



# Bridging India's Evidence Gap in Nutrition Through Administrative Data

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## Key messages

- > Nutrition data is often infrequently collected, unreliable and noncomparable across time and regions, making it difficult to track progress in real time.
- > Administrative data represents a goldmine of actionable information, with the potential benefits of timeliness and full coverage of program participants. But governments need to focus their efforts in improving the quality of administrative data.
- > Administrative data collection is projected as a goal with strict timelines, thereby putting pressure on frontline workers to meet deadlines without paying attention to the quality of the data collected.
- > We propose a systematic strengthening of data collection procedures that can produce accurate and actionable information.
- > This includes:
  - > intensive training of actors across tiers, as well as review of the existing equipment against the ideal requirement;
  - > incentivizing frontline workers and mid-level officials to accurately report malnutrition status; and
  - > systematic triangulation of collected data through independent checks.

## Malnutrition: a crucial development challenge

Malnutrition is one of the most crucial development challenges facing India today. The Government of India has invested significant resources to address it, and has achieved some positive results to date. However, targeting different aspects of this problem will require detailed real-time information to monitor progress and plan resource allocation.

The good news is that there is an enormous and largely underused resource of administrative data that can assist India in tracking and addressing malnutrition. Administrative data collected by frontline workers could serve as a rich data source for guiding India's nutrition policies. As it stands, these data are often considered too unreliable to serve as a basis for policy decisions, but there are concrete steps the government can take now to improve this data source.

**“Administrative data collected by frontline workers could serve as a rich data source guiding India's nutrition policies”**

As researchers at Evidence for Policy Design (EPoD) India at the Institute for Financial Management and Research (IFMR), we have been working towards building capacity of policy stakeholders in improving the effectiveness of service delivery, targeted at improving nutrition status. This often involves discussions with officials at different administrative levels – state, district and block officials as well as frontline workers – to understand the challenges facing the current data systems. In this article, we review major data systems on nutrition in India and highlight the human and organizational contributors to their quality. We also discuss some low-cost opportunities to improve the current systems for dealing with malnutrition.

## Data in nutrition – miles to go

According to the latest Global Nutrition Report, we have come

a long way globally in addressing malnutrition in terms of better policy, financing, data collection and analysis. In India too, as per the fourth round of the National Family Health Survey (NFHS-4), the proportion of stunted children has decreased, from about 42 percent in 2005 to 35 percent in 2014–15. Even with these estimates, the development burden of malnutrition is still extremely high. In 2009, leading development economists Angus Deaton and Jean Drèze suggested that despite India's rapid economic growth, levels of undernutrition were higher than in many Sub-Saharan African countries.<sup>1</sup> Even after a decade, this continues to be true – India is home to about 50 percent of the undernourished children in the world, according to a joint study by The Associated Chambers of Commerce and Industry, and Ernst and Young, in 2015.<sup>2</sup>

How can India solve this deep-seated problem of malnutrition? One way to begin is to track malnutrition using consistent real-time data to diagnose immediate problem areas.

Nutrition data is extensively available from a variety of sources. However, such data is often infrequently collected and non-comparable across time and regions, making it difficult to track progress in real time.<sup>3</sup> Despite these limitations, we advocate exploring ways to strengthen existing data systems to better inform policy and program interventions targeting nutrition outcomes.

### Where do we stand in terms of existing data systems?

NFHS data has long been a key reference point for policymakers, researchers and civil society in the health, family planning and nutrition domains. Much of this trust comes from the fact that NFHS data is collected and coordinated by a leading Indian research institute, namely the International Institute for Population Sciences, and is one of the most representative large-scale datasets that is independent of government data. But the long interval between subsequent rounds of NFHS surveys – there was a gap of 10 years between rounds three and four – creates a data void that inhibits analysis of a dynamic problem such as malnutrition. Additionally, reports in the media have highlighted poorly trained field agents and lengthy questionnaires as concerns regarding NFHS data.<sup>4</sup>

What other sources of data can nutrition policymakers rely on? The progress of national- and state-level nutrition missions and multiphase programs can be monitored and evaluated only through administrative datasets. Administrative data represents a goldmine of actionable information, with the potential benefits of timeliness and full coverage of program participants. We divide these administrative data systems into three types.

