



RESPONSIBLE DATA FOR CHILDREN

RD4C CASE STUDY:  
**AFGHANISTAN'S  
NUTRITION  
ONLINE DATABASE**



This case study is part of the RD4C initiative, an effort to build awareness regarding the need for special attention to data issues affecting children. This case study aims to offer insights on promising practice as well as potential barriers to realizing responsible data for children through the experience of Afghanistan Nutrition Online Database and UNICEF. The material relies on interviews, internal documents, and public information.



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## ABSTRACT

Afghanistan's Nutrition Online Database is a web-based information system providing access to aggregated nutrition data to inform planning and service delivery at the national, provincial, and zonal level. The Public Nutrition Department (PND) within the Afghanistan Ministry of Public Health (MoPH) leads database management, with UNICEF Afghanistan acting as the lead technical developer and providing ongoing technical support. The system exists because missed use of potentially valuable data is a common challenge across the children's data ecosystem Afghanistan. The Nutrition Online Database tries to spur the use of existing and newly developed nutrition data streams that otherwise might not inform potentially life-saving nutrition planning and service delivery. It is the product of a participatory development process with key stakeholders across sectors and actors within beneficiary communities. PND, UNICEF Afghanistan, and other stakeholders support professionally accountable data use through training efforts and working groups but remain challenged by the fragmentation of nutrition systems, mandates, formats, and indicators. These factors could contribute to challenges in tracking decision-making processes affecting data responsibility across the nutrition data ecosystem.

**Tags:** [Purpose-driven](#); [Professionally Accountable](#); [Participatory](#)

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## I. THE ISSUE

Poverty, drought, low awareness of nutritional needs, unsafe food and water, and an unpredictable security situation has left Afghanistan with one of the highest rates of child malnutrition in the world.<sup>1</sup> UNICEF estimates 41 percent of all children under five suffer stunted growth due to chronic undernutrition.<sup>2</sup> It further estimates 31 percent of all children under five are moderately or severely underweight.<sup>3</sup> These factors leave many children in the country vulnerable to death and disease. Many suffer lifelong physical and cognitive impairment.

The Government of Afghanistan has sought to address this situation through nutrition programs, food safety efforts, and other initiatives. While the Ministry of Public Health's 2013 national nutrition survey indicated some improvements from government and international action, many people still lack access to proper nutrition.<sup>4</sup> Actors involved in

fighting malnutrition in Afghanistan have increasingly discussed ways to find and use more accurate data to better design, implement, monitor, and evaluate further efforts aimed at improving nutrition.<sup>5</sup>

## II. ACTION

One effort to emerge from these discussions is the Afghanistan Nutrition Online Database, a range of aggregated nutrition datasets accessible to stakeholders across the country. The Public Nutrition Department (PND) within the Afghanistan Ministry of Public Health (MoPH) oversees the initiative in partnership with UNICEF Afghanistan, the developer of the data system and ongoing technical leader.

Through expanded data access, the project seeks to ensure that data collected across Afghanistan is put to use to inform programming and decision-making—a common challenge across the children's data ecosystem—at

