Data DENT

Data for Decisions in Nutrition

Building Nutrition Data Literacy Using the Six Questions Approach:

The Power of Understanding Who, What, When, Where, Why, and How

Project Note

DataDENT (Data for Decisions in Nutrition, www.datadent.org) aims to transform the availability and use of nutrition data by addressing gaps in nutrition measurement and advocating for stronger nutrition data systems. This work was carried out by the following DataDENT partners: Institute for International Programs at Johns Hopkins Bloomberg School of Public Health (JHBSPH) with contributions from Results for Development (R4D). This work was funded by the Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Gates Foundation.

Acknowledgements

Many thanks to the individuals who led development of this resource including David Hales (consultant) and Rebecca Heidkamp (JHBSPH). DataDENT is grateful for the contributions of Janneke Blomberg (UNICEF / Lebanon), Julien Chalimbaud (Epinut Consulting), Carmine Gibaldi, Ed.D. (St. John's University), Natasha Ledlie (Results for Development), Martin M. Liyungu (Ministry of Health, Zambia), and Dr. Aregash Samuel (Ethiopian Public Health Institute).

Recommended citation

Data for Decisions in Nutrition (DataDENT), 2025. Building Nutrition Data Literacy using the Six Questions Approach: The Power of Understanding Who, What, When, Where, Why, and How. Johns Hopkins Bloomberg School of Public Health.

https://datadent.org/resource/building-nutrition-data-literacy-using-the-six-questions-approach

RESULTS FOR DEVELOPMENT

CONTENTS

Introduction

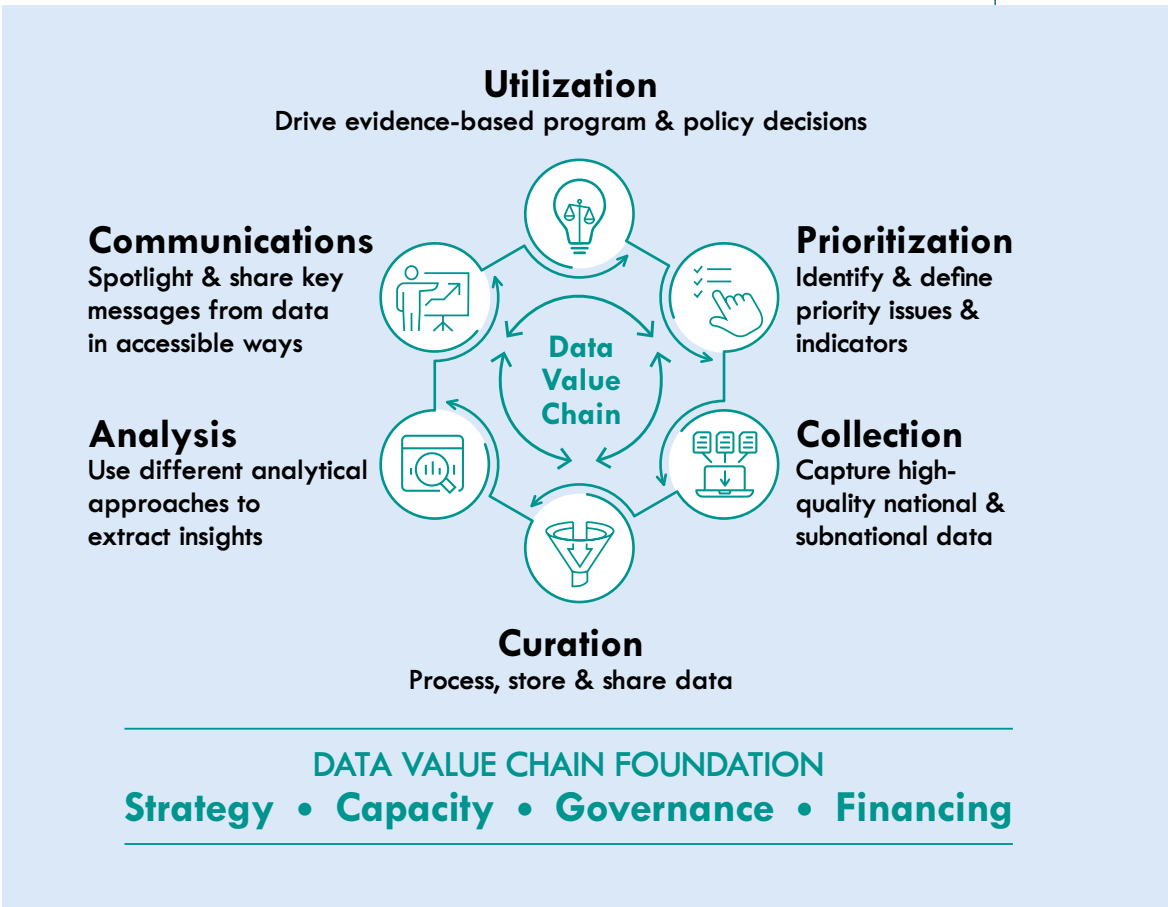
Nutrition data literacy refers to the knowledge, skills, and mindset required to understand, interpret, and extract meaningful insights from nutrition-related data. Improved data literacy enables stakeholders to better assess the nutrition landscape in their context and supports stronger design and implementation of policies and programs.

Data literacy is not just about doing data analysis and reading charts and graphs. The foundation of data literacy is understanding critical factors related to data—including how it is collected, analyzed, and used. Data literacy enables people to engage more critically and confidently with data.

This resource helps users build nutrition data literacy by using a flexible "six questions approach" to identify and explore key issues related to data. Knowing the who, what, when, where, why, and how of data is the foundation for improved data literacy.

This approach can be used effectively by individuals, but we recommend using it in a group or team setting. This allows for dialogue between people and brings out the collective knowledge, skills, and insights that exist across the group. It also helps identify common gaps in knowledge or skills which could require additional training or external support. Everyone's data literacy will grow through the dialogue.

When used in a group or team setting, facilitation can play a central role in ensuring that discussions are inclusive, focused, and productive. See Annex B for more recommendations on facilitation.



What is the approach?

The approach presented here enables users to explore key issues along the nutrition data value chain (DVC, see Figure 1). In contexts with a strong DVC:

- High-quality data guide decisions by nutrition stakeholders at every level
- Data priorities are set in response to data user needs
- Nutrition stakeholders have the knowledge, skills, and mindset required for relevant parts of the DVC as well as an appreciation of how their efforts fit into the overall DVC

For each part of the DVC, we present core questions framed using who, what, when, where, why, and/or how. The Six Questions Approach is a universal framework for deepening understanding of any situation, issue, or topic. They echo the Socratic Method, which relies on careful, open-ended questioning to identify assumptions, encourage diverse perspectives, and build a shared understanding rooted in practical experience.

- Who: Identifies the people or entities involved—this could be hyperlocal (e.g., facility/community), local (e.g., district), regional, national, or even multi-country / global actors (e.g., Who sets data priorities? Who is involved in collecting, analyzing, and/or using the data?).
- What: Defines the subject matter, event, or issue at hand (e.g., What data are being gathered? What story do data tell?).
- When: Indicates the time or period relevant to the situation (e.g., When were the data collected?).
- Where: Specifies the location or context (e.g., Where does the data originate? What is the local context?).
- Why: Explores the reasons or motivations behind the situation (e.g., Why are these data points relevant?).
- How: Examines the process, method, or manner in which something occurs (e.g., How are the data being managed?).

The aim of the questions is to promote vibrant and honest dialogue about each part of the DVC and to foster shared knowledge, skills, and mindset that lead to more effective data use.

Honest Dialogue means talking openly—with others who have different knowledge, roles, or perspectives and with oneself—about what data mean and how they can and should be used. Honest dialogue encourages people to:

- Listen and acknowledge different viewpoints.
- Ask questions without reservations.
- Reach shared understanding across roles and disciplines.

Honest dialogue is not the norm in all workplaces. Strong facilitators and supportive leadership are needed to ensure discussions remain inclusive and productive.

How do I get started?

The best way to understand the Six Questions approach is to try it. There is no wrong way to use these questions. They are flexible. They can be modified. Not every question needs to be used every time.