#### 1. Centrally designed ICDS-Rapid Reporting System

Integrated Child Development Services (ICDS) is a centrally designed program for providing nutrition services. Under the existing data system of ICDS, *Anganwadi* workers, who are communi-

ty-based frontline workers, are required to maintain 11 different registers for collecting information on supplementary nutrition services, child growth monitoring, pregnant and lactating mothers, preschool education, immunization and the village census.<sup>5</sup> This information is collated monthly at the level of *Anganwadi* centers, which are the centers for nutrition-based services for mothers and children in India, and transferred into a centrally operated system called the Rapid Reporting System.

#### 2. Centrally designed ICDS-CAS

The Women and Child Development (WCD) ministry in India implemented the ICDS System Strengthening and Nutrition Improvement Project (ISSNIP) in 2016 with the objective of strengthening the ICDS service delivery. This initiative introduced a software application called ICDS Common Application Software (ICDS-CAS) for *Anganwadi* workers to capture data in real time on electronic devices, such as mobile phones and tablets. It is also meant to replace 10 of the existing 11 data registers. This innovation is currently in its pilot phase in 162 districts across eight states. *Anganwadi* workers continue maintaining their registers during this pilot stage, doubling their data entry burden. While the pilot states brainstorm ways of using this data, it might be too soon to assess its role in targeting nutrition interventions.

#### 3. State-specific data systems

Some states in India also have parallel data collection systems. For instance, e-Pragati<sup>6</sup> is Odisha's (an eastern state in India) version of the ICDS-Rapid Reporting System to collect sectoral information (a sector is a group of 25–30 *Anganwadis*). Similarly, Chhattisgarh (a central state in India) collects anthropometric information to assess nutrition outcomes for all children aged less than six through an annual event called *Vajan Tyohar* (Weighing Festival).<sup>7</sup> Most state officials also depend on tabulated formats typically prepared using Microsoft Excel. However, these formats focus more on service-delivery information than on childhood nutrition outcomes.

Nutrition-related administrative data is underutilized despite the enormous efforts spent on its collection. Its use by researchers and civil society actors is restricted, as the data is not available publicly. Government officials are either not motivated or else do not trust the reliability of this data. This lack of trust is not misplaced. One of our back-of-the-envelope calculations based on weight-for-age Z-scores (WAZ) showed that the difference between malnutrition estimates from the NFHS and the ICDS-Rapid Reporting System in a district was about 25–30 percentage points.

#### Why is our administrative data not reliable?

If administrative data is collected consistently, why isn't it con-

sidered a reliable source of data for monitoring nutrition outcomes? While there are many reasons, we have identified the following four as key.

#### 1. Skill gap concerning anthropometric measurements

Practitioners commonly use anthropometric indicators to identify childhood malnutrition by comparing the weight and/or height of children to age-specific standards defined by the World Health Organization (WHO). *Anganwadi* workers receive training on weight measurement, but this takes place only when they are first hired, and with infrequent follow-ups. Training courses on height measurements are even less frequent, as the provision of ICDS services is based on weight instead of height. Our observations from the field reveal that *Anganwadi* workers falter on basic measurement processes, implying the need for retraining. The ministry and state departments seem to underestimate the rigor required in height and weight measurements, and neglect the importance of regular high-quality training of frontline workers on these aspects.

#### 2. Availability of appropriate measurement equipment

Lack of appropriate measurement equipment exacerbates the effects of the skill gap among frontline workers. There is a visible inconsistency in the quality and type of equipment available at *Anganwadi* centers. For instance, some *Anganwadi* workers measure weight using a Salter (analogue) scale, while others depend on a digital scale. The error rates vary between these machines, the former being more prone to mismeasurement. *Anganwadi* workers also don't have age-appropriate instruments for height measurement.

