LINK NCA PILOTS VISUAL INDICATORS ON MOBILE DEVICES

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EXECUTIVE SUMMARY

While maternal workload, stress, and well-being underlie causal pathways to malnutrition in many contexts, these risk factors are unclear in the UNICEF Conceptual Framework and are difficult to assess. The Link NCA studies in Anse d'Hainault, Haiti and in five counties of Liberia tested two visual scales for maternal workload and external support. The tools enabled exploration of these key themes in the Risk Factor Survey and provided information on prevalence of perceived workload and support. Visual tools should continue to be explored in Link NCA Risk Factor Surveys, particularly regarding maternal stress, social support, and workload.

INTRODUCTION

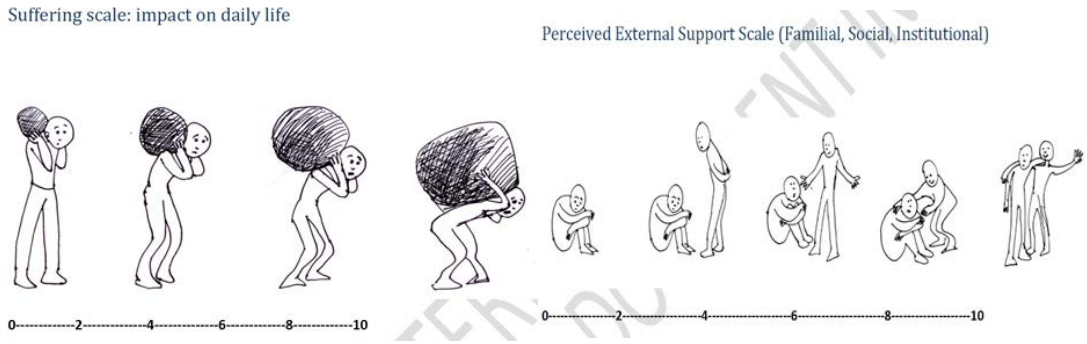
The UNICEF Conceptual Framework illustrates the multi-factorial immediate, underlying and basic causes of child undernutrition. However, important risk factors for female caregivers are conspicuously missing in the original framework upon which the Link NCA is based, including women's social capital, parental stress, and mental well-being. A meta-analysis, however, identified a majority of causal pathways were interlaced with risk factors related to women's status, especially 'aggregated work overload'. As the Link NCA is a mixed-methods study, suitable quantitative tools to explore risk factors for women's social support and workload were desired to complement evidence on those themes typically gathered during qualitative inquiry and community immersion.

INDICATORS

The Link NCA Indicator Guide, developed in 2015 and revised in 2018, is a tool developed to provide support for the development of the household cross-sectional survey questionnaires. The guide includes 58 indicators across various sectors, selected through consultation with technical experts and review of standardized guides, and is intended to be flexible enough to be adapted to various settings. The most recently revised guide includes several indicators measuring care for women, including nutritional status, well-being, and postnatal depression. In addition, there is one indicator regarding caregiver's perceived workload with two close-ended formulations. However, the guide acknowledges this indicator assesses perceived workload only, and thus is limited. Furthermore, since the production of these guidelines, the Link NCA has shifted to a new quantitative approach, examining statistical associations of risk factors with malnutrition outcomes, as opposed to prevalence only. In light of this methodological modification, new indicators suitable for logistic and linear regressions are frequently explored by the Link NCA Analysts and Technical Advisors.

Recurrent themes pertaining to women's workload and social support were noted during the preparatory and qualitative inquiry stages of the 2018 Link NCA in Anse d'Hainault. This prompted discussions between the study's focal points regarding inclusion of workload and social support indicators in the Risk Factor Survey, despite their limited availability.

The team decided to review ACF's internal "Manual for Measurement of Indicators in Mental Health and Care Practices" for suitable alternatives, as it had been compiled after the Link NCA Indicator Guide but was used as reference in routine ACF MHCP programming. This guide includes two visual indicators for Perceived Suffering: 'Suffering scale 1: impact on daily life' and 'Suffering scale 2: perceived external support scale.' The use of visual scales has been proven appropriate for other sensitive or difficult issues, such as the Wong-Baker FACES Pain Rating Scale, and visual tools are frequently used during qualitative inquiry to aid understanding, build rapport, and bridge potential language barriers.



