NATIONAL NUTRITION INFORMATION SYSTEM

TECHNICAL NOTE

The Power of Nutrition Dashboards, Scorecards and Profiles
Acknowledgements

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The NNIS Fundamentals Series includes five modules:
Module 1. What is a national nutrition information system?
Module 2. How does a national nutrition information system support a country’s nutrition programmes?
Module 3. What is needed to build a useful national nutrition information system?
Module 4. What are the main attributes of a national nutrition information system?
Module 5. What are the main types of data used in a national nutrition information system?

PDF versions of the five modules and different Technical Notes on specific topics can be downloaded from the following website: https://data.unicef.org/resources/nutrition-nnis-guides/

A four-module e-course on national nutrition information systems is available on the same website.

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Data visuals facilitate the interpretation and use of data by taking advantage of the fact that the human brain processes visuals more rapidly than text. The power of data visuals such as scorecards, dashboards and profiles, is their ability to fuel an increase in data use. The wider application of these tools is a positive trend that supports a growing interest in and emphasis on the use of data. However, for these data visuals to function as powerful agents of change, they need to be well-designed. This Technical Note provides a set of useful tips and reflection questions to support the design of data visuals that facilitate the effective translation and use of data from national nutrition information systems (NNIS).

Making data understandable to stakeholders is key to influencing and informing decision-making on nutrition policies and programmes. Dashboards, scorecards and profiles and other related products, which can be grouped together under the term data visuals, are commonly used to facilitate data use. As defined in Figure 1, these visuals provide critical data in a summary format that is easy to understand and interpret. Broadly, data visuals serve two key purposes: first, they visually highlight performance against commitments or outcomes (i.e., accountability); and second, they provide clear and understandable data that can be readily used. These two purposes are not mutually exclusive; dashboards, scorecards and profiles can be used in both ways.

Like other sectors, nutrition has seen a growing use of dashboards, scorecards and profiles at the global, national and subnational levels (see Figures 2 and 3). At first glance, many data visuals can appear interesting and useful; however, those that are not designed with a clear understanding of the needs and preferences of the intended users may not have the intended value or impact. This Technical Note provides a set of useful tips and reflection questions for those seeking to develop effective data visuals for nutrition audiences.

**Figure 1.** What are dashboards, scorecards and profiles?
START WITH A CLEAR THEORY OF CHANGE ABOUT HOW THE DATA VISUAL WILL LEAD TO INTENDED ACTIONS BY THE TARGET AUDIENCE

Dashboards, scorecards and profiles should be developed with strong theories of change to help prioritize the information being presented, guide their overall design and identify the support required to facilitate their effective use. This means that developers should have clarity on: a) the target audience; b) the decisions or behaviours of the target audience that the tool is trying to influence; and c) the pathways by which the data visual will contribute to the desired result.

It is important to be clear about who the data visual is aiming to influence or support, including primary and secondary audiences. The development team should identify the target audience(s) as specifically as possible (e.g., government officials, donors, implementing partners, advocacy groups, private sector partners, researchers). Each target audience may have different data and support needs depending on the types of decisions and actions that are their responsibilities. For example, a President or Prime Minister directs overall government action and is therefore likely to be interested in broader nutritional achievements and outcomes, as well as key markers of the government’s performance in driving progress. In contrast, heads of

Figure 2. Examples of resources that use nutrition dashboards, scorecards and profiles aimed at global audiences.

Figure 3. Examples of resources that use nutrition dashboards, scorecards and profiles aimed at national audiences.

**Tips to develop effective nutrition data visuals**

1. Start with a clear theory of change about how the data visual will lead or contribute to intended actions by the target audience.
2. Select appropriate indicators and data to highlight.
3. Test visualization formats to ensure they align with the preferences and data literacy level of the target audience.
4. Ensure the data visual provides adequate information about the underlying data (e.g., methodology, explanation and context of data, date of reporting).
5. Create a strong engagement strategy with the target audience to ensure the data visual leads to action.
6. Develop a plan for keeping the data visual up to date, including ensuring the data and the presentation remain relevant.
line ministries or programmes may need indicators of intervention reach and coverage to support decisions about resource prioritization.

Once the target audience has been identified, along with the decisions or actions that the data visual will seek to influence, the development team should establish the theory of change for why and how the data presented in the data visual will lead to the desired outcomes. The team may find that a literature review, stakeholder consultations and/or collaborative workshops are useful during this step. If possible, it is best to directly consult the target audience to test and refine the theory of change. If this is not possible, the development team should consider sharing a draft theory of change for critical feedback with related actors (e.g., advocates or thematic experts).

