Malawi takes aim at Malnutrition using the Lives Saved Tool (LiST)

The Context

In 2014, the prevalence of stunting in Malawi was an alarming 42.4%. Stunting is an indicator of chronic malnutrition and undermines both physical and cognitive development of children.

In that same year, the Government’s Department of Nutrition, HIV and AIDS (DNHA) was in the process of finalizing its National Nutrition Policy and Strategic Plan (NNSP) for 2015 – 2020; a plan that articulated the Government’s intention to reduce stunting to 38% by the year 2020. The World Health Assembly goals called for a more aggressive goal of 50% reduction in stunting by 2025. These goals were ambitious, but if successful, were certain to have lasting, positive repercussions for Malawian families, and the economic growth of the nation.

Unfortunately, the DNHA lacked empirical evidence to validate whether the intervention coverage targets they were proposing would actually enable them to achieve their stunting goals. Essentially, they needed a way to model (i.e. estimate) the impact that scaling up interventions would have on stunting.

The LiST Tool was specifically designed to address these needs, and would allow the government to check their current strategy and revise their intervention coverage and / or stunting targets accordingly. The LiST analysis would also provide evidence regarding the key programmatic drivers of stunting reduction to help prioritize interventions.

The National Statistical Office, Ministry of Health (MoH) and Johns Hopkins University (JHU) had recently formed the National Evaluation Platform (NEP) in Malawi to answer just these kinds of questions. NEP’s mission was to empower national and district leaders with evidence, so that they could make strategic decisions that would maximize the health and nutrition impact for the women and children of Malawi.¹ The first task of the NEP was to identify, systematically compile, and rigorously analyze data from a wide variety of sources. More specifically, they sought to address the policy questions articulated in the next section.


LiST is a mathematical modeling tool that estimates the impact of scaling up key interventions to improve maternal, newborn and child health outcomes.

LiST calculates projected changes in mortality or other outcomes, based on the expansion (or reduction) of intervention coverage; intervention effectiveness, and / or the percentage of cause-specific mortality sensitive to that intervention. Traditionally, LiST was used to calculate changes in mortality, though it is increasingly used for stunting (as in this case study), wasting, breastfeeding practices, birth outcomes and maternal anemia.

At its core, LiST answers the question: ‘What would be the impact if we expanded coverage of the interventions that are known to be effective?’

Intervention coverage data comes from large-scale household surveys; typically Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS).

Initially developed to inform the Lancet Child Survival Series of 2003, LiST’s functionality and scope have expanded greatly over the past 10 years. The tool is positioned as a program planning / decision making tool, though it is often used for evaluation and advocacy as well. Its users include Governments, research institutions, NGOs, and other development partners.

LiST was developed by the Johns Hopkins Bloomberg School of Public Health and funded by the Bill & Melinda Gates Foundation as well as other donors. It is housed within Spectrum, a software package maintained by Avenir Health. For more information, or to download the LiST software, go to the Lives Saved Tool website.
The Policy Questions

There are several specific questions that the NEP team sought to address using LiST:

1. **Scenario A:** If key nutrition-specific and WASH interventions were scaled up to the targets established in the NNSP, what impact would this have on stunting?

2. **Scenario B:** If key nutrition-specific and WASH interventions were scaled up to their maximum possible coverage (i.e. 100%), what impact would this have on stunting?

3. **Drivers:** What are the key drivers of stunting reduction in terms of programmatic interventions? This question was posed in order to assist the Government of Malawi (GoM) in prioritizing interventions that delivered the greatest impact.

The Process

The process began with JHU and the National Statistics Office approaching MoH and the DNHA to gauge their interest in conducting the analysis. Once in agreement, they reviewed the NNSP together, and began identifying potential policy questions and sources of data. Then, to orient and train the NEP on LiST, a team from Baltimore traveled to Lilongwe to facilitate a week-long workshop with NEP Malawi team members. The workshop was a hands-on training on LiST covering topics such as: What is LiST?; What questions can it answer?; What can it not answer?; What inputs are needed?; How do you run the analysis?; And how do you extract and interpret the output tables? Key stakeholders involved in the process included the National Statistics Office (NEP’s ‘home’ institution), the MoH, the Central M&E Division and the DNHA, with JHU providing the technical support and coordination.

Data for the analysis was drawn from the DHS and MICS; along with program monitoring data from community management of acute malnutrition programs, provided by UNICEF and WFP. The NEP team began the analysis on a Monday and committed to presenting preliminary results to a small group of stakeholders on Friday of the same week. The speed with which it was done, and the fact it was all done in-country, helped participants and stakeholders to stay engaged and move quickly from an abstract concept of ‘modeling’, to a pragmatic planning exercise. Importantly, the exercise was done with an emphasis on capacity building, so that LiST could continue to be used in Malawi in the future.

The initial meeting with stakeholders was intended to review the preliminary results together; look for possible contradictions; and examine where further investigation was needed. Once the results were finalized, they were disseminated at a larger and more formal ‘validation meeting’, which included managers of child health programs, and directors and policy makers within the MoH. At a separate meeting, results were shared with other national stakeholders, such as donors, implementers and nutrition advocates.

An ‘attribution analysis’ was carried out to reveal which interventions have the greatest role in reducing stunting (e.g. therapeutic feeding drives X% of stunting reduction). These insights were of particular interest to stakeholders, and prompted them to request that additional attribution analyses be done at the district level.
Results

Examining historical intervention coverage trends (see image at right), coverage of many of the health sector interventions had plateaued in the past five years (2010 – 2014). As such, the target coverage rates proposed for the NNSP (represented by the dotted lines) were significantly higher than current levels, and likely to be unrealistic without dramatic changes in funding levels.