Some questions or themes will be repeated across parts of the DVC. This reflects how each part of the DVC is related to the parts before and after it, and how each part ultimately relates to data use. As you move through the DVC you can revisit answers from similar questions and continue to add new ideas.

What to do…

- The first time you use the guide, review the core questions across all sections of the DVC. This will help to identify which may be relevant to your use case.
- Identify the use case—the challenge and/or opportunity—that you want to address now. Then identify the parts of the DVC that are most relevant to that use case. See Annex A for examples of use cases.
- Adapt the tool to your use case. You can adjust questions to reflect specific contexts and goals
- Begin the discussion by asking the first core question for the most relevant part of the DVC. Allow time for individuals to share their ideas. Use the "investigate further" questions as helpful to expand the discussion. Move sequentially though the core questions for all relevant parts of the DVC. See Annex B for facilitation and documentation tips.

Fostering critical thinking and vibrant discussion is more important than checking off every question. Start with the core questions that are most relevant. You do not have to use all the questions in our dialogue.

- Document the dialogue. Create a record that teams can reflect on and build from in the future. Capture the conclusions and/or decisions reached, as well as the questions and dialogue that led to them. See Annex B for documentation.
- The Six Questions approach can—and should—be applied iteratively and revisited regularly. For example, as new nutrition priorities emerge or new data sources are available, teams can cycle back to core questions and discussion notes to identify what has changed. They can also address new questions.

What resources are needed?

Core materials

- This document: Building Nutrition Data Literacy Using the Six Questions Approach
- Slide set for group discussions

Supplies

- Individuals: notebook or notes file on phone or laptop
- Groups: Flip chart paper and sticky notes or virtual whiteboard tool. See Annex B for group facilitation and documentation tips.

Time and Space

- Set aside dedicated time to work through the questions. The amount of time required will depend on the use case. If you need multiple sessions, plan for time at the start of each session to briefly recap what was discussed in the previous session.
- It is possible to meet in person or virtually. Arrange in-person space to promote discussion (e.g., sit around a table or in a circle). For virtual meetings, turn on cameras whenever feasible.

Where can I learn more about specific topical areas or skills related to nutrition data literacy?

DataDENT has produced other resources that address specific technical issues related to the nutrition data value chain. Visit the DataDENT website (www.datadent.org) for other tools and resources

CORE COMPETENCIES FOR DATA LITERACY

We have identified six core competencies—areas of knowledge and skills—that cut across the nutrition data value chain and help teams use data more effectively. Building these skills together is an ongoing process. The Six Questions Approach is one way to help teams cultivate these competencies. It's important to remember that not everyone needs to know or do the same things with data. Each person's knowledge and skills should match their role. However, for a team to effectively use data, these competencies should be present and shared across the members.

1. Topical Knowledge

- Understanding of basic nutrition issues at population-level, like nutritional status based on anthropometry, micronutrient status, IYCF practices, dietary intake, and food security.
- Understanding of the broader nutrition policy and program context and how nutrition actions relate to outcomes (e.g., national nutrition goals and key components of multisector strategies).

2. Data Basics

- Knowledge of different types of nutrition data and the preferred sources of these data.
- Understanding of how nutrition data are collected (e.g., routine data, survey data) and how to ensure data quality.

3. Data Analysis and Interpretation

- Understanding of what different types of data can and cannot tell us about specific nutrition problems.
- Knowledge of core approaches to data analysis (e.g., descriptive, diagnostic, predictive, prescriptive, qualitative).
- Understanding of basic statistical principles and measures (e.g., metrics, mean, median, percentiles); some team members will have more advanced expertise.
- Familiarity with common data analysis tools and software (e.g., Excel, DHIS-2 analysis functions, SPSS); some team members will have more advanced expertise.
- Ability to organize data for analysis and interpretation; conversely, to recognize when data are messy or not appropriately structured.

4. Data Insights

- Ability to work with data to draw valid and useful conclusions and insights.
- Ability to explain what the data shows about real-world situations.
- Ability to explain how data should inform future policies, changes in implementation practices, and needs for research.

5. Critical Thinking and Problem-Solving

- Ability to ask clear and relevant questions that data can help answer.
- Ability to analyze information fairly/objectively and justify conclusions or recommended actions
- Ability to challenge assumptions and to see situations and data from different viewpoints.
- Ability to prioritize issues or tasks based on their importance and urgency.
- Understanding of what is "good enough" information for a particular situation.

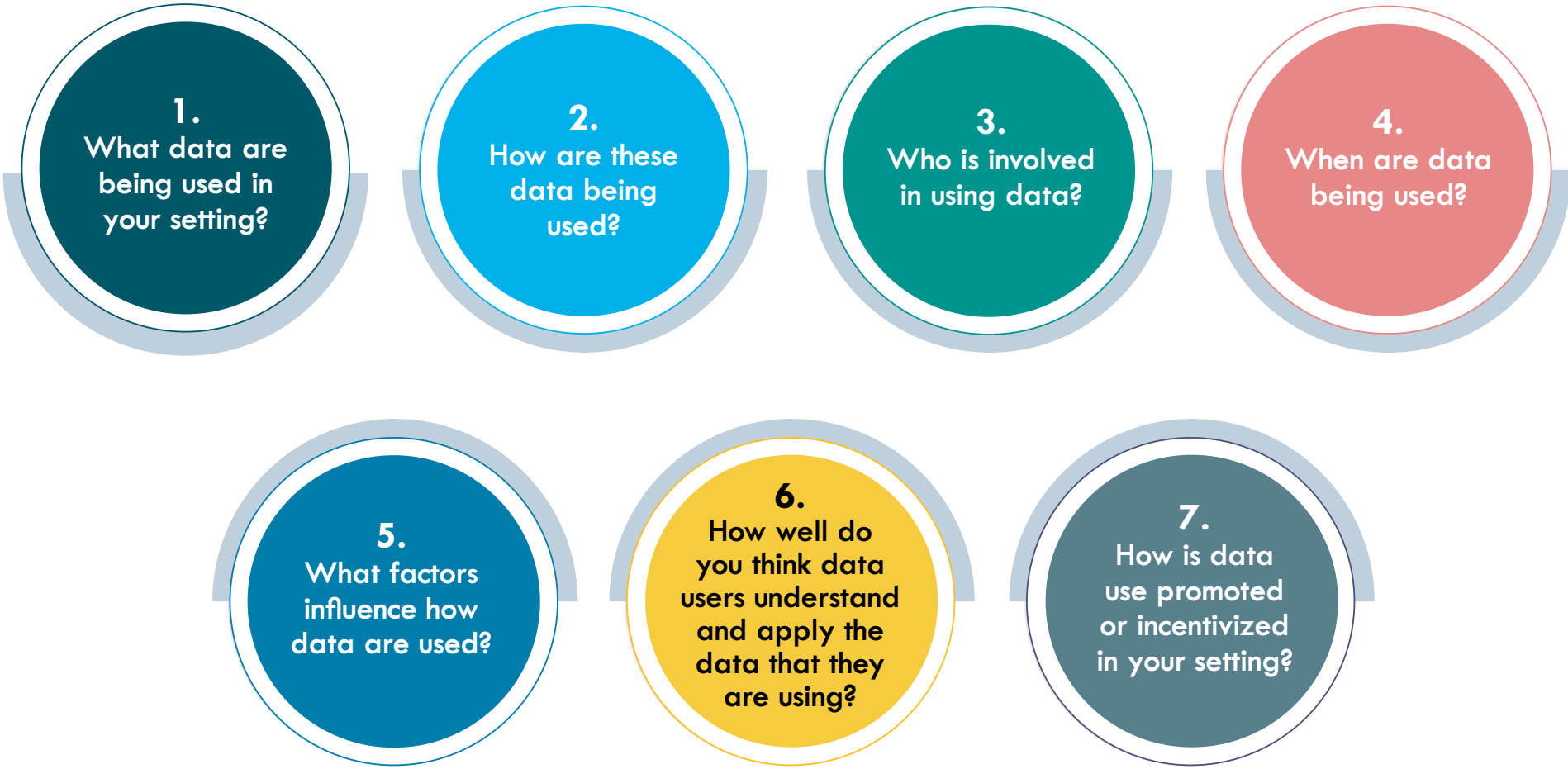
6. Storytelling

- Ability to tell engaging stories using data, making insights easy to understand for different audiences.
- Ability to communicate findings through reports and presentations.
- Ability to design fit-to-purpose data aggregation tools (e.g., dashboards, scorecards)
- Ability to explain data collection and analysis methods at the level appropriate to the audience.
- Ability to create and interpret graphs, charts, and other visuals.

