly and graphs were presented appropriately in all reports.

Table 2 indicates the comparison of scores achieved through the subjective assessment of reports and assessment using the checklist. The subjective classes for the standard of the reports are colour coded red (poor) and green (good).The methods compared well in a correlation of the ranking of the scores of the reports and in the actual scores achieved for the reports which scores less than 50%. There was a larger (negative) discrepancy in the score for reports which were classed as being good.

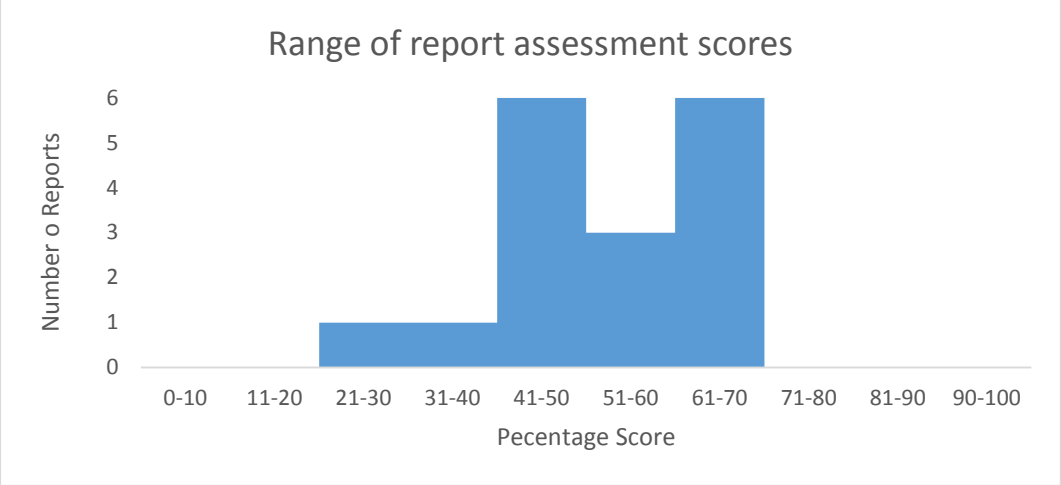
Table 2 Comparison of scores, rank and class for subjective vs. checklist version 5 assessments

Report ID	Subjective Score	Subjective rank	Subjective class	Checklist score	Checklist rank	Rank Difference	% Difference
6	85	1	Good	56%	3	-2	-29
10	35	7	Poor	37%	8	+1	+ 2
22	75	3	Good	58%	2	+1	-17
29	80	2	Good	59%	1	+1	-21
32	30	8	Poor	35%	7	-1	+5
40	50	5	Poor	48%	4	-1	-2
51	55	4	Poor	41%	6	-2	-14
60	40	6	Poor	43%	5	-1	+3

Version 6 of the checklist adjusted the range of scoring for each category in order to reduce the variation in scores for those reports achieving greater than 50%.

Figure 1 below indicates the range of scores achieved by the sampled reports.

Figure 1 Bar Graph of number of reports assessed against score acheived using version 6 checklist



From version 6 of the checklist the reports were able to be separated into 3 distinct classes based on their overall score.

> 60 %	Good (clear presentation, good range of tools used, good methodology, logical inferences)
51 – 60	Moderate (Mostly clear, good range of tools used, some issues with methods or logic)
≤ 50	Poor (unclear, few tools used, poor methodology, illogical inferences from data)

A summary of scores for all of the reports assessed and disaggregated by the stages of the SQUEAC methodology is presented in Annex 1.

From the results for all of the assessed reports presented in Annex 1, a summary of median percentage scores for each class of report disaggregated by the categories of the checklist is presented below in table 3.