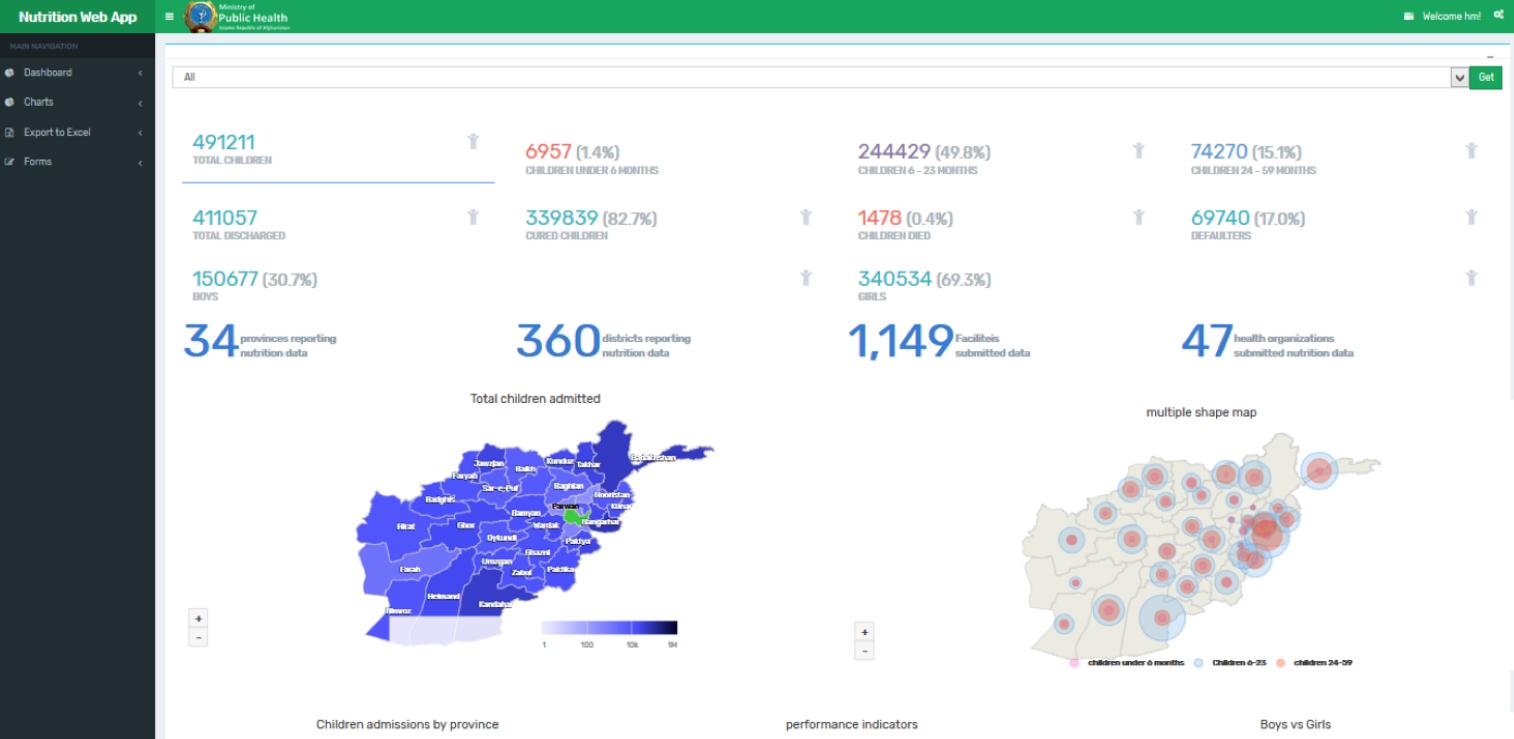
<sup>1</sup> Islamic Republic of Afghanistan Ministry of Public Health. "National Public Nutrition Policy and Strategy 1394 – 1399 (201 – 2020)." Revised March 2015. [http://nutritionmoph.gov.af/wp-content/uploads/2018/Public%20Nutrition%20Strategy/Public\\_Nutrition\\_Policy\\_Strategy\\_2015.pdf](http://nutritionmoph.gov.af/wp-content/uploads/2018/Public%20Nutrition%20Strategy/Public_Nutrition_Policy_Strategy_2015.pdf)

<sup>2</sup> UNICEF Afghanistan. "Nutrition." <https://www.unicef.org/afghanistan/nutrition>.

<sup>3</sup> Central Statistics Organization, United Nations Children's Fund. "Afghanistan Multiple Indicator Cluster Survey 2010-2011." World Bank Microdata Library. <https://microdata.worldbank.org/index.php/catalog/1912>.

<sup>4</sup> Afghanistan Ministry of Public Health, UNICEF, and Aga Khan University. "National Nutrition Survey Afghanistan (2013): Survey Report." [https://reliefweb.int/sites/reliefweb.int/files/resources/Report%20NNS%20Afghanistan%202013%20\(July%202013-14\).pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/Report%20NNS%20Afghanistan%202013%20(July%202013-14).pdf); National Public Nutrition Policy and Strategy.

<sup>5</sup> Afghanistan Ministry of Public Health and Action Against Hunger. "Workshop Report on Nutrition Information Management (NIM) in Afghanistan." 2018. [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/afghanistan\\_nim\\_workshop\\_report\\_fv.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/afghanistan_nim_workshop_report_fv.pdf).