Data Utilization

Drive evidence-based program and policy decisions.

DATA UTILIZATION: CORE QUESTIONS



Keep in mind…

People at all levels of policy and implementation use data, from hyperlocal frontline workers providing services to local managers overseeing district-level implementation to regional or national leaders setting goals. Some people collate and interpret data for other people to use to make decisions.

Effective use of data requires bringing together different viewpoints to create a shared understanding of the situation and to identify the full range of potential actions. By including insights from multiple people, teams can create a culture that boosts new ideas and better decision making. This teamwork also helps ensure that data is used in a way that fits the specific situation, leading to more equitable and sustainable impact.

1. What data are being used in your setting?

a. What routine data do you and your team use?
   - What are the sources?

b. What survey data do you and your team use?
   - What are the sources?

c. What other data sources are used? (e.g., surveillance systems, special studies, operational research)

d. How much of the data being used is coming from aggregated data sources/systems (sources that include data compiled from multiple sources – e.g., dashboards, scorecards)?
   - How and how well are they being aggregated?

2. How are these data being used?

a. What are the priority uses of data in your setting?

b. Identify the top 3–5 from this list
   - Monitor program performance against targets.
   - Report on activities and outcomes.
   - Assess nutrition status across the population.
   - Identify and describe emerging nutrition issues.
   - Plan programs or interventions.
   - Adapt interventions to improve their effectiveness.
   - Budget and resource allocation decisions.
   - Provide evidence for effectiveness of interventions and activities.
   - Other (describe).

c. How well do you think data are being used for these purposes?

d. What are the strengths? What are the weaknesses?

e. What is done to capitalize on the strengths and address the weaknesses?

3. Who is involved in using data?

- **Include people who directly support data users.**
- **Consider hyperlocal, local, regional, national, and multi-country/global actors**

a. How do the people involved in data use depend on the issue being addressed?
   - Who decides who is involved?
   - How well defined is the role of the people in using data?

b. Who are the people who can or should be more involved in data use?
   - Why aren't they currently involved?
   - Why and how can or should they be involved?

c. Whose perspectives on the data is considered more or less important?
   - How does real or assumed hierarchy affect the use of the data?

4. When are data being used?

a. What are the formal or informal expectations about when data must be used (e.g., data are presented at every quarterly meeting, data are cited in policy documents)?

b. Which routine meetings or forums include presentation of data (e.g., quarterly meetings, annual meeting)? Is data review part of the agenda?

c. What specific events or situations trigger the need for data use (e.g., emergencies, funding proposals, policy changes)?

5. What factors influence how data are used?

a. To what extent do any of these factors have an influence on how data are used?

- Relevance of the data to information needs
- Level of importance assigned to different issues
- Level of importance assigned to the data
- Quality of the data
- Possible outcomes from the decisions that the data are used for (e.g., for budgeting and resource allocation)
- Availability of subnational or sub-population data
- Availability of resources to support data use
- Perceived benefits from data use (e.g., targets reached, performance improved)
- Institutional culture supports use of data
- Other (specify)

6. How well do you think data users understand and apply the data that they are using?

a. How well understood are the different indicators or metrics being used?

b. How well do they understand what the data are saying about the issues (e.g., status, performance, trends, outliers)?

c. How well do they understand why the data are saying what they say (e.g., reasons behind the current status or an emerging trend)?

d. How well do they understand how issues such as the current situation, history, trends, and outliers affect the data?

e. How and how often do users reference metadata (e.g., information about the data source, date of collection, method of collection, etc.)?

f. What questions or concerns do users have about the data (e.g., gaps or limitations, alternative interpretations, concerns about potential bias)?

g. How often do data users seek input from people with expertise to understand the data? (e.g., nutrition experts, data producers, data analysts)

- If regularly, what are some examples? If not, why not?

h. What might be done to strengthen or expand data users' ability to understand the data?

7. How is data use promoted or incentivized in your setting?

a. How does workplace culture and/or leadership promote or incentivize use of data?

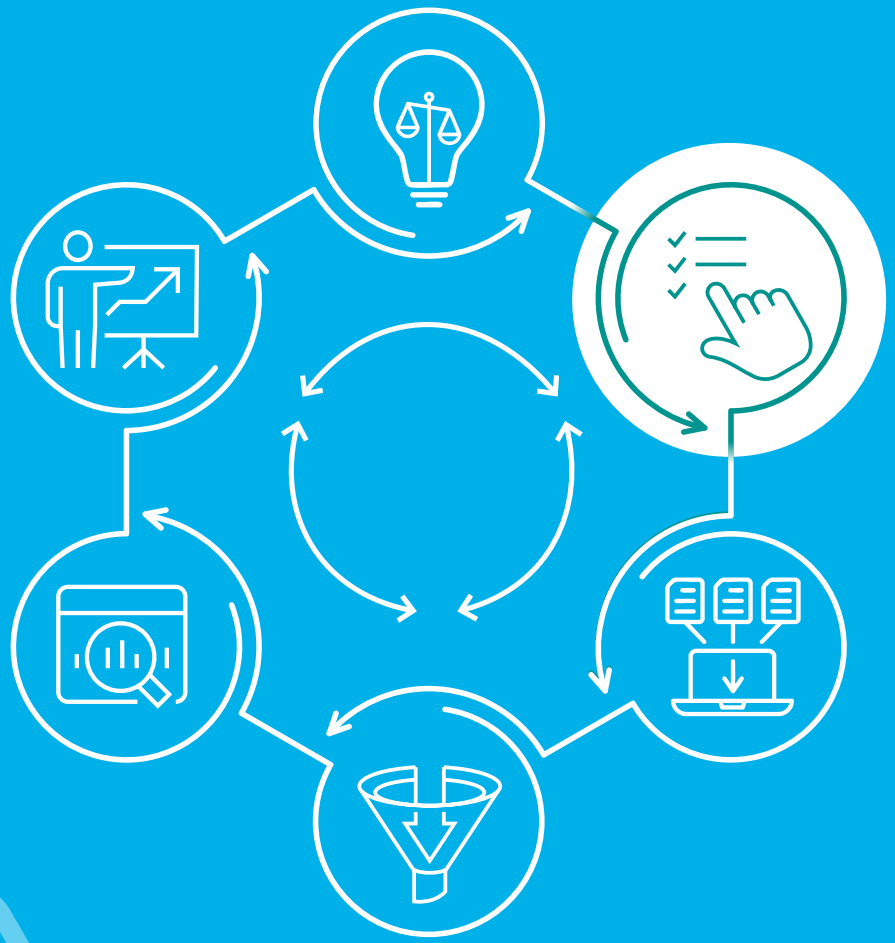
- How does the workplace culture and/or leadership discourage or disincentivize use of data?
- How might culture around data use be shifted?

b. What feedback mechanisms are in place to assess the impact of data use on decision-making and outcomes? How might feedback mechanisms be established or strengthened?