Table 3 Median percentage score for each report element disaggregated by classification

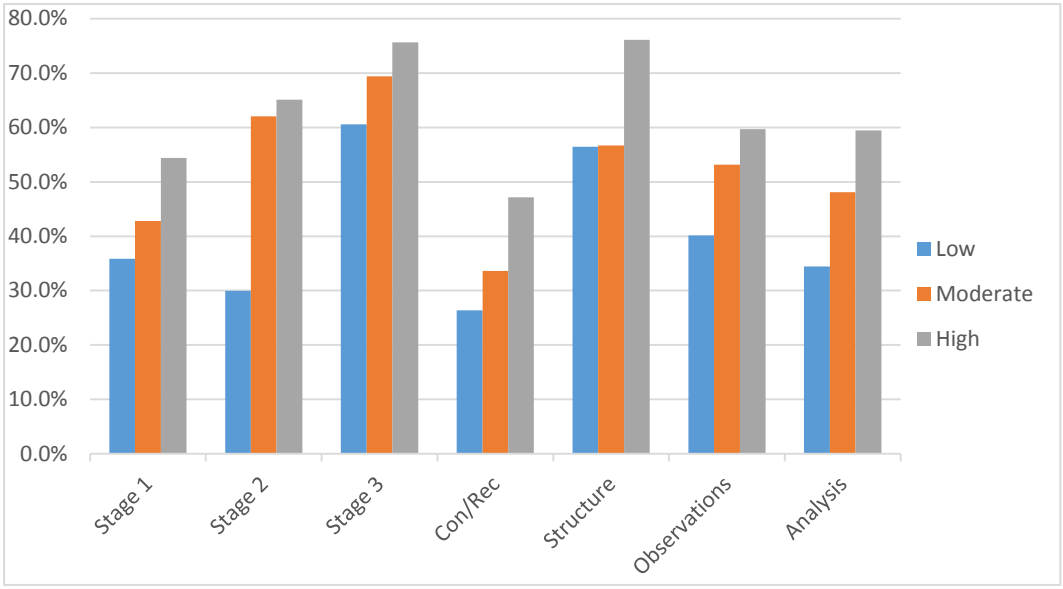
Classification	Stage 1 %	Stage 2 %	Stage 3 %	Con/Rec %	Structure %	Tot. Obs. %	Tot. Anl. %	Overall Score %
Good	54.4	65.1	75.6	47.1	76.1	59.7	59.4	63.3
Moderate	42.8	62.1	69.4	33.6	56.7	53.2	48.1	51.6
Poor	35.9	30.0	60.5	26.4	56.5	40.1	34.5	41

Key to table 3

Stage 1	= Stage 1 SQUEAC
Stage 2	= Stage 2 SQUEAC
Stage 3	= Stage 3 SQUEAC
Con/Rec	= Conclusions & Recommendations
Structure	= Use of language, grammar, clarity, brevity, key terms and concepts
Tot. Obs.	= Total score for proper use of SQUEAC investigative tools
Tot. Anl.	= Total score for logical inferences made from the data presented
Overall score	= Overall score achieved in all categories from the maximum possible

Figure 2 below presents a bar graph of median percentage score for each checklist element disaggregated by classification.

Figure 2 Bar Graph of median percentage score for each element disaggregated by classification



Discussion

The reports listed in the CMN database are clearly referenced through the ID number assigned to them. The CMN website cache for reports is divided in geographical categories, however, the reports on the website cannot be referenced by the ID number. The reports within each geographical category could be more easily searched if the reports are sub-categorised by country and possibly further listed in chronological order. The inclusion of the database ID number in the web-based naming convention would make the linkage clearer if cross referencing was required. The 'Archived' category of reports on the CMN website are not sub-categorised geographically or otherwise. If there is a future plan to archive more reports it may be worth considering the use of geographical (and possibly chronological) sub-categories in line with the categorisation other reports.

The structure of the reports overall was remarkably consistent, satisfactory and based on the template provided by CMN on the website. The technical content included under each heading showed wide variation and led in many cases to the unnecessary repetition of material. It must be concluded that the "lack of standardisation" alluded to in the Godden report refers to the technical content within each section and not to the structure of the reports per se.