Moreover, even if current coverage targets were reached, Malawi would still not attain its stunting goals (see graph at right):

For scenario ‘A’, results of the LiST analysis suggested that if Malawi achieved their intended coverage of key interventions, they would not reach the GoM goal of a 38% by 2020 (top dotted red line in graph); nor would they reach their WHA goal of 22% by 2025 (bottom dashed red line in graph).

For scenario ‘B’, which models coverage of key interventions at 100% (instead of current levels), Malawi would reach the GoM goal of 38% by 2020 (see circled bar below at 34%); but would fall short of reaching the WHA goal of 22% by 2025. The 100% target scenario was not realistic, but was useful in illustrating the maximum benefit that could be expected from health sector interventions.

The key takeaway message was that the health sector could not achieve Malawi’s stunting targets on its own. Instead, the evidence reinforced the need to engage nutrition-sensitive interventions, i.e. programming from agriculture and other sectors to meet stunting reduction goals.² Agricultural interventions had not been included in the modeling exercise, but given the limited impact (on stunting) that nutrition-specific interventions were projected to have (even at 100% coverage), NEP advocated for a more multi-sectoral approach, and a revision to the nutrition planning process.

² Nutrition-‘sensitive’ interventions are interventions of other sectors (e.g. agriculture, social protection, etc.) that incorporate nutrition objectives. This term is contrasted with nutrition-‘specific’ interventions that fall under the health sector.
Use of the Results

In response to the LiST findings, the following steps were taken:

- The NHA revised coverage targets that were substantially misaligned with past trends on those (or similar) service indicators.
- Given the gap between the desired impact and LiST-projected impact of the intervention portfolio, the NNSP was amended to include more high-impact nutrition interventions.
- Given the finding that nutrition interventions alone would not propel them to attain their stunting goals, and that they would require the engagement of programs that fell outside the purview of the MoH (e.g. agriculture, social protection, etc.), the DNHA developed an advocacy strategy to promote multi-sector support and collaboration for improved nutrition outcomes. They sought to emphasize interventions that had proven to have a relatively significant impact on stunting, and to build in accountability (using M&E indicators) for these interventions.

Challenges to using LiST in Malawi

Several challenges arose in the application of LiST in Malawi, many of which could be better described as ‘limitations’ of the tool:

- Within the technical realm, the LiST tool does not take into account contextual factors, infrastructure or feasibility. Rather these must be considered by those who are developing target coverage scenarios. For example, the GoM might aim for 100% coverage of a given nutrition intervention, but if there aren’t health centers in remote areas of the country to implement that intervention, the target cannot be reached without expanding the health facility infrastructure, which may not be feasible.
- LiST provides the ‘what happened’ and ‘what will happen’ given specific coverage targets, but it does not explain ‘why’ these events occurred. The NEP team found it necessary to continuously review results with local stakeholders, soliciting qualitative data about context to arrive a more comprehensive understanding of events.
- LiST is capable of providing the evidence necessary to advocate for policy changes, but ultimately, these changes depend on a commitment by policymakers to make those changes. In Malawi, the analysis showed that support from other sectors is crucial to reaching the stunting goals that had been set. The DNHA can only hope to influence multi-sectoral policymakers by delivering convincing, evidence-based arguments for making changes. Such changes would also be influenced by other factors (e.g. politics, competing goals from other sectors, financial constraints, etc.), thus providing evidence of causal links does not necessarily lead to policy change.
- Given that nutrition and agriculture fall under separate programmatic and policy silos within government, NEP experienced challenges in obtaining necessary data to conduct follow-on analyses. As is common within many governments, separate ‘chains of command’ can complicate collaboration.
- The core LiST analysis does not take into consideration the ‘cost’ of scaling up intervention coverage within the given timeframe. It is therefore unknown whether any proposed scenarios are financially feasible to the GoM. LiST has recently released a costing application that could be utilized to generate this type of data.

Technical Benefits of LiST

- Free software
- User-friendly
- Comes with a detailed user-manual
- JHU can provide tech support for governments
- Comes preloaded with global and national data
- Very flexible – all assumptions can be customized by users
Opportunities and Unexpected Benefits

The application of LiST in Malawi produced several unexpected benefits and opportunities for further action:

■ In recent years, the DNHA was moved from the Office of the President and Cabinet, and placed under the MoH, effectively reducing their ability to affect policy changes outside of the MoH. With limited power to influence other sectors, evidence-based advocacy is essential for the DNHA to influence change in other Ministries, and the LiST analysis provided just that. Along with studies from COHA and PROFILES, these findings were crucial towards developing a nutrition advocacy strategy that emphasized the importance of nutrition-specific and nutrition-sensitive interventions in Malawi’s development agenda.

■ In previous uses of LiST in Malawi (and other countries), donors have been struck by the fact that many more interventions were scaled-up than was necessary to achieve the mortality reduction (and other) goals that were sought. 1 In a context of limited financial resources, LiST offers potentially dramatic cost savings by helping governments to identify and focus their budgets on the highest-impact interventions.

■ Finally, it’s worth noting that LiST is capable of modeling on a sub-national basis. In Malawi, the NEP hopes to understand the enablers of stunting reduction at a district level, so that lessons from districts that have been more successful in reducing stunting, can be shared and applied in those districts that still struggle with relatively higher prevalence rates. 2


2 Interview with Amos Misomali, Johns Hopkins University – LiST Malawi Team, 17 August 2018.

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