The Nutrition Online Database Web App. Graphic taken from Nutrition Online Database Administrator's Manual, 2018.

the local, provincial, and national level. More specifically, the Nutrition Online Database seeks to:

- ▶ Improve the comprehensiveness and quality of nutrition data available for service providers and policy makers;
- ▶ Provide user-friendly tools for data visualization and manipulation—such as dashboards, charts, and information reports; and
- ▶ Offer a single point of entry for the diversity of nutrition data datasets and data systems present in Afghanistan.

It does not make data on individuals available to users.

## SERVICE

The Nutrition Online Database is a web-based information system providing access to aggregated national, provincial, and zonal-level nutrition data to inform planning and service delivery. Users of the Nutrition Online Database can review reporting and monitoring datasets and analyze data in Microsoft Excel, visualize nutrition information, and generate pivot tables.

UNICEF works closely with PND to enrich the online database. Much of this work involves compiling data streams that are fragmented across existing, disparate systems and databases. UNICEF Afghanistan compiles information from international actors, including weekly nutrition reports created at the provincial level and data from the humanitarian organization Action Contre La Faim's localized



nutrition survey database. The system also gathers data from national and sub-national sources, including the 10 national surveys conducted since 2003, each of which contains important nutrition indicators collected through interviews, blood specimen tests, questionnaires, and anthropometric measurements; data from the MoPH's Health Management Information System (HMIS); the digital database of the country's health services (which also extracts data from the Nutrition Online Database); and information from UNICEF's field monitoring database. Government ministerial staff, provincial nutrition officers and extenders, and community health workers alike contribute to these datasets directly or as part of an aggregate. The database also provides important supply chain management data that supports national and sub-national actors in their monitoring of the distribution and availability of nutrition supplies among health facilities.

Much of the aggregated data accessible through the Nutrition Online Database was originally collected on paper at individual facilities by health and nutrition service providers operating across the country. These paper records are then transferred to actors at the zonal- or province-level for compilation and onward reporting into the national Nutrition Online Database. Provincial nutrition officers and UNICEF zonal

officers are key to aggregating and transmitting data.

These aggregated local and national indicators made accessible through the database are particularly useful for planning purposes. Even without granular, case-level data, decision-makers in government, international organizations, and implementing partners can use the information in the system to calculate likely nutrition caseloads and forecast if and how service delivery coverage is likely to change over time given current trends.

The key features and datasets comprising the Nutrition Online Database are accessible both through the standalone system and through HMIS. HMIS is the primary system of reference for data related to health service delivery across Afghanistan. It supports routine data collection, analysis, and use, and leverages a range of analog and digital tools at different levels of the health system. The MoPH recently introduced the DHIS2 software as a core component of the HMIS and will work to implement the platform at scale over the next few years. Most data entry/compilation takes place at the provincial level, with the majority of sites still using a legacy access-based system. In the coming years, these sites will transition to DHIS2 for more streamlined and integrated data management.

Making data available through both the Nutrition Online Database and HMIS helps to put essential nutrition data in the hands of both dedicated nutrition service delivery personnel across sectors, as well as stakeholders providing more generalized health services.

## DEPLOYMENT

The PND leads the management of (most) nutrition data in Afghanistan and spearheaded the deployment and continued upkeep of the Nutrition Online Database. Part of PND's mandate involves ensuring "the regular and consistent use" of nutrition data to inform policy development and institutional decision-making.<sup>6</sup>

The initial deployment occurred in close collaboration with UNICEF Afghanistan, which led the technical development of the system and provided it with financial support. After the launch, UNICEF continues to provide technical and capacity-building support for the system, its administrators, and its users.

As mentioned above, several additional components have been integrated into the system after its launch. These elements include a nutrition monitoring

system developed by UNICEF for its nutrition programs and now used by PND to monitor activities nationally. Supply-chain management functionalities are also now included, as well as newly integrated access to results from various nutrition surveys, such as the Nutrition and Mortality SMART survey, which focuses on the nutritional status of children under five, pregnant women, and lactating women.<sup>7</sup>

In the early part of 2020, PND, UNICEF Afghanistan, and other partners initiated a multi-province pilot project of a Real-time Geolocation Monitoring (GLM) system within the Nutrition Online Database. The GLM acts as a central "data mart" providing high-priority statistics and monitoring information for analysis. The GLM intends to increase the utility of these datasets by extracting the most relevant information for users and lowering the barrier to entry for data analysis.