Reports varied in size from 1.1 – 5.3 MB. Photographs which add minimal or no technical or qualitative information were frequently found. While a particular agency may wish to include such information in reports for their donors, the size of reports could be reduced significantly by the editing of unnecessary information and photographs prior to publishing to the website. This would increase the readability and the ease of download, particularly where website users may have slow internet connections.

The CMN report template is structured on a classic scientific structure which separates methods, results and discussion. It is also a typical NGO style structure with executive summary, objectives and background sections. In many cases the introduction section in particular was bloated with information irrelevant to the SQUEAC investigation and more suited to donor proposals. This includes for example, the geo-political status of the country, the inclusion of (usually positively biased) prior achievements of NGOs in other programming areas and anthropometric survey data sometimes irrelevant either geographically or temporally. As with the photographs mentioned earlier, the editing of information largely irrelevant to the immediate investigation would enhance readability.

The SQUEAC methodology is investigative and iterative. Thus the methodology is a *process* that is different from, for example, a research methodology that has clearly delineated methods and results. The forced separation of an iterative process into separate methodology and results sections led to repetition of material. In several cases the methodology which was presented appeared to be an ideal case, taken for example from the SQUEAC manual, rather than the actual methodology employed in the field. Changing the template for the report to one which reflects the iterative process would likely enhance the description of the actual methodology, the triangulation of information and the logical inferences from evidence.

The Godden report indicates a need for a clearer description of the required contents for each of the sections of the report. A suggested (draft) template for a SQUEAC report structure which provides more comprehensive guidance and is based on the iterative process is attached in Annex 3.

The technical content of the reports was assessed through the separation of scoring for the appropriate and relevant presentation of data and the logical inferences derived from that data or its triangulation. The individual elements of the iterative process were categorised into the stages of

the SQUEAC investigation which follows the iterative nature of information flow. Where a particular tool was not used, credit was given if it was explained why that was not done.

In general the 'good' reports achieved a good rating through a wider use of tools and, more so, through the logical use of that data in triangulation and interpretation The progressively higher scores achieved by the 'moderate' and 'good' reports were observed across all stages of the SQUEAC investigation. This remained the case when the scores were analysed according to the 'observations' and the 'analyses' made during the investigation. The largest discrepancies between the scores achieved by the 'poor' and 'good' categories of report appeared in Stage 2 of the investigation and in the overall scores achieved through the logical inferences (category: "Tot Anl." In table 3) made from the data presented.

It is possible in some cases that the methodology employed in the field was performed with greater quality than is reflected in the report, however there is an apparent deficiency in the logical use of the data in some reports. This is partly attributable to a poor 'audit trail' which does not allow the reader to make a clear connection between the information as it is presented and the logic of the inferences made from it while in others the inferences are clearly illogical and contradictory to the evidence.

The stage 2 investigations / hypotheses were, with very few exceptions, always about 'distance from the treatment centre'. This remained the case even when the evidence of stage 1 suggested a different type of study or hypothesis would be more suitable. SQUEAC training should aim to enhance future creativity in the range of studies which may be conducted in stage 2 and how these should be derived from the triangulated evidence of stage 1.

The lack of presentation of evidence in the reports is most clearly seen in the conclusions / recommendations sections. While the same trend of increasing scores from 'poor' to 'good' reports occurs, the median score as a percentage of the possible score is low in all categories.

To a lesser extent there is, in the 'moderate' and 'poor' classes of report, misrepresentation of some key terms and concepts. In these cases it may be that a clearer understanding of some of SQUEAC concepts is a necessary precursor to the improved use of data triangulation and the logical inferences derived. 2 reports scored less than 30%. In both cases this low score derived from very few tools being implemented during the stage 1 investigation. In one of these reports stage 2 was hardly documented at all. One of these two reports also scored lowly on the logical use of the data although the other scored reasonably well in other sections. This captures a potential weakness of the checklist in that while it is reasonably sensitive to detecting poor methodology it may sometimes not be specific in identifying good field methodology when it is poorly documented in a report. Specific issues which arose from individual reports are listed in Annex 2

The nature of the barriers and boosters identified and the weightings attached to them frequently did not reflect the evidence presented earlier in the report. The wording was frequently generic and not related to any identifiable activity which may affect coverage (e.g. "commitment of the staff"). Guidance from facilitators to better identify coverage changing activities (e.g. "weekly active case finding activities by volunteers") can capture the understandable wish to reward the commitment of staff but do so in a way which identifiably affects coverage. At the time of writing, a concurrent CMN assessment is considering appropriate ways to express barriers and boosters.