FIGURES 1 AND 2: Suffering Scale and Perceived External Support Scale, MHCP Manual 2018. Illustrations by Armelle Sacher.

Together, these two scales are intended to assess the respondent's general level of suffering both at the individual level and at the social level. While these scales do not have standardized questions, the MHCP Manual includes the following suggested prompts:

> During individual interview, the respondent rates 0 to 10 his/her suffering level by referring to the proposed drawings (scale 1), as well as his perceived external support (scale 2). When using the scales, we recommend to give the respondent verbal explanation regarding the different levels (e.g. for scale 1 : "I feel I can deal with my suffering" for level 0 to 2, "I feel it is difficult to deal with my suffering and my daily life is affected" for level 3 to 5, "I feel my daily life is very affected by my suffering" for level 6 to 7, "I feel my daily life is overwhelmed by my suffering" for level 8 to 10). In addition to these data, the staff's observation of the respondents' attitude and emotional state should be carefully noted too.
>
> ACF MHCP Manual, 2018

Considering the themes emerging from the qualitative inquiry, as well as the validated hypotheses for the study, the suffering scale and perceived external support scale were adapted to assess women's perceived workload and external support, respectively.

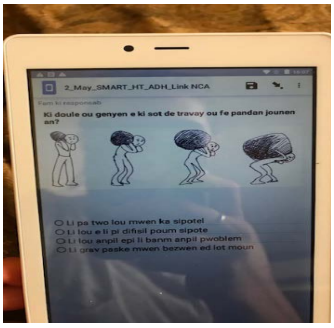
FIELD TESTING: ANSE D'HAINAULT, HAITI- 2019

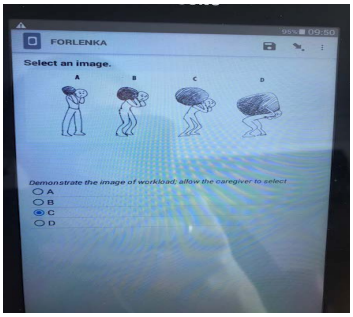
The Risk Factor Survey in Anse d'Hainault was conducted via an electronic questionnaire downloaded onto mobile devices with the Kobo ODK platform. The Survey Manager chose to precede the visuals with a prompt, as per the available guidance, listing descriptions of the visuals as the choice options, based on the caregiver's perceived workload/ social support in a typical day. However, this presented several limitations, namely:

- TRANSLATION: Preceding the images with a prompt and listing potential options, introduced the potential for translation bias. In fact, the intention of the question was diluted with a misunderstanding of the roots and intent behind suffering, as not solely a physical state. The resulting Haitian Kreyol term doule may not have captured the full intent of the workload question; thus, the team reviewed the intended meaning of the question during data collection debriefs and centered it around workload: 'Twòp travay'. Supervisors also monitored correct posing of the question.
- DEPENDANCE ON PROMPTS: Some survey respondents focused on the options listed to them, as opposed to reviewing the visual options. This undermined the intended focus on the visual representations of suffering.

FIELD TESTING: FIVE COUNTIES OF LIBERIA 2020

Building on lessons learnt in Haiti, the Link NCA in five counties of Liberia adapted the same workload and external support indicators for the Risk Factor Survey, but without detailed descriptions as options. INSTEAD, THE CAREGIVER WAS INSTRUCTED TO POINT AT THE IMAGE WHICH BEST REPRESENTED HER CURRENT SITUATION, BASED ON HER UNDERSTANDING OF THE QUESTION. During the 7-day Link NCA/ SMART training, an entire half-day session was dedicated to these two questions alone, as it was critical that each enumerator understand the intention of the question, as well as what each potential response represented. The photo was still preceded by the question to present to the respondent, but enumerators were directed, in the tablet, to demonstrate the tablet to the respondent.