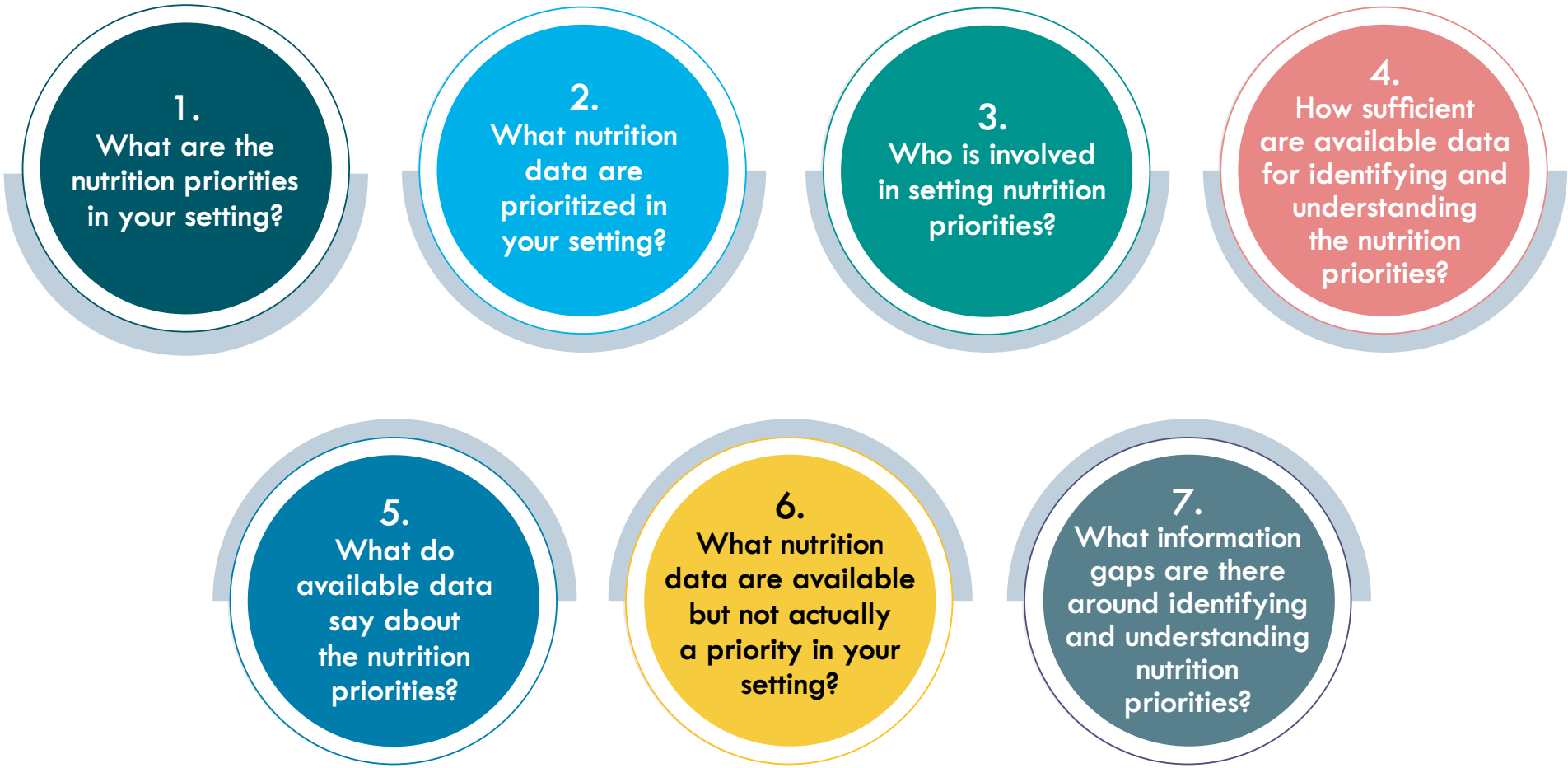
c. What resources are needed to support data use (e.g., equipment, training, technical assistance)? Are they available? If yes, how often?

Data Prioritization

Identify and define priority issues and indicators.



DATA PRIORITIZATION: CORE QUESTIONS



Keep in mind...

Nutrition priorities include nutrition problems (e.g., wasting in children, diabetes in adults) and nutrition policy or program actions (e.g., whether women are being reached by ANC nutrition intervention package, whether manufacturers are complying with food fortification standards, etc.).

Get input from diverse multisector stakeholders in your setting with first-hand knowledge about nutrition problems, policy or program actions, and available data. Involve actors from different levels including hyperlocal (e.g., facility/community), local (e.g., district), regional, and national as they may have different perspectives on nutrition issues and data.

Consider how priorities are currently informed, or could be better informed, by data about specific sub-groups for example, age, gender, socioeconomic status, ethnicity, and geographic location (i.e., equity analysis).

a. Why are these priorities important (e.g., policy content, global/national/local concerns; long-standing problems; emerging issues; emergency situation)?

b. How well do people understand why these are priorities and how they were prioritized?

- Do people generally agree with the priorities? If not, who disagrees and why?

c. How relevant are these priorities to your setting?

- Are there other topics/issues that should be considered nutrition priorities?
- Do the priorities in your setting align with those in other settings? How or how not?

a. Is there a common list of priority nutrition indicators that is accessed and used by all stakeholders?

- If yes, does the list reflect all the priorities?
- If no, would a list be useful?

b. How often/when are data priorities revisited?

Consider hyperlocal, local, regional, national, and multi-country/global actors

a. Who determines or influences which nutrition issues are prioritized?

b. Who determines or influences which nutrition data are prioritized?

c. Who is currently not involved in setting priorities—for issues and/or data—but should be involved?

Are there sufficient data to…

a. Understand what is happening with the priorities (e.g., assess population status, monitor trends, track performance against targets for both nutrition problems and nutrition policy or program actions)?

b. Understand why these priorities are a concern?

c. Make sound and reasonable decisions about the priorities?

d. Understand and/or highlight related or underlying issues (e.g., commodity supplies for programs, emergencies, connections with policy priorities in other sectors)?

a. Are the data indicating the nutrition priorities are improving, declining, unchanged? Are the data unclear?

b. Do the available data support the priorities continuing to be priorities?

- Are there data that support de-emphasizing a priority?
- Are there data that support prioritizing something else?

a. Are these data relevant to nutrition priorities?

- If yes, how?
- If no, why not?

b. If data are relevant, why are they not being used (e.g., not able to be accessed, not available at level or frequency needed, not understood by nontechnical audiences)?

c. If data are not relevant to nutrition, are they relevant to other issues or stakeholders in your setting?

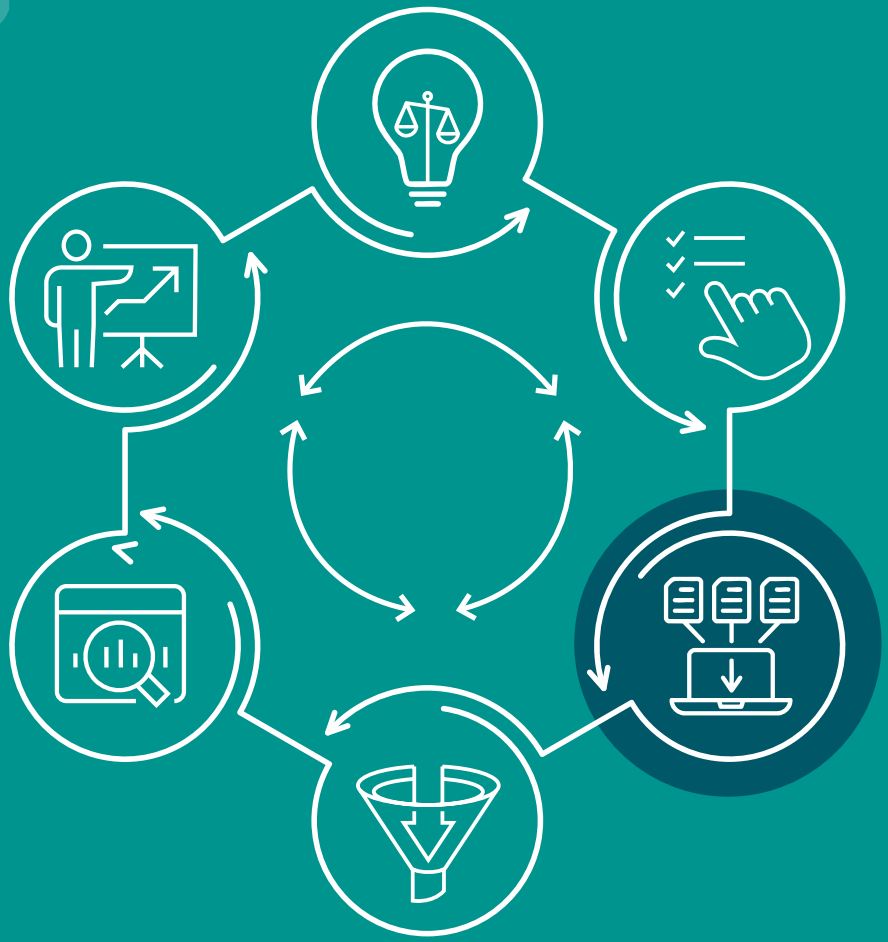
May include availability, quality, and/or quantity of data

a. How do gaps affect the understanding of the nutrition priorities?

b. If data are not sufficient, how might gaps be filled (e.g., new or more frequent data collection, quality improvement, etc.)?