As an example, the **Hunger and Nutrition Commitment Index (HANCI)** has a clear theory of change that asserts that by measuring political commitment to hunger and undernutrition using an index and publicly sharing a scorecard that ranks countries by their index score, governments will be held more accountable for advancing nutrition agendas. The data visuals used in the HANCI are designed in line with this theory of change (see Figure 4).

Civil society actors at global and national levels can use the scorecard with the ranking to advocate for governments to put hunger and undernutrition high on their agendas. The index focuses on three key political domains: public spending, policies and laws. The three domains are combined into a single score because summary and/or aggregate approaches can be more effective in reaching senior officials than an extended set of indicator data. The straightforward visuals are a powerful way to present data that can be used for multiple purposes, ranging from vital direct advocacy efforts to facilitating broader media coverage of the situation (see Figure 5).

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**Figure 4.** Example of HANCI ranking across countries

**Figure 5.** Design of HANCI country scorecards: Quickly identify political commitment; compare performance with other countries.

- **The public spending domain** assesses government spending on hunger/malnutrition related sectors
- **The policies domain** includes government programs and policies on accessing services and interventions
- **The laws domain** includes legal frameworks and legislation on citizen rights related to food production and access to care

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Performance in each indicator is ranked against other countries for comparison

Color-coding allows countries to identify areas with strong, moderate, and poor commitment. Cut-offs vary by indicator
Questions to consider

- **Who is the target audience and what decisions/actions of the target audience(s) are you trying to influence? Why?**
- **Is there already an existing data visual that can help address the need you have identified?**
  - If yes, what support is needed to enable the target audience to use it effectively? Can the existing data visual be expanded or improved, if needed?
  - If no, what is the goal of the proposed data visual? How will it help achieve the need you have identified?
- **What is the theory of change for the data visual? What stakeholders should you engage to refine the theory of change assumptions?**

## SELECT APPROPRIATE INDICATORS AND DATA TO HIGHLIGHT

While nutrition outcomes such as stunting and wasting are critical to understanding the state of nutrition, alone they do not provide sufficient information on how to improve nutrition outcomes. Developers of data visuals should use indicators that are actionable for their target audience, providing data needed to address challenges within their scope of work or influence. Figure 6 below provides examples of actionable indicators that developers could consider.

Key considerations when selecting actionable indicators include:

i. **Focus on the most meaningful indicators and data.** The goal is to have a clear and simple presentation of the essential points.

ii. **Use standardized indicator definitions whenever possible and ensure each definition is easily understandable.** Be mindful of the information provided by the selected indicator. For example, commonly used childhood diarrhoea treatment coverage indicators include either single or combined interventions (i.e., oral rehydration salts, zinc supplements, oral rehydration salts and zinc), so it is vital to be explicit about which indicator definition fits your context. It is also important to be able to clearly justify why certain indicators were selected for the data visual.

iii. **Be transparent about why certain data sources were used.** The choice of data source can be driven by various factors, including data availability, data quality, data disaggregation, the credibility of the data source and the utility of the data for a compelling visual.

iv. **Where possible, select indicators that are already in use.** If the desired indicators are aspirational (i.e., they do not yet exist), you might identify proxy indicators or create a new indicator. For new indicators, consider co-creating them with those who will be responsible for collecting and using them. This can help facilitate data collection and improve data quality. It is essential that sufficient resources are available to support the collection of data for new indicators.

v. **When selecting or developing indicators, try to avoid measuring only whether something exists; rather, consider indicators that also reflect the quality or effectiveness of implementation.** For instance, the **SUN MEAL dashboard**’s indicator on the existence of networks/alliances includes whether the network is launched and whether there is a strategy in place, funding secured, etc.

vi. **Finally, if data for an indicator are not available, it may be useful still include them in the data visual but to report “no data” to trigger discussions on the need for data on this topic.**

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**Figure 6. Examples of actionable indicators for different audiences**

<table>
<thead>
<tr>
<th>Enabling Environment</th>
<th>Enacted Legislations</th>
<th>Coverage</th>
<th>Inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Indicators about the meeting frequency of multisectoral coordination bodies could help ensure focal points across sectors are coordinating and collaborating to strengthen nutrition policies.</td>
<td>Example: Indicators about monitoring national legislation reflecting the International Code of Breast-milk Substitutes can show effectiveness of current legislation and pinpoint areas for improvement.</td>
<td>Example: Indicators on food fortification coverage can identify regions for scaling up programmes.</td>
<td>Example: Indicators on staffing, supply chain, or supply chain issues can help determine if needed resources are available to support scaling of programmes.</td>
</tr>
</tbody>
</table>
Questions to consider

• What indicators can influence the target audience’s decisions and actions?
• Who should be consulted to finalize the list of indicators?
• For selected indicators, are data already available? Which data source(s) should be used and why?
• If data are not available, are they feasible to collect?
• Can the data from the indicator be presented in a visually compelling way?