Given the complexity of the system and the sequenced approach for creating new functionalities and integrating pre-existing systems, deployment is still ongoing. As of Spring 2020, the GLM features are still being piloted in five provinces to identify any challenges, weaknesses, or areas in need of improvement. Other information streams

<sup>6</sup> "Workshop Report on Nutrition Information Management (NIM) in Afghanistan."

<sup>7</sup> Dr. Baidar Bakht Habib and Dr. Shafiullah Samim. Action Contre La Faim."Nutrition & Mortality SMART Survey Final Report: Ghor Province, Afghanistan - 16th August to 4th September 2016." [https://reliefweb.int/sites/reliefweb.int/files/resources/ghor\\_smart\\_final\\_report\\_20122016.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/ghor_smart_final_report_20122016.pdf)



have been in place for some time, and while information can always be made more comprehensive and user friendly, these systems are well beyond the piloting stage.

With this complexity in mind, UNICEF Afghanistan designed, developed, and implemented the Nutrition Online Database with the stated intention of migrating it onto the PND and MoPH server, further cementing these government counterparts as the central managers of the system.

Database to support its malnutrition-monitoring activities and to conduct planning and resource allocation efforts in a more evidence-based manner. In early 2020, the IMAM Working Group analyzed malnutrition data shared through the database to set targets for both their moderate acute malnutrition (MAM) and severe acute malnutrition (SAM) response efforts.

## III. IMPACT

### IMMEDIATE OUTCOMES

The Nutrition Online Database is used by a range of actors at the national and sub-national levels to guide their nutrition-related programming, monitoring, and evaluation.

The newly established cohort of Nutrition Counselors, funded by the World Bank, are one of these key user groups. These actors working at the subnational service delivery level both contribute data to the system based on their activities, and leverage the system's offerings to guide their prevention and treatment efforts.

Additionally, the Integrated Management of Acute Malnutrition (IMAM) Working Group uses the Nutrition Online

## INSIGHTS RELEVANT FOR ADVANCING RD4C LOCALLY AND GLOBALLY

### ENABLING RD4C: PRINCIPLES AND PRACTICES:

- ▶ **Professionally Accountable:** Actors supporting the development and use of the Nutrition Online Database and the many associated functionalities and systems, have taken several steps to increase the professional accountability and capacity of data generators and users. Some notable activities include:
  - ✓ *Training:* UNICEF Afghanistan and partners provide training to provincial nutrition officers, UNICEF zonal officers and nutrition extenders, implementing NGO partners, and other data users to more effectively monitor conditions in their regions of focus, and help schools, health facilities, and other relevant service providers understand the current nutrition situation. UNICEF Afghanistan and partners offer training (and training manuals) for this work. Additionally as part of the piloting of the GLM system, UNICEF Afghanistan developed a standard training package with orientation materials to ensure sub-national users can safely and effectively use the system. This training is essential given the important role these sub-national actors play in compiling sensitive, case-level nutrition data—such as children's hemoglobin levels or infant and young child feeding practices—that will then be offered in aggregate through the platform.
  - ✓ *Codified Auditability Guidance:* The Nutrition Online Database's administrator's manual provides concrete guidance on how to avoid unauthorized access. It recommends maintaining an up-to-date user list and conducting regular checks for risks of unauthorized access. The manual also encourages administrators to carefully check the list of users for whom the administrator is responsible and to block users when they leave the organization. The manual notes that such auditing and maintenance of the user base is critical because an unauthorized user could manipulate and change the data or delete the records. This direction both identifies good practice procedures and clarifies why those practices are important.
- ▶ **Participatory:** A variety of stakeholders—including those working at the community level—guide the database's ongoing development, testing, and evolution. A community-based nutrition working group collaborates with the PND, UNICEF, and other drivers of the Nutrition Online Database to decentralize nutrition reporting

and feedback mechanisms and to dispel the current negative perception regarding community-generated data. This focus on gaining buy-in. Data inputs and strategic insight from these actors can help to ensure that the needs of individuals are better represented in future developments in the system. By necessity, those working at the national level to improve nutrition for children across Afghanistan do not have the same level of consistent, direct contact with children, their caregivers, and community representatives compared to these community-based actors. These actors simultaneously bolster the effectiveness and impact of community-based nutrition programs and support the more participatory development and use of national nutrition information offerings.

