A landscaping of global data visualization tools for nutrition
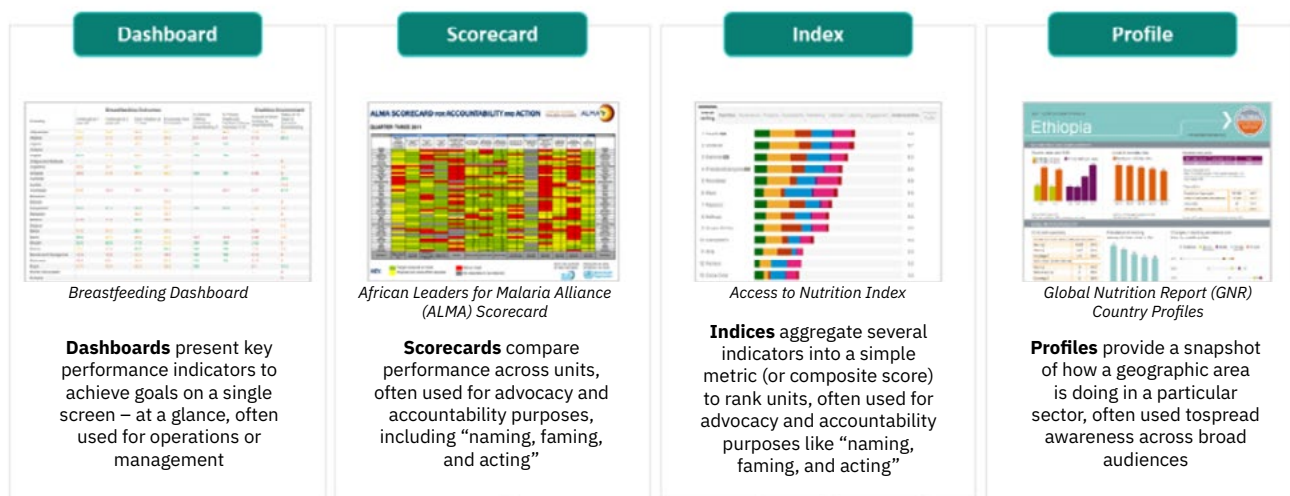
B R I E F

Methods

We conducted a landscaping of 22 global data visualization tools (DVTs) displaying nutrition data to examine how they contribute to the nutrition landscape. See slides 50-57 in the full PowerPoint for information on selection criteria and the four parameters used to review the DVTs: (1) goal & audience, (2) domains & data, (3) output structure, and (4) dissemination.

Why visualize data and why are data visualization tools helpful?

- Human brains more rapidly process visuals compared to text and data is often more persuasive in graphs or other visualized formats
- Data visualizations are defined as outputs that help people understand the significance of data by placing it in a visual context (e.g., bar graphs, scatterplots, etc.)
- DVTs are interfaces between data systems and data users, making them useful in decision-making, advocacy, and communication

There are different types of DVTs that are often associated with different types of goals, objectives, and decisions. For example:

Figure 1: Four typologies of data visualization tools: dashboard, scorecards, indices, and profiles

Dashboard	Scorecard	Index	Profile
Breastfeeding Dashboard	*African Leaders for Malaria Alliance (ALMA) Scorecard*	*Access to Nutrition Index*	*Global Nutrition Report (GNR) Country Profiles*
Dashboards present key performance indicators to achieve goals on a single screen – at a glance, often used for operations or management	**Scorecards** compare performance across units, often used for advocacy and accountability purposes, including "naming, faming, and acting"	**Indices** aggregate several indicators into a simple metric (or composite score) to rank units, often used for advocacy and accountability purposes like "naming, faming, and acting"	**Profiles** provide a snapshot of how a geographic area is doing in a particular sector, often used tospread awareness across broad audiences

DVTs very rarely fall into only one of these typologies but rather they often mix goals and features across the different typologies.

Key Findings

Finding #1: There is a growing number of global data visualization tools in nutrition. While the increased focus on data is welcome, significant overlap in content and differences in indicator definitions may lead to mixed messages and confusion

There has been a sharp increase in the number of global nutrition DVTs in the past few years, reflecting the growing nutrition momentum. The 22 global DVTs we have reviewed:

1. Fall broadly in two categories, (figure 2): *accountability DVTs* that aim to hold primarily governments accountable for delivering on political commitments and *planning, implementation, and monitoring DVTs* that provide support to a broad range of nutrition stakeholders to support countries. Several DVTs aim to achieve *both* goals.

Figure 2: Global data visualization tools in nutrition reviewed by goal classification

2. Cover either single or multiple topics, and there is substantial content overlap amongst several DVTs, for example, the Global Nutrition Report (GNR) Country Profiles and the SUN MEAL Country dashboards have 30 indicators in common.

