<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>3ie</td>
<td>International Initiative for Impact Evaluation</td>
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<tr>
<td>AWC</td>
<td>Anganwadi Centre</td>
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<tr>
<td>BMGF</td>
<td>Bill and Melinda Gates Foundation</td>
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<tr>
<td>B-TAST</td>
<td>Bihar Technical Assistance and Support Team</td>
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<tr>
<td>CRM</td>
<td>Customer Relations Management</td>
</tr>
<tr>
<td>DSW</td>
<td>Department of Social Welfare</td>
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<tr>
<td>GoB</td>
<td>Government of Bihar</td>
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<tr>
<td>ICDS</td>
<td>Integrated Child Development Services</td>
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<tr>
<td>IGC</td>
<td>The International Growth Centre</td>
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<tr>
<td>IPMS</td>
<td>Integrated Performance Management System</td>
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<tr>
<td>IVRS</td>
<td>Interactive Voice Response System</td>
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<tr>
<td>MPR</td>
<td>Monthly Progress Report</td>
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<td>PT</td>
<td>Project Team</td>
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<tr>
<td>SNP</td>
<td>Supplementary Nutrition Programme</td>
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<tr>
<td>TAG</td>
<td>Technical Advisory Group</td>
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<tr>
<td>THR</td>
<td>Take Home Ration</td>
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<tr>
<td>VHSND</td>
<td>Village Health Sanitation and Nutrition Day</td>
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ACKNOWLEDGEMENTS

We thank Rajit Punhani, IAS, former Secretary of the Department of Social Welfare (DSW) for his support, guidance and feedback. We are also grateful to Neelam Gupta, IAS, Director of Integrated Child Development Services (ICDS), Bihar, for her suggestions. This report draws on discussions with K.K. Sinha, BAS, Senior Administrative Officer at the State Society for Ultra Poor and Social Welfare. We also thank the International Growth Centre (IGC) for supporting this research endeavour.

The document draws extensively from the experience and work done by the members of the IPMS Project Team (PT) and suggestions from the Technical Advisory Group (TAG). We are thankful to each of them for their inputs, without which this document would not have been possible. We are particularly grateful to Devaji Patil, Director of Nutrition at BTAST for leading and guiding the PT. Other members of the PT include B. R. Krishnan (CARE), Anup Kumar (Ernst & Young), and Praveen Jha (BTAST).

1 See Appendix 1 for a detailed list of PT and TAG members.
EXECUTIVE SUMMARY

The Integrated Performance Management System (IPMS) is an initiative of Bihar’s Directorate of Integrated Child Development Services. It is a technology-intensive data collection and dissemination system for improving the performance of frontline workers of ICDS. The primary purpose of this report is to detail the program’s design and basic technical specifications to guide the Department of Social Welfare, ICDS and B-TAST in implementing IPMS. Our recommendations are based on field observations and interviews with stakeholders.

ICDS expends significant resources on achieving its targets of ameliorated child development, but poor programme implementation likely reduces its impact. ICDS leadership lacks reliable, verifiable information about the quality of service delivery on an ongoing and granular level. Consequently, the directorate is unable to penalise poor performers and incentivise quality work. IPMS is designed to address these shortcomings.

This document focuses on the design of three of IPMS’ four components: (1) frontline worker (Sevika) self-reporting; (2) supervisor monitoring; and (3) community grievance redressal and feedback. The first two components provide the existing ICDS hierarchy with mobile phones to facilitate systematic and accurate reporting of on-ground performance. The IPMS technology platform aggregates this data and allows it to be presented in easily interpretable web-based reports to facilitate appropriate action by ICDS officials. The third component empowers community members both to report on service delivery and to receive information on ICDS performance via a dedicated and free call centre service. Cutting across these components is a series of performance-based actions to effectively manage ICDS employees.

Governments and organizations in other settings have had a mixed experience using technology-based solutions to improve service delivery. Therefore, it will be crucial to monitor the scheme in its initial rollout, to allow scope for modification and stem any negative externalities. This is thus a preliminary document to help initiate thinking about the rollout plan, which may differ from these suggestions. Once the IPMS design is finalised, IDinsight will conduct a randomised evaluation of the system on behalf of ICDS and BTAST, in order to determine whether it should be scaled up across Bihar.