PICTURE 1: Workload Question with listed options, Haiti 2019 PICTURE 2: Workload Question without listed options, Liberia 2020

Workload	Social Support
EN[1]: DEMONSTRATE THE PICTURE BELOW TO THE CAREGIVER. Ask her to select the image that represents how she feels when she has problems. // LRE[2]: DEMONSTRATE THE PICTURE BELOW TO THE CAREGIVER. All the plenty things someone gotta do and the things that they're thinking on, it's like a load. Of all the plenty things you gotta do and the things that you're thinking on, look at the four pictures here and tell me where you can find yourself in how it making you feel.	EN: DEMONSTRATE THE PICTURE BELOW TO THE CAREGIVER. Ask her to select the image that represents how she feels when she has problems. // LRE: DEMONSTRATE THE PICTURE BELOW TO THE CAREGIVER. When you got something on your mind or something playing on you, which of these shows what you do if you need advice

TABLE 1: MHCP Indicators, Link NCA Liberia 2020

FINDINGS

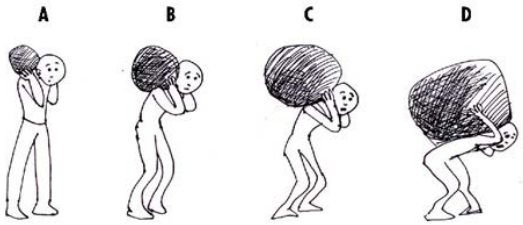
During Risk Factor Survey Analyses, prevalence's were calculated for each response on the respective scales. In Haiti, 48.4% of children's mothers indicated C: 'I feel that my daily life is very affected by my workload. Across the three regions of the Liberia study, the most common identified workload was 'A' or 'B,' a visual which reflected a noticeable but bearable load.

1 English
2 Liberian English

WORKLOAD

HAITI (ROUND 1): QUESTION WITH PROMPTED RESPONSES

LIBERIA (ROUND 2): NO PROMPTED RESPONSES, A/B/C/D LISTED ABOVE THE IMAGE FOR CORRESPONDING SELECTION BY THE ENUMERATOR



A	B	C	D
25.1 [15.9-37.3%]	20.3% [13.6-29.2%]	48.4% [36.2-60.7%]	6.3% [3.7-10.5%]

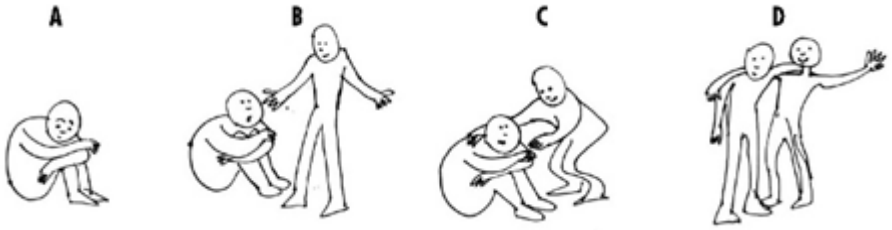
R.	A	B	C	D
1	26.9% [20.3-34.7%]	28.4% [21.6-36.3%]	18.9% [13.7-25.5%]	25.8% [19.5-33.3%]
2	27.4% [20.9-35.1%]	29.7% [23.5-26.8%]	22.4% [16.5-29.6%]	20.5% [15.6-26.4%]
3	27.9% [21.6-35.2%]	21.7% [16.0-28.7%]	22.9% [16.9-30.4%]	27.5% [21.2-34.8%]

For external support, the most common response in Haiti was A: 'No one listens to me; no one helps me.' Across the three regions of the Liberia study, caregivers most frequently identified with C, a visual of feeling comforted but unalleviated from one's circumstances.