While the multiplication of global nutrition DVTs should generally be seen as a good development as it signals interest in nutrition, the growing number of DVTs reporting on the same topics could lead to confusion, mixed messages, and fatigue:

- DVTs with a broad scope report many common indicators, sometimes using different definitions (e.g., IFA supplementation) that lead to different results, potentially making it challenging to identify which DVTs (and indicators) to use for decision-making and advocacy
- DVTs' use of different indicators and methodologies to report on similar topics can lead to different rankings (e.g., traffic light ranking) for the same country, sending mixed messages to users
- Several overlapping DVT launches during the same time period could contribute to confusing messages and fatigue

Figure 3: Political commitment ratings for countries using different methodologies across global DVTs in nutrition[1]

Country	SUN MEAL Country Dashboards 2017 — Inclusion of WHA targets in nutrition plans	MEASURING PROGRESS TOWARDS ENDING MALNUTRITION 2017 — Inclusion and quality of WHA targets in national policies, as well as progress towards meeting WHA targets	HANCI Country Scorecards 2017 — Political commitment for hunger reduction and addressing undernutrition
Cambodia	🔵 3-4 targets = Moderate	🟢 High	🟠 Low commitment
Bangladesh	🔵 3-4 targets = Moderate	🟠 Low	🟠 Low commitment
Burkina Faso	🔵 3-4 targets = Moderate	🟡 Medium	🟢 Moderate commitment
Nigeria	🟢 5-6 targets = Good	🟡 Medium	🔴 Very low commitment
Ethiopia	🟢 5-6 targets = Good	🟡 Medium	🔴 Very low commitment

Finding #2: Very few DVTs have clear and focused theories of change[2] about the decision(s) they are trying to influence – which may limit their ability to drive change

- Most of the DVTs reviewed do not have explicitly clear theories of change in terms of the audience or decisions they are trying to influence
- The African Leaders Malaria Alliance (ALMA) scorecard is a gold star example. It has a clear and focused theory of change with defined objectives and audience, includes a large number of actionable indicators, and has a clear engagement plan for its targeted audience

Finding #3: DVTs could include more actionable[3] indicators to support decision-making

Outcome indicators present the 'state of nutrition' (e.g. stunting and wasting) and as such are not actionable, i.e. they do not provide information about immediate actions that are or should be taken by decision-makers. Indicators such as coverage of interventions (e.g., IFA supplementation during pregnancy or complementary feeding counseling) on the other hand provide the needed information to take action and ultimately, improve outcomes. Based on our review:

- DVTs that aim to influence performance and management could include more actionable indicators for decision-making
- Actionable indicators for nutrition can be broadly grouped into 3 domains: enabling environment (e.g. existence and quality of institutions, policies, and plans, budgets and processes), enacted legislations (e.g. BMS, or food fortification), and coverage (e.g. maternal, IYCF, food fortification interventions)
- Three strategies could be used to increase DVTs' number of actionable indicators: (1) use actionable indicators currently reported elsewhere; (2) incorporate and use new actionable indicators; and (3) display actionable indicators for which there is no data to raise the priority of collecting this data

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[1] Please note that the colors displayed for each of the ratings have been directly pulled from the DVTs reviewed. No adaptation has been made to these ratings. For the SUN MEAL dashboard, only the indicator that tracks the number of WHA targets in national nutrition plans was used.
[2] A clear theory of change identifies a long-term goal and the pathway(s) needed to achieve that goal, specifically articulating that if the initiative were to perform X action, then Y will change for the following reasons, assuming the right preconditions were in place. In this case, a clear theory of change for a DVT would articulate a long-term goal and pathway for change that the DVT aims to achieve among a targeted group of stakeholders. (Adapted from USAID's Learning Lab, "What is this thing called "Theory of Change?")
[3] Actionable indicators provide data that can be acted upon to improve performance and management at the program and systems levels.

Finding #4: There are different ways of visualizing data; the choice should be based on the DVT's goals, as well as users' decision needs and data literacy levels

- Different ways of displaying data are more or less suitable to respond to particular decision needs and data literacy of their audience – e.g., bar charts to compare across interventions, maps to compare across geographies, color coding for intuitive assessment of status, interactive/static, etc.
- A follow-on activity will be conducted to explore how DVTs are being used and which visualization formats resonate most with stakeholders for decision-making

Recommendations

Recommendations for DVT producers:

- **Have a clear theory of change:**
  - Which decisions (by which users) does the DVT aim to support?
  - What supporting actions are needed to deliver change?
- **Include actionable indicators** that align with the DVT's theory of change (including highlighting data gaps)
- **Test data visualization formats with targeted users** to ensure formats align with users' data literacy levels and decision needs

Recommendations for global community of DVT producers & funders:

- **Support coordination** among the global DVT community to increase synergies, reduce inefficiencies, and share learnings across DVTs
- **Convene DVT producers that report on common indicators** to reduce differences in definitions and divergent messages
- **Strengthen capacity** of targeted users to interpret and use data for decision-making

For the full detailed analysis of the global nutrition DVT landscaping, please visit https://datadent.org/landscaping-of-global-data-visualization-tools-for-nutrition/.

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