Data Collection

Capture high-quality national and subnational data.



DATA COLLECTION: CORE QUESTIONS

1. What data sources collect any nutrition-related data?
2. What data on nutrition priorities are collected by these data sources?
3. Who influences whether, when, and how data sources collect nutrition-related indicators?
4. How much confidence is there among nutrition data users in the data being collected?
5. What is the quality of nutrition-related data being collected across sources?
6. How might gaps in prioritized nutrition data be filled?
7. What nutrition indicators could be removed from existing data sources?

Keep in mind...

Nutrition priorities include nutrition problems (e.g., wasting in children, diabetes in adults) and nutrition policy or program actions (e.g., whether women are being reached by ANC nutrition intervention package, whether manufacturers are complying with food fortification standards, etc.). See “data prioritization”.

You must involve individuals and organizations working on data collection and data analysis in the dialogue. People from statistical agencies or ministry planning departments have specialized knowledge about how data are collected that can be shared with everyone participating in the dialogue.

Get input from diverse multisector stakeholders in your setting with first-hand knowledge about nutrition problems, policy or program actions, and available data. Involve actors from different levels including hyperlocal (e.g., facility/ community), local (e.g., district), regional, and national as they may have different perspectives on nutrition issues and data.

Consider how priorities are currently informed, or could be better informed, by data about specific sub-groups for example, age, gender, socioeconomic status, ethnicity, and geographic location (i.e., equity analysis).

Data collection is the most influential part of the DVC for data quality. Data quality reflects whether data are accurate, complete, consistent, and timely. Resources must be invested in design and testing of data collection tools as well as in the training and ongoing supervision of data collectors. Data quality checks can be carried out throughout the data collection process.

1. What data sources collect any nutrition-related data?

Data sources may include government administrative, survey and surveillance, or other sources such as social media or private sector systems.

a. What populations does the source collect data from?

b. How often does the source collect data?

c. What methods or tools are used to collect data (e.g., patient files/booklets, registers, interviews with household head/caregiver/adolescent/child/focus groups)?

d. Besides nutrition, what other data does the source collect? How does the priority of nutrition data in the source compare to other data types?

e. Thinking across data sources, which populations are being missed (e.g., elderly, adult men)?

2. What data on nutrition priorities are collected by these data sources?

a. What are the strengths and weaknesses of the collected data?

- How relevant are the data?
- How representative are the data?
- How well does the frequency of collection meet needs of users?
- What is the quality of the data—how timely, complete, and accurate are they?

3. Who influences whether, when, and how data sources collect nutrition-related indicators?

Consider hyperlocal, local, regional, national, and multi-country/global actors

a. What is the planning cycle and tool design process for the data source?

- Which stakeholders have the most influence on the content? How knowledgeable are they about nutrition priorities?
- Which stakeholders have the most influence on the methods and tool design? How knowledgeable are they about nutrition data methods?
- Which nutrition stakeholders are included in content and/or methods/tool decisions? When and how are they included?

b. How might advocacy for collection of data on nutrition priorities be strengthened?

- Is there an official list of multisector nutrition indicators that can be used to support advocacy for data collection? If yes, how useful is this list? If no, would such a list be useful?

4. How much confidence is there among nutrition data users in the data being collected?

a. Which data sources are more or less trusted? Are specific indicators within these sources more or less trusted?

b. What factors influence the level of trust in data sources and/or specific indicators?

c. How has the level of trust in nutrition-related data changed over time? Why?

d. What might be done to improve trust in a data source?

5. What is the quality of nutrition-related data being collected across sources?

a. Is the quality of the data adequate for how the data are used?

b. Have there been concerns about the quality of data in the past?
   - Have those been addressed? If so, how?

c. What are the systems or processes currently in place to assess and assure the quality of data at the point of collection?
   - How well do those systems/ approaches work?

d. How skilled and capable are the different people or institutions who are responsible for the data collection (e.g., designing collection tools, ensuring quality)?
   - What are their strengths and weakness? Individually and collectively?

e. How might data collection capacity be improved?

6. How might gaps in prioritized nutrition data be filled?

a. How often are the missing data needed?
   - Are they needed once or across time? How often?
   - For how long will the data be needed (e.g., forever, for duration of a specific policy)?

b. Is there an alternative way to generate missing data that fits the needs of users?
   - Can sufficient information be gathered from focal points or a few knowledgeable individuals?
   - Can modeling be used to fill the data gap?

c. How feasible is it to add new indicators to an existing data source?
   - Are other indicators for the target population already being collected?
   - Are the methods/tools used by the data source appropriate for thenew indicator?
   - How much additional time would it require for the data collector?
   - What is the financial cost of adding an indicator?

d. How feasible is it to increase the frequency of data collection for an existing data source?
   - What is the current frequency of data collection?
   - Is it possible to increase the frequency for some—but not all—indicators?

e. If collection of priority data requires launching a new data source, what factors need to be considered as part of planning and design?
   - What lessons can be learned from previous data collection experiences?

7. What nutrition indicators could be removed from existing data sources?

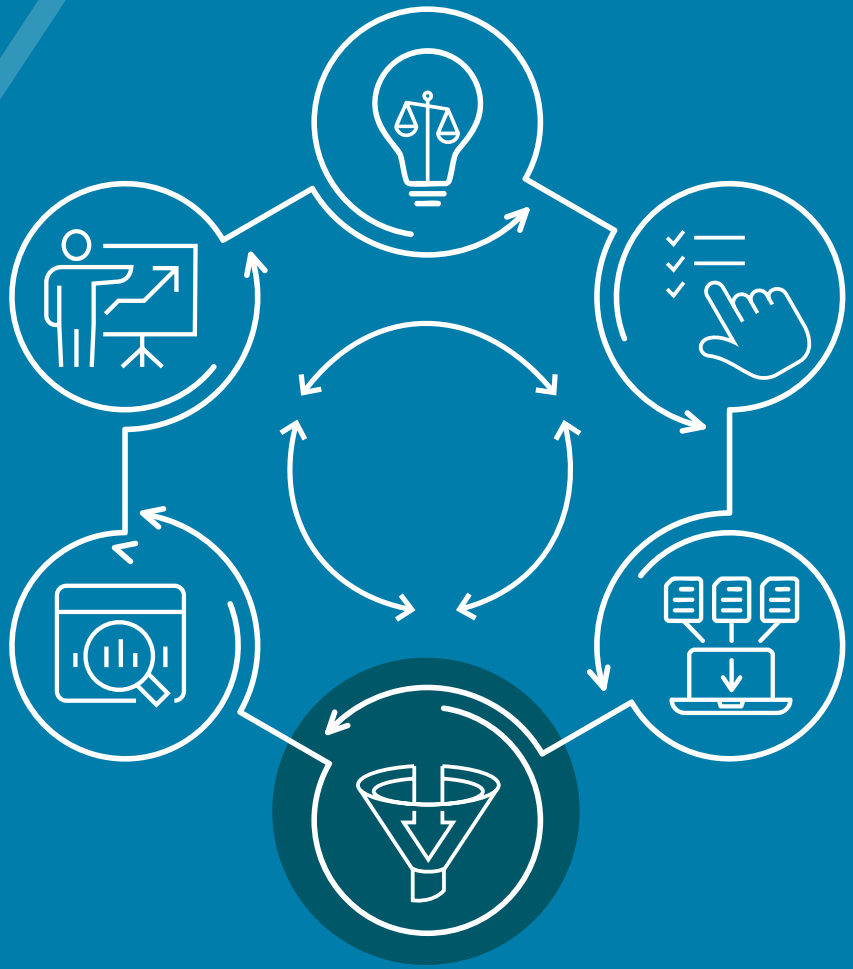
a. What data are currently being collected across multiple data sources?
   - Is there a reason why these data need to be collected in more than one data source (e.g., to support analysis)?
   - If not, could data collection be streamlined to a single data source? Which data source best matches data needs?

b. What prioritized data could be collected less frequently and still meet data user needs?
   - How often should they be collected?
   - Can the frequency of data collection be changed for the data source? Is there an alternative data source that better matches required frequency?