#### 3. Recording of data

The process of recording data is another entry point for bias. *Anganwadi* workers enter data in registers and lady supervisors collate it into Monthly Progress Reports, another paper-based format. Before finally entering it into the data system, block officials or lady supervisors make corrections, which are largely intuitive in nature. This is where most of the data discrepancy and mismatch is likely to happen. The digital application ICDS-CAS can potentially overcome this challenge by directly locking the data into the system at the first entry point. However, digitization of data may prove to be a double-edged sword, posing many challenges such as internet issues, device breakdown and frontline resistance to change.

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**“The heart of the data quality challenge is the classic problem of misalignment of incentives”**

#### 4. Misaligned incentives

The heart of the data quality challenge is the classic problem of misalignment of incentives since those who are collecting data are also responsible for delivering services and affecting outcomes. This conflict of interest disincentivizes accurate data reporting, and primarily arises from the enormous pressure on states to present a favorable picture of nutrition in their jurisdiction. This pressure gets transferred to middle-level officials and finally trickles down to *Anganwadi* workers. In their dual role as data collectors and last-mile service providers, *Anganwadi* workers hold the power to ‘generate’ evidence that speaks well of their performance.

Administrative focus then shrinks to simply ensuring timely and complete data collection, thereby inducing pressure on *Anganwadi* workers to meet deadlines without paying attention to the quality of the data collected. At times, they face negative repercussions or punitive actions upon noncompletion, which magnifies their fear of being reprimanded. The easiest way for *Anganwadi* workers to circumvent these pressures is to carry forward the data from the previous time period without actually collecting updated and new information.

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**“We must incentivize frontline workers and mid-level officials to accurately report malnutrition status”**  
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#### What are some low-cost solutions to improving administrative data quality?

We propose a systematic strengthening of data collection procedures that can produce accurate and actionable information to justify the amount of time, effort and resources dedicated currently. This revamp involves a centralized change in the protocol for anthropometric measurements, including intensive training of actors across tiers as well as review of the existing equipment against the ideal requirement. But this may not be sufficient unless we incentivize frontline workers and mid-level officials to accurately report the malnutrition status. Furthermore, we suggest systematic triangulation of collected data through independent checks. If designed meticulously, these checks can be sufficient for testing even smaller samples of data, keeping the costs of such an exercise fairly low.

Another relatively low-effort, high-value approach is to broaden the definition of nutrition data by focusing on multisectoral convergence – that is, utilizing data from different sectors.<sup>8</sup> Since nutrition outcomes are impacted by factors such as health and sanitation, decision-makers ought to look across the spec-

trum of administrative data to better understand the nutrition landscape. This could involve monitoring key indicators from other sectors such as information on antenatal care, institutional deliveries and breastfeeding from the Health Management Information System, as well as information on open defecation and access to toilets from the Swachh Bharat Mission Management Information System.<sup>9</sup>

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**“By leveraging its frontline personnel, the Government of India can create a strong administrative data system to support policies designed to tackle malnutrition”**

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### Conclusion

By leveraging its extensive network of almost 2.8 million frontline personnel in around 7,000 administrative blocks, the Government of India can create a strong administrative data system to support policies designed to tackle malnutrition.<sup>10</sup> This could be the most reliable way for policymakers to get real-time, on-the-ground information on the nutrition status of its beneficiaries. The urgent requirements are to better train and sensitize those who collect data (*Anganwadi* workers), those who monitor data collection (middle-level officials), and those who use data to make policies (central- and state-level officials) about the potential returns from improving our data quality. Policies that are continuously updated and implemented based on real-time data can be more effective than those that rely on fragmented data, which may be obsolete in dealing with the nutritional challenges of the hour.

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