The Bayes calculator is the primary tool used in the reports for the calculation of the Bayes coverage estimate. In many reports this is also (inferentially) used for the calculation of sample sizes. As a necessary part of training the manual calculations for sample size, precision, coverage estimate and

credibility intervals are taught. Where it is necessary to document this training the readability of the report could be enhanced by placing the formulae and manual calculations in an annex (or the SQUEAC manual referenced as a source) rather than being detailed in the body of the report.

The weakest part of the reports was the section on conclusions and recommendations. Particularly for the 'poor' category of reports, evidence from stages 1 & 2 which was reflected in weighted barriers and boosters and evidence from survey questions was not directly related to the final conclusions and recommendations. In several cases recommendations were made which were programmatic in nature, did not derive from the reported SQUEAC investigation and had little to do with the improvement of coverage. In other cases the recommendations appeared to be appropriate from the evidence presented in stage 1 but were disconnected from the barriers and boosters used to formulate the prior. It is inferred that in these cases, the report author had made the appropriate recommendations from the evidence but that the disconnection with the boosters and barriers must have occurred because the boosters and barriers identified by the SQUEAC team did not reflect the evidence. Stronger facilitation during training will be required in order to guide SQUEAC teams to identify appropriately weighted barriers and boosters.

In most reports the recommendations and resulting action plan are appropriate to the evidence. A notable feature of the action plans is that many are presented as 'logical frameworks' although there is no ascending logic to their structure. Deriving a logical framework towards a clearly defined goal of improved coverage would be a good technique which would focus the proposed activities of the action plan. However the proper construction of logical frameworks is another layer of skill which may not be appropriate for all training settings.

The reports under the classification of 'moderate' or 'poor' could be improved in the following ways:

- Clearer presentation of key terms and concepts according to the SQUEAC manual standard
- The use of more SQUEAC assessment tools (or appropriate explanation of non-use)
- Logical inferences made from the data gathered by each tool
- Clearer indication of linkages between the data in triangulation ('the audit trail')
- Clear presentation of logical inferences based on the data triangulation (BBQ etc.)
- Barriers & Boosters (BBs) which are derived from the logical inferences made
- Weights attributed to BBs which reflect the weight of evidence and clear triangulation
- Conclusions and Recommendations which directly relate to SQUEAC evidence and BBs
- Action plans which prioritise life-saving interventions over administrative issues

There is an absence of guidance in all of the sampled reports regarding how the data from a 1st SQUEAC may be used or further developed for a 2nd SQUEAC investigation in the future. This may be a useful addition to training/ reporting as it should be encouraged that SQUEAC investigations are not one-off coverage estimates for donors but are part of an expected audit cycle in the programming. There are examples of SQUEAC having been performed twice at the same location, however this was not examined as part of the sampled reports.

SQUEAC reporting for integrated services

A description of the integration of SQUEAC / SLEAC into integrated services is beyond the scope of this report. However, the reporting template provided in Annex 3 is primarily based around a typically NGO style of reporting. Where SQUEAC has been integrated into CMAM programming or

government led services or is conducted regularly as part of an audit cycle, this style of reporting is burdensome.

The SQUEAC manual and many SQUEAC reports use the concept of mind mapping to illustrate the data collected during the SQUEAC. This is usually created in paper form during training but is recorded in many reports by virtue of using mind mapping software (e.g. XMind[2]) which is available freely on the internet. The capabilities of XMind are however underutilised in CMN reporting.