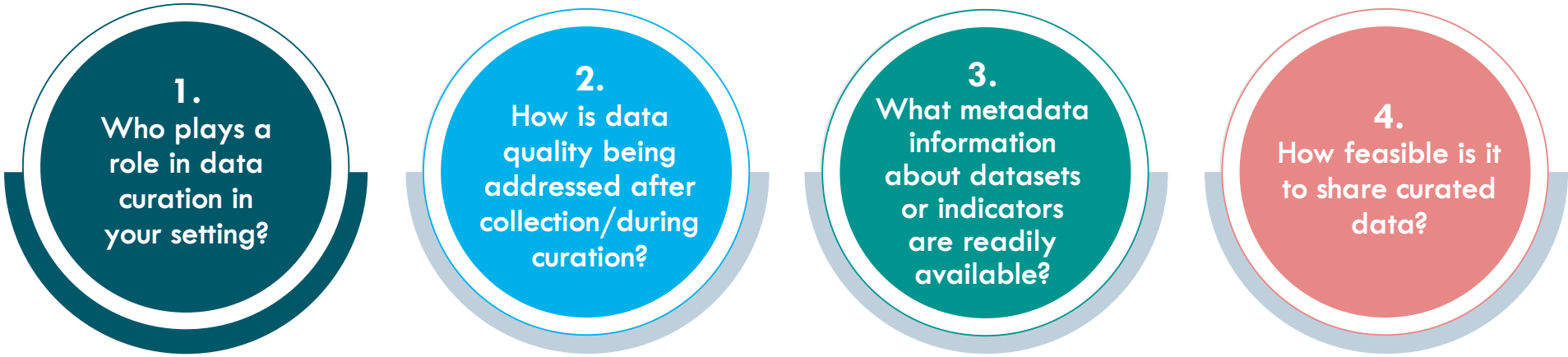
c. What data are currently being collect that are not a priority for nutrition data users?
   - Is there another audience in your setting that uses these data?
   - If not, will removing the data allow for meaningful cost savings?
   - If yes, what steps need to be taken to no longer collect these data?

Data Curation

Process, store, and share data.



DATA CURATION: CORE QUESTIONS



Keep in mind...

Data curation reflects how data are compiled, processed, stored, and shared. Well-curated data is vital for data analysis and data use.

Metadata are "data about data." Examples include the source, date of collection, method of collection, indicator names, data format, etc. Metadata are essential for data management and data sharing.

Data quality and data use increases as hyperlocal and local actors are more involved in data curation. For example, health facility actors are better positioned to identify and explain outliers in the routine data they have collected and compiled because they are closer to the point of collection than actors at higher admin levels.

In some countries the National Statistics Office or similar entity maintains a data warehouse—a virtual repository that includes datasets from different data sources.

Indicators from different data sources can be curated into aggregated systems to facilitate analysis, communications, and data use (e.g., dashboard/scorecards).

Curation processes and actors vary by data source and/or across administrative levels. Actors can be hyperlocal (e.g., facility/community), local (e.g., district), regional, national, or even global/multi-country.

For example, In many countries, health sector administrative data are collected in a local facility in registers and reported on paper to the district, where they are entered into DHIS-2 system. They are further curated upwards to regional and national levels. Ideally different data quality checks are completed by actors at different levels. People with DHIS-2 log-in and permissions can access some or all of the curated data. Data may also be shared via reports, meeting presentations, or other formats like in scorecards or dashboards.

For national surveys, data collectors capture data from people in selected households and then data are compiled, processed, and reported by the national institution that oversaw data collection. Data are shared via survey reports as well as meeting presentations and other formats. Ideally survey datasets are also processed and made available for download.

1. Who plays a role in data curation in your setting?

Consider hyperlocal, local, regional, national, and multi-country/global actors

a. What levels of actors are engaged in processing data after it is collected in different sources?

b. Which of these data curation tasks are completed at each level?

- Clean data
- Post-collection data quality checks
- Add or organize metadata
- Ensure data are accessible and findable
- Other tasks

c. What approaches, tools and technologies are used to curate the data?

2. How is data quality being addressed after collection/ during curation?

a. What are the systems or processes currently in place to assess and assure the quality of data at the time of curation?

- Are data compared across time and between different data sources? (e.g., triangulation)?

b. How well do data quality systems/approaches work?

3. What metadata information about datasets or indicators are readily available?

a. How complete and useful are the metadata for

- datasets from large-scale surveys?
- administrative information systems or other routine data?
- indicators in tools that curate data from multiple sources (e.g., dashboard, scorecard)?

b. How consistently are metadata captured and reported across data sources?

c. What procedures are in place to ensure the quality and accuracy of metadata?

d. How and how often do users reference metadata?

4. How feasible is it to share curated data?

a. Are the people who want nutrition-related data from different sources able to access the data?

- If yes, in what form (e.g., report, dataset)?
- If no, what are barriers to data sharing?

b. What national, sector, or source-specific policies or procedures relate to data sharing?

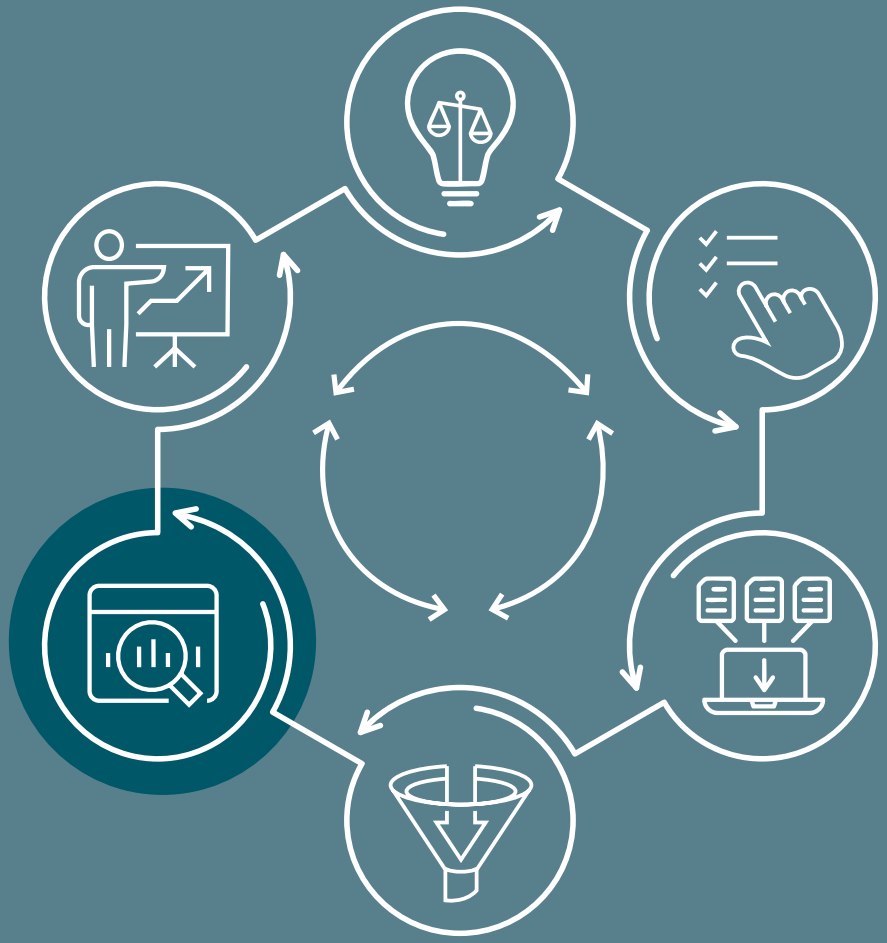
- Do people need special permission to access curated data? If yes, how clear and consistent is the process for obtaining permission?
- Are there policies that govern data sharing? How consistent are these across datasets? Who oversees implementation of these policies?
- Is there a data warehouse or other repository where users can access datasets for surveys or admin data? Who manages the warehouse and how easy or difficult is it to access data from it?

c. How might data sharing between institutions working in nutrition be improved?

d. How might data sharing to individuals—including "the public" be improved?