TEST VISUALIZATION FORMATS TO ENSURE THEY ALIGN WITH THE PREFERENCES AND DATA LITERACY LEVEL OF THE TARGET AUDIENCE

Developers should determine the type of data visual (i.e., dashboard, scorecard or profile) depending on the theory of change. The data can be presented with different visualizations, such as tables that highlight statistics only, maps that facilitate cross-geography comparisons, or bar charts that show comparisons against other indicators. These visualizations should be selected, formatted and refined based on an assessment of the target audience’s data literacy and preferences. Please refer to the NNIS Technical Note on Designing Effective Data Visualizations: <https://data.unicef.org/resources/nutrition-nnis-guides/>

The Nigeria Governors’ nutrition scorecard – a subnational data visual designed to hold the Governors of Nigeria’s 36 states accountable to nutrition commitments – is a data visual that effectively aligns with the needs of the target audience. This scorecard acknowledges the preferences of the Governors, who have limited time to review the data and prefer a simple visualization that helps them assess their state’s progress over time compared to other states. For this reason, the development team condensed the scorecard into a single page with a few key indicators and used basic red and green colour coding to show whether the indicator had been achieved (see Figure 7).³

Another example of responding to user data literacy and preferences is the Government of India POSHAN district-level nutrition scorecards that aim to create awareness, facilitate evidence-based discussions and mobilize action for nutrition by their target audience of district-level planners. The overall profile is organized according to the UNICEF Conceptual Framework on Maternal and Child Nutrition, with indicators of nutrition-specific interventions that impact immediate determinants in the first 1,000 days from conception to age 2 years, and interventions in other sectors to impact underlying and basic determinants (see Figure 8). The data visual includes reflection questions alongside the data for each section of the indicators (see Figure 9).

Questions to consider

• How can you connect with the target audience to understand their preferences and data literacy?
• What data visuals should you select to address the needs of the target audience and convey key messages?

Figure 7. Nigeria Governors’ Forum Nutrition Scorecard
ENSURE THE DATA VISUAL PROVIDES ADEQUATE INFORMATION ABOUT THE UNDERLYING DATA (E.G., METHODOLOGY, EXPLANATION AND CONTEXT OF DATA, DATE OF REPORTING)

The visual should make it easy to access the underlying data, which can be used to build the target audience’s understanding of, and confidence in, the data. A good example is the Joint Child Malnutrition Estimates, which includes an interactive dashboard. In addition, the data visuals are accompanied by a description of the raw and modelled data, allowing users to access the full datasets. It is important to keep the data visual current, with the most recent estimates recognized by your target audience.

Questions to consider

- Can stakeholders access the raw data behind a visual? Are the data being provided with enough background information to understand how, when, and in what manner they were collected – and therefore, the limitations around their use?
- If the data have been modelled, have all the modelling assumptions been clarified?
- Does the data visual provide the most recent date it was updated?
- Are the underlying data easily accessible / downloadable by the target audience?

CREATE A STRONG ENGAGEMENT STRATEGY WITH THE TARGET AUDIENCE TO ENSURE THE DATA VISUAL LEADS TO ACTION

A “develop it and it will be used” approach to data visuals is common, but not necessarily effective. It is important to be strategic about how you introduce the data visual to its intended user group and what ongoing support you will provide to the users. Some data visuals provide user guides, trainings and help desks. For instance, the India Champions of Change team held a two-day training for targeted users during its scorecard launch and maintains a WhatsApp Group to follow up and address problems. User support can also advise on recommended actions.
The African Leaders Malaria Alliance (ALMA), which targets African Heads of State on malaria, maternal, child health and nutrition and neglected tropical diseases, is another example of a data visual with a successful engagement strategy. In addition to the scorecard, ALMA provides Heads of State with (1) an annual report that summarizes the status of nutrition and emerging challenges and successes in the continent; and (2) quarterly reports that provide a summary of performance for each country and recommended actions that are specific and time-bound. Countries – including Heads of State, Ministers of Health and/or directors of programmes – report back to ALMA on progress against the recommended actions, creating valuable feedback loops.¹¹

Another example is the nutrition scorecard used in the United Republic of Tanzania, which displays quarterly snapshots of performance on indicators and targets associated with the National Multisectoral Nutrition Action Plan (see Figure 10). In addition to the scorecard, the development team included other useful features, including: (1) an action tracker that is used to assign actions to specific stakeholders and monitor response with deadlines, especially when there is underperformance in the scorecard; (2) a workplan manager that tracks implementation of annual workplans with key milestones and the progress of action items with timelines; and (3) mobile notifications to provide alerts to responsible stakeholders on outstanding actions and deadlines.