- ▶ **Purpose-driven:** The Nutrition Online Database provides features and functionalities to support both substantive and more operational objectives. Substantively, the datasets and components accessible through the system have clear utility for actors conducting nutrition programming, monitoring, and evaluation work—including provincial and national PND representatives, UNICEF national and zonal officers, NGO partners supporting facility-level service delivery, and others. Operationally, PND and UNICEF Afghanistan personnel have taken several steps to consolidate previously disparate systems in the interest of providing a more comprehensive nutrition database, and to deploy visualization and analysis tools that can lower the barrier to entry for effective data use.

## BARRIERS TO RD4C: CHALLENGES TO NAVIGATE:

- ▶ **Fragmentation of Systems and Mandates:** A wide array of stakeholders are involved in Afghanistan's nutrition-related information systems. These stakeholders include actors exerting decision-making power over distinct but closely related systems. Such fragmentation has disrupted efforts to integrate systems under the mandate of different parties—even if they serve a similar user base. The Weekly Iron and Folic Acid Supplementation (WIFS) database, for example, is led by the Ministry of Education. Meanwhile, as described previously, the Nutrition Online Database is led by the PND within the MoPH. UNICEF is a partner and provider of technical support for both systems and many of the same parties are involved in the sustainability and use of the system, but WIFS and the Nutrition Online Database cannot be integrated. The continued use and management of multiple systems can lead to challenges in establishing a unified data governance and responsibility approach for the nutrition sector in the country. This fragmentation can also impede efforts to assess the decision-making structures (or decision

provenance) underlying these intertwined elements of the nutrition sector. A clear grasp of this decision provenance can clarify which actors are responsible and accountable for decisions made with important implications for safe and effective handling of children's data.

- ▶ **Fragmentation of Indicators and Formats:** Thanks to the diversity of systems and stakeholders comprising the Nutrition Online Database's offerings, technical interoperability and standardization challenges persist. This fragmentation can limit each user's ability to use the Nutrition Online Database effectively, especially in cases requiring comparison of indicators that are inconsistent across provinces or communities. As described in a workshop report on nutrition information management in Afghanistan, the lack of standardized indicators, tools and templates for surveys at sub-national level acts as a barrier to consistent data analysis and use.<sup>8</sup>
- ▶ **Relatively Limited Use:** With notable exceptions, such as the IMAM Working Group , implementation partners often fail to use nutrition data made available through the Nutrition Online Database and related systems to the extent that they could.<sup>9</sup> A lack of capacity or clear recognition of the value proposition of such data can be a driver of this limited data use among NGO service providers. UNICEF and other partners are seeking to build capacity and engender more comfort among these partners regarding their use of data. This involves technical support, training, and the creation of collaboration mechanisms—such as working groups and the intersectoral and inter-provincial Nutrition Cluster.

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<sup>8</sup> "Workshop Report on Nutrition Information Management (NIM) in Afghanistan."

<sup>9</sup> *Ibid.*

## IV. CONCLUSION

As it stands, the dual concerns of increasing the availability and utility of nutrition data dominate discussions across the ecosystem in Afghanistan.<sup>10</sup> Given the dire challenges facing malnourished children in the country, the focus on seeding impactful use is understandable. The Nutrition Online Database has taken strides toward making aggregate nutrition data more accessible and usable, but the sector still faces challenges with fragmentation of systems, mandates, indicators, and formats. This fragmentation is likely to negatively impact efforts for establishing unified governance approaches and making decision provenance structures clear to stakeholders.

While sector-wide challenges exist regarding these important elements of the Professionally Accountable RD4C Principle, PND and UNICEF Afghanistan have many opportunities for advancing responsible and accountable uses of the Nutrition Online Database. Several nutrition working groups, technical support efforts, and training initiatives are in place across the country. There is a clear opportunity to embed professionally accountable data strategies and guidance into these traditionally technical and operational fora. Efforts to build capacity and awareness of responsible data practices at the sub-national level are particularly important as provincial and zonal actors are responsible for the most sensitive element of the overarching system: compiling granular, case-level data into the aggregated datasets accessible through the platform. Within the Afghan nutrition sector and beyond, safe and effective data handling necessitates identifying these important cogs in the children's data ecosystem and providing them with the training and support, and codifying clear policies and guidelines to inform their work.

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<sup>10</sup> "Workshop Report on Nutrition Information Management (NIM) in Afghanistan."



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