Data Analysis

Use different analytical approaches to extract insights.



DATA ANALYSIS: CORE QUESTIONS

1. What are the reasons to do a specific data analysis or type of analysis?

2. What types of analyses are being done regularly?

3. Who plays a role in data analysis?

4. What tools, techniques, and data sources are being used for analyses?

5. How are the analysis methods documented and shared?

6. What are key findings and insights identified through analysis of nutrition data?

Keep in mind…

Different types of analysis should be done across hyperlocal, local, regional, and national levels. Simple analyses like comparing trends in key indicators across time or location (e.g., facility, district) might be all that certain data users need. Engaging hyperlocal and local actors in data analysis and data use will improve overall data quality.

While statisticians have a technical analysis skill set, the quality and usefulness of data analysis can be improved when people with diverse knowledge and skills are involved in
1) defining the analysis questions,
2) developing the analysis plan, and
3) discussing the analysis outputs and findings.

For example, including frontline staff who understand context and collect data, the M&E officers who manage data across multiple areas, and nutrition experts who can provide topical perspective.

1. What are the reasons to do a specific data analysis or type of analysis?

a. What are you trying to understand or learn? What are the analysis questions?

b. What decision needs to be made with the analysis outputs? By whom and by when?

c. Is this an analysis that will be repeated across time? If so, at which intervals?

2. What types of analyses are being done regularly?

Across different levels, which of the following types of analysis are being done?

- Descriptive Analysis: Focuses on summarizing and describing data trends or patterns and provide an overview of the current or historical situation.
- Diagnostic Analysis: Used to uncover the reasons behind observed outcomes by looking at associations and root causes, often comparing different subgroups to understand contributing factors.
- Predictive Analysis: Uses statistical model to forecast likely outcomes or identify at-risk populations.
- Prescriptive Analysis: Provides guidance on the best future actions to take based on statistical modeling, scenario analysis, or optimization.
- Text Analysis: Involves systematically examining qualitative data to interpret themes; can help explain or expand quantitative findings.
- Other Analysis: Includes specialized approaches like geospatial mapping or cost-effectiveness analysis.

3. Who plays a role in data analysis?

Consider hyperlocal, local, regional, national, and multi-country/global actors

Across different levels and types of analyses:

a. How are data users being engaged in the analysis process?

b. Who is carrying out the data analysis?

- Is data analysis done by M&E focused roles and/or by people with other responsibilities (e.g., program delivery, management)?
- Are there analyses that are "outsourced" to people with more advanced statistical skills (e.g., university faculty, consultants, etc.)?

c. How technically skilled and/or capable are the people who are responsible for the data analysis (e.g., across the six core competency aeras listed above)?

d. Do they have the capacity to conduct multiple types of analysis or do they repeat the same type of analysis?

e. What are their strengths and weakness? Individually and collectively?

f. What might be done to strengthen or expand their capacity?

4. What tools, techniques, and data sources are being used for analyses?

Across different levels and types of analyses:

a. What tools and techniques are being used for data analysis?
   - Is more than one approach being used to analyze the data/answer analysis question?

b. What data sources are being used for analysis?
   - How recent are the data? Do they reflect the current situation?
   - If multiple data sources are used, are there issues with interoperability of data for analysis?

c. How are the quality of data being addressed as part of the analysis process?
   - Are statistical methods being used to address poor quality data?

d. How is the uncertainty being accounted for?
   - If estimates are being produced, is uncertainty of those estimates being reported?
   - If analysis involves making assumptions about certain factors, are sensitivity analyses used to test those assumptions? If so, how? If not, why not?
   - Are outliers in data being reported?

5. How are the analysis methods documented and shared?

Across different levels and types of analyses:

a. Is there a written plan or SOP for the analysis?

b. Which of these key elements does the documentation include?
   - Purpose / guiding question(s)
   - Data sources / Metadata / Data availability
   - Analytic approaches / quality controls
   - Formats for presenting analysis outputs

c. What evidence is there that the written plan or SOP is useful and regularly used?
   - Have users provided feedback?

d. If there isn't a written plan or SOP, would it be useful to develop one? Why or why not?

6. What are key findings and insights identified through analysis of nutrition data?

Across different levels and types of analyses:

a. Are findings and insights being shared with potential data users at different levels?

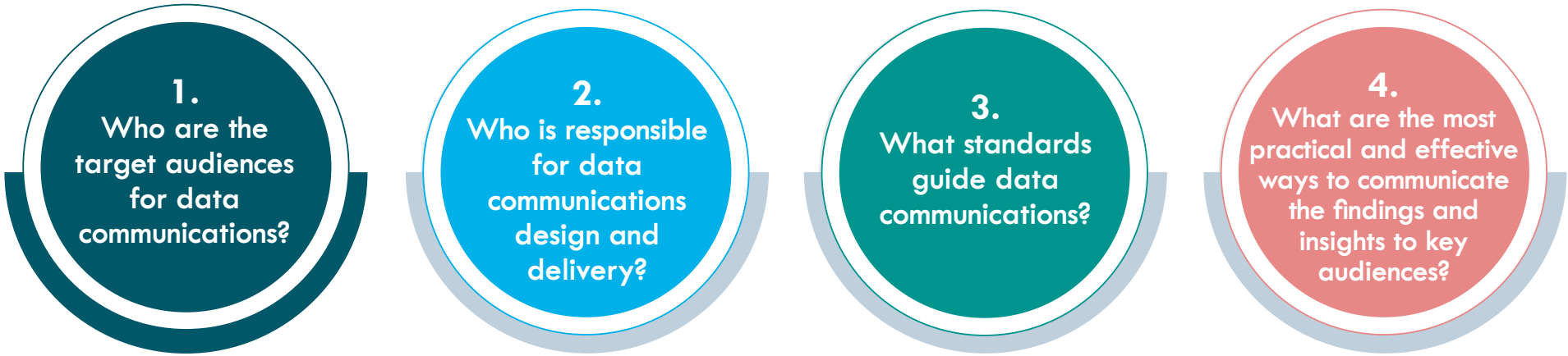
b. How useful, usable, and used are the findings and insights? What are examples of how they have been used?

c. Do the findings and insights align with local knowledge of the context?

Communication

Spotlight and share key messages from data in accessible ways.

COMMUNICATION: CORE QUESTIONS



Keep in mind…

Good communication is important with every audience, from co-workers to community members to senior government officials. It important to tailor outputs and messages to ensure they are understandable and relevant to the target audience. Not everyone has the same level of technical knowledge about the nutrition issues, so messages should be shared in ways that help audiences understand and appreciate the situation, data, findings, and insights.

Effective communication should use different outputs and dissemination channels, depending on the audience. For example, when sharing data from the HMIS, in a health facility, a simple scorecard posted on a staff bulletin board can be a highly effective way to communicate key information about recent performance/trends, targets and recommended actions. Senior finance ministry officials may benefit more from the same data being presented in a clear and concise slide set with key messages relevant to budgeting and financing.

Communication Outputs

- Discussion points with guiding questions
- Presentations and slide sets
- Briefs and Reports
- Videos or podcast
- Dashboards and Scorecards
- Data visualizations (e.g., charts, graphs, maps)

Dissemination Channels

- Routine management meetings
- Conferences / large meetings
- WhatsApp group or email list serv
- Social media (e.g., LinkedIn, Facebook)
- Website

Depending on the audience, goals, and purposes of communications, different tasks should be done at hyperlocal, local, regional, and national levels. For example, key messages may be developed at national level, but local refinements to those messages and targeted dissemination approaches are developed at the district level.

1. Who are the target audiences for data communications?

Consider hyperlocal, local, regional, national, and multi-country/global actors

a. Who are the primary audiences with the ability, responsibility, and/or motivation to act on the information and why?
   - How will they use the information?
   - What communications channels reach this audience?

b. Who are the secondary audiences and why?
   - How will they use the information?
   - What communications channels reach this audience?