Where SQUEAC activities are integrated into programming or services, the SQUEAC exercise will not necessarily be conducted as a discrete one-off exercise over 2 weeks as is done for training purposes. Data gathered during routine programme activities may be recorded over time in great detail using the mind mapping software. Positive and negative findings can also be indicated (as is sometimes done in CMN reports). Where the CMN mind maps fall short is in the use of software tools which show linkages between data. This can be used to represent triangulation of data as evidence towards weighted barriers and boosters derived later in the process.

XMind software has the capacity to produce reports automatically. For the free version this is in HTML format which can be easily formatted as a word document. The report contains visual references of the data and also prints the detailed notes taken over time clearly referencing linked information. The use of these tools eases the task of reporting and (provided the mind map is completed usefully) is time efficient, avoiding the long and often tedious task of writing reports. A report can be generated from a mind map within minutes. The checklist used to assess the CMN reports could equally be used against a HTML report produced using XMind.

[2] XMind mind mapping software is freely available at http://www.xmind.net

Recommendations

Website & Database

- Website categories should be subdivided by country
- Within website country categories list reports chronologically
- Website naming convention should include the CMN database report ID number

Report Structure

- Edit unnecessary photographs from website editions of the report
- Edit irrelevant wider context data from website editions of the report
- Formulae and manual calculations should be annexed and not in the body of the report

SQUEAC methodology

- Encourage use of more qualitative / quantitative SQUEAC tools in stage 1
- More creative hypotheses for stage 2 derived from stage 1 investigation
- Clearer training and facilitation to SQUEAC teams for identifying appropriate barriers and boosters which directly affect coverage and are derived from evidence
- Boosters and barriers should be weighted only after stage 2 (unless stage 2 is absent)
- Include in 1st SQUEAC training, guidance on the use of data from the investigation in follow up SQUEAC investigations

Conclusions / Recommendations

- Should be clearly derived from the evidence and related to the barriers and boosters
- SQUEAC and Non-SQUEAC programmatic recommendations should be clearly separated

Other

- Future SQUEAC training developments should include clearer guidance on how SQUEAC may be integrated into programming / service provision

Integrated programmes

- Use XMind (or similar, free) mind mapping software in particular to identify linkages between data and generate speedy HTML reports

Bibliography

Myatt, M. (2012). *Semi Quantitative Evaluation of Access and Coverage (SQUEAC) and Simplified Lot Quality Assurance Evaluation of Access and Coverage (SLEAC) Technical Reference.* Washington DC: FHI 360 / Food And Nutritional Technical Assistance III Project (FANTA).

Annex 1 Summary of Report Assessments

Report ID #	Stage 1 %	Stage 2 %	Stage 3 %	Con/Rec %	Structure %	Total Observation %	Total Analysis %	Overall Score %
3	22.9	15.2	43.8	9.4	55.0	25.6	19.9	25.9
6	37.5	92.9	75.0	51.6	100.0	55.5	62.3	64.3
10	50.9	29.5	47.5	15.6	36.7	44.1	36.9	42.2
12	39.1	21.4	67.5	36.7	66.7	43.2	35.6	43.0
14	57.9	31.3	87.5	50.0	100.0	55.3	55.7	61.0
17	39.8	45.5	55.0	21.1	56.7	43.4	39.0	44.2
20	54.2	65.6	65.0	50.0	93.3	60.0	56.4	63.2
22	55.6	68.8	77.5	46.9	48.3	61.9	60.6	63.4
29	70.8	60.7	67.5	43.8	40.0	66.5	61.9	65.8
32	37.5	5.4	86.3	31.3	46.7	39.0	35.6	39.7
35*	14.8	1.3	45.0	37.5	100.0	20.6	19.1	25.8
40	45.4	63.4	72.5	29.7	63.3	53.8	50.4	55.3
42	34.3	38.8	68.8	8.6	48.3	41.3	34.1	40.2
51	34.3	52.7	47.5	54.7	60.0	45.8	41.5	46.8
56	50.5	71.4	81.3	40.6	75.0	58.9	59.7	63.2
60	40.3	60.7	66.3	37.5	50.0	52.5	45.8	51.6
69	42.4	57.1	48.1	35.9	75.0	47.9	44.1	50.0
71	28.2	31.3	68.1	33.6	81.7	38.6	34.3	41.0
Median	**40.3**	**52.7**	**67.5**	**36.7**	**60.0**	**47.9**	**44.1**	**50.0**
Mean	**43.6**	**47.7**	**66.2**	**35.1**	**64.5**	**49.0**	**45.5**	**50.6**