Questions to consider
- What can be done to ensure target audiences will see the data visuals?
- Once they have seen the data, what support do target audiences need to understand the visuals? What support can you provide?

DEVELOP A PLAN FOR KEEPING THE DATA VISUAL UP-TO-DATE, INCLUDING ENSURING THE DATA AND THE PRESENTATION REMAIN RELEVANT

To continue to be useful, visuals may need to evolve to reflect changing circumstances and the current needs of the target audiences. Developers of data visuals should conduct regular assessments with their target audience to ensure the visuals remain relevant. For example, it may be helpful to update different indicators or data sources, or to provide additional support to act on the data. In addition, these assessments may also help flesh out other uses of the data visuals that might not have been considered in the initial development phase.

Questions to consider
- Who will be responsible for conducting regular assessments of the data visual with the target audience?
- What resources will be needed to support these review efforts and how will they be budgeted and financed?
- If there is a transition in the design team, how will others be able to build on or edit the existing data visual?

CONCLUSION

Different tools and approaches, including dashboards, scorecards and profiles, can encourage and support the use of nutrition data by policymakers, decision-makers and implementers by transforming the most relevant data into easy-to-understand data visuals. However, if data visuals are going to help translate data into action, they must incorporate compelling data into thoughtful and well-designed visualizations.
RESOURCES

- **ALMA Scorecard Hub**, which includes country best practices to improve scorecard management tools for accountability and action
- **National Information Platforms for Nutrition, Subnational Nutrition Dashboard Guidance Notes**, which include a subnational nutrition dashboard mock-up with key considerations when deciding to use the dashboard and how to develop it
- **DataDENT designing effective nutrition data visualization and accountability tools**, which includes best practices on how to develop data visuals based on a landscape of global data visuals and experience developing a nutrition scorecard in Nigeria
- **Hivos Theory of Change Thinking in Practice**, which provides detailed guidance on how to develop a theory of change and can be applied when producing data visuals

ENDNOTES

### KEY TERMINOLOGY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Data</strong></td>
<td>Facts and/or figures; pieces of quantitative or qualitative information</td>
</tr>
<tr>
<td><strong>Database</strong></td>
<td>An organized collection of data stored electronically for rapid search and retrieval</td>
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<tr>
<td><strong>Data provider</strong></td>
<td>An organization that produces data; may be referred to as a data generator; see also data source</td>
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<tr>
<td><strong>Data source</strong></td>
<td>Type of data and/or modality of data collection (e.g., routine data, survey data); can also be synonymous with data provider</td>
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<tr>
<td><strong>Data value chain</strong></td>
<td>A framework used to guide the transformation of raw data into a valuable resource to better understand situations and improve decision-making</td>
</tr>
<tr>
<td><strong>Disaggregated data</strong></td>
<td>Data that have been broken down into detailed subcategories (e.g., by age, gender)</td>
</tr>
<tr>
<td><strong>Indicator</strong></td>
<td>Indicators make collected data understandable and useful for monitoring performance, assessing achievement and determining accountability. They can be used to determine a proportion (e.g., prevalence) and are often designed to track inputs, outputs, outcomes and impact.</td>
</tr>
<tr>
<td><strong>National data</strong></td>
<td>Data that are common to or characteristic of a whole nation; see also subnational data</td>
</tr>
<tr>
<td><strong>Qualitative data</strong></td>
<td>Data collected using qualitative methods, such as interviews, focus groups, observation and key informant interviews; generally expressed in narrative form, pictures or objects (i.e., not numerically)</td>
</tr>
<tr>
<td><strong>Quantitative data</strong></td>
<td>Data that are measured on a numerical scale, can be analysed using statistical methods and can be displayed using tables, charts, histograms and graphs</td>
</tr>
<tr>
<td><strong>Routine data</strong></td>
<td>Data continuously collected as part of a regular activity/procedure</td>
</tr>
<tr>
<td><strong>Sentinel site</strong></td>
<td>A dedicated location (e.g., facility, community) where surveillance data are collected</td>
</tr>
<tr>
<td><strong>Subnational data</strong></td>
<td>Data disaggregated by administrative units below the national level (e.g., provinces, districts, counties); may also include other breakdowns below the national level (e.g., urban, peri-urban, rural)</td>
</tr>
<tr>
<td><strong>Surveillance data</strong></td>
<td>Data collected on a recurring basis from designated locations (see sentinel sites) to provide insights on trends into a broader area and/or larger population</td>
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