2. Who is responsible for data communications design and delivery?

Consider hyperlocal, local, regional, national and multi-country/global actors

Thinking across levels:

a. Is communication done by M&E or other dedicated staff and/or by people with other responsibilities (e.g., program delivery, management)?

b. How technically skilled and/or capable are the people who are responsible for data communications?
   - How well do they understand the setting, data, and findings/ insights?
   - How skilled are they in using multiple channels for communications?
   - What might be done to strengthen their ability to do communications?

3. What standards guide data communications?

a. Is there a manual or guidance for communications? If yes, which of these key elements does the documentation include?
   - Goals and target audience(s)
   - Key messages
   - Communications approaches / channels Feedback mechanisms
   - Other

b. Is the manual or guidance useful, usable, and used?

c. If there isn't a manual or guidance, would it be useful to have one? Why or why not?

4. What are the most practical and effective ways to communicate the findings and insights to key audiences?

a. How are communications approaches tailored to different audience?

b. Why are certain approaches more or less practical with the different audiences?

c. Why are certain approaches more or less effective with the different audiences?

d. How skilled and comfortable are people responsible for communications in using different tailored approaches?
   - What might be done to strengthen/expand their ability to use different approaches?

5. How is ongoing engagement with the audiences handled, including their feedback on communications?

a. What kind of continuing dialogue/discussion is there with key audiences (e.g., do they have opportunities to ask clarifying questions and/ or provide feedback)?

b. How is their input and feedback addressed (e.g., used to change/ improve data collection, curation, and/or analysis; used to address project performance)?

c. How is the effectiveness of the ongoing engagement with the audiences tracked?

ADDENDUM A: USE CASES

This resource is designed for anyone who works with nutrition data directly and/or indirectly, at any level, national, or subnational.

Frontline Worker. A nutrition officer in a health center introduces the Six Questions Approach during staff meetings and community health forums. By guiding nurses, community health volunteers, and local leaders through discussions on why certain data are collected (such as child growth monitoring or dietary intake surveys), they help demystify the data and its use. This helps create a shared understanding and ownership of data, which helps motivate staff and communities to improve data quality. As a result, they develop a culture where data are seen not as a burdensome requirement, but rather as tools for identifying nutrition challenges in the community and implementing interventions to deal with them.

Program Manager. A district-level nutrition program manager uses the Six Questions Approach as part of a review of the district's performance indicators and corresponding data. By considering questions about data quality, relevance, and trends, the manager identifies where services are underperforming and what may be causing the gaps. The manager then brings together key team members to get their input on the findings, including the questions that helped identify them. This approach makes the review process more participatory and provides a valuable check and balance.

Policy Focal Point. A Ministry of Health policy advisor uses the Six Questions Approach in a multisectoral working group that also includes representatives from education, agriculture, and finance. They use the approach to identify whether there are overlapping data relevant to the coverage and effectiveness of school meal programs. The approach helps the group understand the availability, quality, and relevance of data from multiple sources. These insights are then used to strengthen policy briefs and strategy documents, grounding them in a clearer understanding of cross-sector data realities and supporting more coordinated policy development.

Data Analyst. A government statistician uses the Six Questions Approach to review the sources, quality, and relevance of nutrition data before conducting their analysis. By systematically asking questions about where data come from, how they were collected, and what they represent, the analyst is better able to identify gaps, inconsistencies, and/or strengths in the information. This process helps them produce more accurate analyses and supports more meaningful conversations about the data and findings with colleagues and partners working on various components of the nutrition data value chain.

Planner. Senior staff in the Ministry of Planning use the Six Questions Approach during the national nutrition planning cycle, focusing on the prioritization, design, and effectiveness of program proposals. They investigate whether the data underpinning suggested interventions are robust, up to date, and comparable across regions. This assessment helps them strengthen the case for prioritizing specific interventions by aligning resources with results. Additionally, when negotiating with the Ministry of Finance, the approach helps them develop clear justifications to advocate for their plans and budgets, including a thoughtful and layered rationale for components of the plan and its costs.

Decision-Maker. A regional director in the Ministry of Health applies the Six Questions Approach in strategy and budget meetings. By systematically asking about the sources, reliability, and meaning of the data informing proposed interventions, they ensure decisions are anchored in evidence linked to national priorities rather than assumptions. When considering the specific allocation of funds to different interventions, the structured inquiry can highlight critical implementation issues (e.g., coverage gaps, data biases, and alignment with national goals). Over time, the approach reinforces accountability within the regional health team and ensures transparency in how funding decisions are justified and communicated to stakeholders.

ADDENDUM B: FACILITATION AND DOCUMENTATION

The facilitator's primary responsibility is to create an environment where every participant feels encouraged to ask questions, share perspectives, and respectfully challenge ideas and assumptions. The facilitator does not provide the answers to the questions. Good facilitation ensures that all voices are heard and that no single viewpoint dominates at the expense of others.

Facilitators should:

- Help the group stay focused on the core inquiry questions (who, what, when, where, why, and how) relevant to each stage of the data value chain.
- Encourage participants to elaborate on their thinking, clarify their reasoning, and provide concrete examples from their own experience.
- Manage group dynamics so that everyone has opportunities to contribute, including those who may be less comfortable speaking up.
- Work with the group to document both the outcomes of discussion and key questions or issues that arose, to support transparency and institutional memory.
- Help the group make connections throughout the discussion. Revisit previous questions as new considerations arise, including how responses to questions in one area may affect questions/responses in other areas; for example, "Earlier when we were talking about X, I heard someone say Y—what other thoughts do you have about this?"

Tips for Facilitation

In larger groups, consider using the "1-2-4 all method" to facilitate discussion. It takes 12 minutes total. You start by posing a core question and then ask participants to:

- 1: Spend 1 minute in individual silent reflection
- 2: Spend 2 minutes paired up (groups of 2) and generate ideas based on their individual reflections
- 4: Spend 4 minutes joining another pair (group of 4) to note similarities and differences in ideas from their pairs
- ALL: Spend 5 minutes total to have each group share one important idea from their conversation

Tips for Documentation

Materials: flip chart paper, Post-it / sticky notes, markers for facilitator/ notetaker, pens for participants

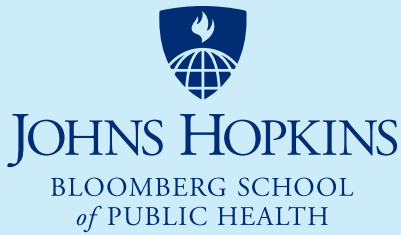
- At the start of the discussion, write the core question at the top of a flip chart paper (one question per sheet)
- Ask individuals to write their ideas on sticky notes (one idea per sticky note) and post them on the flip chart, then review as a group. As the group discusses, move around notes to group similar ideas together and add new ideas on additional sticky notes.
    - If sticky notes are not available, write ideas out directly on the flip charts.
- Take photos of flip charts and have a notetaker write down content in a notes file at the end of each session.

ADDENDUM C: ARTIFICIAL INTELLIGENCE (AI)

Artificial Intelligence (AI) can be a valuable tool for processing and organizing nutrition data, but AI cannot replace the need to strengthen data literacy among people working on nutrition issues. AI capacity is best leveraged to complement—not replace—the inquiry, dialogue, and critical thinking that build data literacy among stakeholders.

AI can do things like sort large datasets, identify trends, and rapidly generate summaries. However, there are important limitations in the capacity of AI to derive actionable insights:

- AI lacks open-ended creativity and the human ability to make intuitive and value-based judgments, which are essential for understanding and answering "why" and "how" questions in real-world situations.
- AI cannot fully replicate responsive interactions between people with different perspectives
- Excessive reliance on AI-generated insights can weaken peoples' motivation to question assumptions and engage in critical thinking and dialogue.
- AI tools can struggle to adapt to local nuances, cultural differences, and/or unique circumstances.
- AI systems can reinforce existing biases present in data or algorithms and may generate plausible but inaccurate information. Continuous human oversight is necessary to ensure data quality, fairness, and ethical use.
- Using AI to process data can raise ethical questions related to security, privacy and consent. Integrity and transparency must be ensured when using AI to work with stakeholder data.



December 2025