** Report ID # 35 was excluded from the subsequent analysis of results. The report was a summary of several SQUEAC investigations, technically good but scoring low because of the*

Annex 2 List of technical issues arising in individual reports

- Weak analysis of primary quantitative data (OTP cards/Reports). Cards should be checked to ensure that children's treatment outcomes are classified and reported correctly
- Long LOS is frequently seen as a protocol problem rather than being correlated with the MUAC on admission. Generally children with low MUAC will require longer treatment episodes for cure; this should be triangulated back to case finding.
- Faulty logic: Seen as problematic that 50% of children stay in the programme longer than average.
- Average length of stay of 8 weeks appears to be interpreted as an expected maximum.
- There is a weakness in terms of the "audit trail" to identify whether appropriate sampling frameworks were used for all stages of the investigation
- There is rarely mention or evidence of 'sampling to redundancy'
- There is weak evidence of triangulation in many reports to justify the weighting given to boosters and barriers
    - The absence of a barrier (e.g. Stigma) cannot be portrayed as a coverage booster
    - Obvious issue with factors such as distance from OTP site yet greater weighting given to factors such as "poor documentation"
- Small Area Surveys (SAS) nearly always base their hypothesis on "Distance vs. Coverage" in the reports sampled. In many cases small studies or qualitative surveys may have sufficed to give better triangulation
- There is almost a complete absence of SLEAC /LQAS coverage classification use where this would be more appropriate than a Bayes SQUEAC coverage estimate
- There is manipulation of an informative prior to create a non-informative prior (prior $\alpha = 1$, prior $\beta = 1$) AFTER performing a Bayes calculation where there is conflict between the prior and likelihood
- Occasional introduction of potentially confusing 'technical' language (e.g. Global Coverage [= OTP coverage + SC coverage or whole geographical area] & Priori and Posteriori instead of Prior/Posterior)
- Some cases appear to be ignored or excluded from the coverage estimate (e.g. cases in SC at the time of the Stage 2 or WAS surveys or cases admitted by weight for height)
- Questionable arbitrary decision rule applied for LQAS. E.g. Coverage expected to be well below SPHERE standard (90% in this example) therefore the decision rule which decides good / poor coverage is reduced to 50%.
- Value judgements applied inappropriately (e.g. "a sector with good community mobilisation" where coverage was found to be poor). This is a contradiction in terms.
- Despite clear suggestion of patchiness (in the hypothesis) there is no discussion of the appropriateness of the WAS in relation to these results.
- Oversampling during WAS – Likelihood overwhelms the prior. Questionable whether Bayesian method was useful in this case as an estimator.
- Generic recommendations. Need to be more specific. Many could be made without having performed a SQUEAC E.g.
    - Promote adequate application of admission and discharge criteria
    - Strengthen existing outreach activities
    - Promote passive case finding strategies and referrals
    - Clarify understanding of the program target
    - Ensure availability of RUTF