EXTERNAL SUPPORT

HAITI (ROUND 1): QUESTION WITH PROMPTED RESPONSES

LIBERIA (ROUND 2): NO PROMPTED RESPONSES, A/B/C/D LISTED ABOVE THE IMAGE FOR CORRESPONDING SELECTION BY THE ENUMERATOR



A	B	C	D
56.3% [42.9-68.9%]	6.8% [3.-12.9%]	20.4% [14.8-27.4%]	6.3% [3.7-10.5%]

R.[3]	A	B	C	D
1	18.9% [13.5-25.8%]	16.4% [11.3-23.1%]	33.5% [26.8-40.9%]	31.3% [25.1-38.2%]
2	22.4% [16.5-29.7%]	12.7% [8.7-18.3%]	44.4% [37.4-51.6%]	20.5% [14.9-27.4%]
3	25.0% [18.8-32.5%]	13.8% [9.0-20.4%]	42.5% [35.5-49.8%]	18.8% [13.3-25.8%]

3 Region of the study.

Furthermore, when constructing viable causal pathways to undernutrition, the Link NCA analyst conducts logistic regressions for dichotomous indicators [i.e. yes/no] and linear regressions for continuous indicators. As the workload and external support visuals were scaled responses, options A-D were coded 1-4 for linear regressions, where 1 represented the least external support and the lightest workload, respectively, and 4 represented the most external support and the heaviest workload, respectively. Furthermore, in Liberia, a logistic regression was conducted using the dichotomous coding of yes/no for 'Heaviest workload [D]' and 'Least External Support [A]'.

According to subsequent analyses in Haiti, external support and workload were not significantly associated with child's anthropometric measurements, meaning a child whose mother had low external support or a heavy workload was not any more or less likely to be stunted or wasted per crude Odds Ratio's. According to subsequent analyses in Liberia, a child whose mother perceived the lowest levels of external support [A] was marginally more likely to be stunted[4]. Workload was not significantly associated with stunting, meaning a child whose mother perceived low or high workload was not more or less likely to be stunted per crude Odds Ratio's of the RFS.

LESSONS LEARNT

The testing of two interactive tools during the Risk Factor Surveys in the Haitian and Liberian contexts was a promising step forward in merging qualitative and quantitative methods. Integrating the visual scales in the electronic questionnaire was easily facilitated with the Kobo "image" option. However, additional care was taken during training and pilot testing to ensure that the image uploaded with each new version of the survey, as tools were constantly adapted and improved. The experience namely yielded the following lessons:

PICTURE 3: Risk Factor Survey, Liberia 2020

- INCREASED RAPPORT BETWEEN ENUMERATORS AND CAREGIVERS: Link NCA Risk Factor Surveys present an opportunity cost for caregivers, as questionnaires are time extensive and their participation is not compensated. Due to the sensitive nature of some questions, as well as time required, ability to build rapport is a key skill in enumerators. Household questionnaires administered via mobile devices can potentially cleave some of that natural rapport, as conversation may be stilted as the enumerator sets up the device. While this is also noted in paper questionnaires (i.e. flipping papers, writing answers), the presence of an electronic device may make some caregivers feel uncomfortable, if the device and surveyor's use of the device are not thoroughly explained. Flipping the screen around, so that the tablet was part of the dialogue, anecdotally catalyzed rapport, abet curiosity, and facilitated conversations about two sensitive issues, ultimately being coded into an A/B/C/D response. Several members of the Liberia Risk Factor Survey, who had also participated in the qualitative inquiry stage, noted that this tool felt like a conversation starter, as opposed to other close ended questions. Notably, these indicators catalyzed rapport between the survey team as well, as many team members had mental health/ social welfare technical backgrounds and were eager to discuss this scale.
- NEED FOR ADEQUATE TRAINING TIME: As is true for other complex indicators, congruence between intent of the question and enumerators' understanding is key. This is especially true when translation is needed, which is true in nearly all Link NCA contexts. An estimated two hours of training, as well as refresher's on subsequent days of training, was spent on each of these indicators. Survey supervisors were also instructed to closely monitor correct administration of these indicators, particularly, throughout data collection.
- INTERNAL AND EXTERNAL VALIDITY: Unlike standard indicators such as EBF or HDDS, these indicators for social support and/or workload are relatively novel, and therefore the credibility of findings was sometimes under scrutiny by technical experts, especially regarding application of findings to a solid evidence for programs. In the two field testing contexts, interpretation of the A-D responses varied, as fixed responses were given in Haiti, but responses were open to caregiver's interpretation in Liberia. Thus, comparability of findings in these two contexts is limited and not recommended. Further field testing is needed, as well as a technical review considering standardized prompts preceding the visual options.

4 This Link NCA assessed stunting only.