- The SQUEAC investigation does not include a supply chain analysis. Value judgements regarding the reason for RUTF stock outs should be made carefully
- Misrepresentation of concepts: e.g. “the point coverage was estimated from the wide area survey”
- Poor interpretation of data. E.g. high default during migration periods; but overall is within sphere standards. Clearly is not within sphere standards during migration. Indicates need for the temporal application of standards not as an average over a year.
- Use of LQAS method but quoting a percentage coverage rather than a classification
- Point or period sometimes used without justification for the choice
- Programme “effectiveness” calculated from point coverage
- Illogical combining of factors for non-attendance e.g. Mother sick / RUTF shortage
- Unclear generalisation of reason for non-attendance: “services too poor to justify attendance”
- Assumptions of the SQUEAC team given credit in the report without evidence to justify inclusion
- Poor logic does not identify an issue: “ the default rate is not too high because it is less than sphere standards on average” (fails to address high default in migration season)
- KII question guide presented as a “list of questions”. Some questionnaires poorly constructed with leading or closed questions
- Some vague or unrealistic SQUEAC recommendations: “conduct anthropological assessment on X tribe” / “mothers workload is addressed through M2M support groups to ensure children with SAM are adequately identified , referred and cared for”
- Arbitrary setting of standards (instead of sphere) by using a coverage figure from another programme some years before using a different method (in this case 40%)
- Unsubstantiated statements “ Late admissions almost always require inpatient care”
- Large number of admissions by oedema but timeliness only considered MUAC cases
- SAS used primarily for admission numbers vs. coverage. Qualitative studies neglected. In one report, this is actually stated as the methodology for stage 2
- Patchiness not often assessed
- Weighted barriers and boosters (with alpha and beta prior) presented before stage 2
- Weighted barriers and boosters set prior mode at 49%. Later the prior mode is set randomly at 35% with no explanation
- No prior (or process of weighting BBs) indicated before giving the final Bayesian coverage
- The prior appears to have been set by the SAS numerical result.
- Lack of something cannot be a booster e.g. lack of distance or lack of stigma
- The terms priori and posteriori are used interchangeably with prior and posterior. ‘Priori’ is a proposition based on no experience. The prior comes from an iterative process assessing both qualitative and quantitative evidence
- Weighting of boosters and barriers is presented as a sum total rather than broken down into individually weighted BBs

Annex 3 Proposed SQUEAC Report Template Guide

TITLE PAGE

Type of investigation: (SQUEAC / SLEAC)
Location: District, Province and Country
Type of programme / Service: Outpatient treatment for SAM / Outpatient treatment for MAM
Implementing Organisation: Name of implementing organisation (and support organisation if applicable)
Date of investigation:
Author:

CONTENTS

Table of contents
List of tables
List of figures

ACKNOWLEDGEMENTS (Optional)

ABBREVIATIONS

EXECUTIVE SUMMARY (Max 2 pages)

OBJECTIVES (Optional)

INTRODUCTION (Optional)

CONTEXT

Context specifically related to the SQUEAC/SLEAC investigation

INVESTIGATION PROCESS

STAGE 1

Quantitative data

If data is missing from the report indicate why this was not available / collected. If inferences are made from the data, indicate triangulated evidence from the investigation. Do not speculate on what this means or may mean in other contexts / countries.

Treatment card analysis: Check admission /cured/default/non-cure according to local guidelines

Other programme records: Monthly reports / registers / home visit checklists / volunteer activity records / referral slips

Admission trends: Time series analysis / with smoothing (if smoothing applied indicate smoothing interval)

Seasonal Calendar: Rainy or Dry seasons / Planting / Harvest / Disease / Labour / Migration

MUAC or Oedema on admission: Indicate the median MUAC / Oedema on admission

% Referral to inpatient: Triangulate with MUAC or oedema on admission / treatment cards / % return to outpatient

Distance from treatment centre: Explain chosen method of distance estimation / perception for the context

Defaulters: Classify defaulters (e.g. early or late / SAM or Recovering or Cured but not discharged on default). Reasons

Length of Stay: Calculate median LOS for MUAC and oedema separately, triangulate with MUAC/Oedema on admission

Outcome trends: Time series analysis / with smoothing (if smoothing applied indicate smoothing interval)

Anthropometric Surveys: Data should only be used if reasonable (recent or same time of year / specific to context)

Qualitative data

Qualitative sampling framework: Explain sampling strategy. Indicate evidence of sampling to redundancy

Carers of attending cases: Informal group discussion / Semi-structured interview

Community leaders (political / traditional / religious): Informal group discussion / Semi-structured interview

Laypersons from community: Informal group discussion / Semi-structured interview

Clinical Staff: Informal group discussion / Semi-structured interview

CHW / TBA / AEW / CBV: Informal group discussion / Semi-structured interview

Traditional Healers: Informal group discussion / Semi-structured interview

School Teachers / Others: Informal group discussion / Semi-structured interview

Defaulter tracing: Reasons for default; Simple structured interview (questionnaire) / Case History

Non-covered cases: Simple structured interview / Case History

Critical Incidents: Case History

Mapping: Spatial (maps or lists) mapping of admissions / defaulters / CHWs or volunteers

Data Triangulation

Mind Map: (Drawn or software) Indicate triangulation of factors / relationships between data

Concept Map: (Drawn or software) Indicate (logical) positive or negative relationships between data

BBQ: Indicate triangulation achieved with the questions raised

Barriers / Boosters: List of Barriers and boosters (if) in stage 1 must NOT be weighted (unless stage 2 is absent)

STAGE 2

Hypothesis: Must be derived from evidence in stage 1. Do not always use distance if others are more relevant

Study description: Describe the nature of the study; Small Area Survey / small study / small survey

Methodology: Describe sampling methodology appropriate to hypothesis

Case definition: Define the type of cases included in the study (include anthropometry if applicable)

Quantitative data results: Tabulate / graph data results

Qualitative data results: Describe / tabulate / graph data results

LQAS decision rule: Indicate appropriate decision rule and rationale / indicate calculations

Hypothesis rejection or confirmation: Accept / reject hypothesis. Triangulate with Stage 1 evidence

FORMING THE PRIOR

Simple barriers & boosters: List BBs arising derived from triangulated evidence

Weighted barriers & boosters: Weights of BBs must be derived from well-triangulated evidence in stages 1 & 2

Histogram: Histogram drawn or described. Credible coverage limits should be derived from triangulated evidence

Bayes Prior Plot: Use calculator or manual calculation

Shape parameters: Describe α and β shape parameters (Bayes Calculator or manual calculation)

STAGE 3 - (LIKELIHOOD) - If applicable

'Stage 3' wide area survey

Quantitative sampling framework: Describe appropriate spatial stratification (quadrat or other), randomisation process

Sample size & Precision: Describe method of calculating sample size and precision (Bayes calculator or manual calculation)

Case finding methodology: Active Adaptive / 'Door to Door' / D£D etc.

Qualitative data framework: Questionnaires for cases IN or OUT of the programme

Quantitative data results: Quantitative WAS results tabulated

Qualitative data results: Qualitative data tabulated or graphed (reasons for attendance or default)

Bayes Coverage estimate

Bayes plot: Graphic indicating prior, likelihood & posterior with shape parameters, numerator and denominator

Coverage estimate: Bayes coverage estimate with credibility intervals (point / period coverage)

Interpretation of Bayes plot: Describe if prior & likelihood are coherent or in conflict. Interpret with rationale.

Manual Bayes coverage calculation with credible intervals: only if Bayes calculator is unavailable

DISCUSSION & RECOMMENDATIONS

Discuss the findings. Do not repeat results presented earlier.

Bayes coverage estimate (or LQAS / SLEAC) is interpreted in context identifying any biases and triangulate back to methodology and list of barriers and boosters to indicate where the error may have arisen.

Met need: Met need = Coverage x Cure rate / interpret result

Identify major boosters and barriers that should be prioritised for action

List of SQUEAC recommendations: Put list in order of priority as far as possible or indicate level of priority. The recommendations and their priority must be derived from strongly triangulated barriers and boosters and have a direct relevance to improving coverage.

Non-SQUEAC recommendations for required programme improvements that may have been identified during the investigation (but are not directly related to coverage improvement) should be listed separately.

Action Plan / Logical Framework: If a logical framework is presented it must have an ascending logic to its structure. Do not confuse action plans and logical frameworks. Action plans should be prioritised and must emphasise lifesaving interventions (which get children into treatment quickly) over administrative issues.