By prioritising data collection and transparency, and systematising rewards and penalties, IPMS has the potential to significantly improve the implementation of ICDS and the welfare of children and mothers across Bihar.
CHAPTER 1: BACKGROUND ON ICDS AND IPMS

Bihar has one of the highest rates of childhood undernutrition in India, with 56% of its children falling below the required weight for their height. Recognizing the strong links between childhood nutrition, education, and later-life outcomes, the Government of India (GoI) launched the Integrated Child Development Services (ICDS) in 1975, to improve childhood education and nutrition. Despite the significant investments made by the GoI and Government of Bihar (GoB) into ICDS over the past several decades, the programme has been unable to produce the desired improvements in children’s nutrition and education in Bihar. In light of this situation, the GoB’s Department of Social Welfare (DSW) has launched the Integrated Performance Management System (IPMS), an initiative designed to improve the implementation of ICDS Bihar, by collecting and appropriately acting upon high quality data on frontline worker performance.

This section provides an overview of the ICDS status quo, introduces IPMS as a solution to some of the problems currently faced, and concludes with an outline of the rest of this report.

**Integrated Child Development Services status quo performance**

The primary responsibility for addressing early childhood health and education falls to Bihar’s ICDS, a branch of the DSW. As per ICDS’ website, one of the key objectives for the organisation is “to improve the nutritional and health status of children in the age group 0-6 years”.

The Supplementary Nutrition Programme (SNP), one of ICDS’s largest initiatives, uses a network of Anganwadi centres (AWCs) to provide hot meals to attendant children. It also offers “take home ration” (THR) of uncooked rice and lentils to pregnant women, lactating mothers, and children between six months to three years of age. GoI and GoB have committed more than Rs. 1100 crore (about USD 200 million) annually to the program. Yet despite the magnitude of the financial commitment, SNP implementation is lacklustre. Over half of SNP funds fail to reach the intended beneficiaries, resulting in a heavy annual loss. Furthermore, Sevikas and Sahaiykas are

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both present at the AWC only 40% of the days, and both are absent 25% of the time.\footnote{\textit{Ibid.}} The above examples are indicative of ICDS’ supply and demand-side challenges. On the supply side, poorly enforced accountability channels obstruct improvement. Frontline workers responsible for ICDS service provision, are largely autonomous and the official accountability structure shown in Figure 1 below is not consistently enforced. There is a dearth of reliable data on the performance of ICDS employees, and there are at best weak incentives for supervisors to hold those reporting to them accountable.

On the demand-side, beneficiaries are either unaware of or indifferent to their entitlements, or unable to hold the ICDS officials accountable for service delivery. This is probably because Sevikas are often closely connected to powerful local leaders and have discretionary power in handpicking beneficiaries. In addition, rural beneficiaries may not recognise the consequences of poor nutrition, as they may not be fully aware of the negative consequences of poor childhood nutrition.

\textit{Figure 1: ICDS administrative structure}

<table>
<thead>
<tr>
<th>State Level</th>
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<tr>
<td>ICDS Directorate, DSW, GoB</td>
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<table>
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<tr>
<th>District level</th>
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<tr>
<td>District Programme Officer (DPO) - 38</td>
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<table>
<thead>
<tr>
<th>Block/project level</th>
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</thead>
<tbody>
<tr>
<td>Child Development Project Officer (CDPO) - 544</td>
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<table>
<thead>
<tr>
<th>Sub-project level</th>
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</thead>
<tbody>
<tr>
<td>Lady Supervisor (LS) - one per 25 AWCs</td>
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<table>
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<tr>
<th>Village level</th>
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<tbody>
<tr>
<td>Sevika and Sahayika (“helper”) for each AWC - 91,000</td>
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<tr>
<th>Beneficiaries</th>
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</thead>
<tbody>
<tr>
<td>40 toddlers (6-36 months) + 40 children (3-6 years) + 8 pregnant mothers + 8 lactating mothers per AWC</td>
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\textbf{Integrated Performance Management System to improve ICDS}

Many of the supply and demand-side failings of ICDS highlighted above can be addressed through an improved and robust performance management system. The Integrated Performance Management System (IPMS) provides a technology-based platform that enables both ICDS officials (“top-down”) and community members (“bottom-up”) to monitor and facilitate the work of frontline workers through frequent and high-quality performance data.

IPMS was approved by the Bihar Government in October 2013 to be rolled...
out in four districts. As phrased in its founding document, IPMS has the following objectives:

- **Drive the ICDS programme sharply towards nutrition and health outcomes:** Support the frontline worker by reducing her workload and use data to guide the programme management hierarchy in supporting the Sevika to remain focused on actions that yield desired nutrition and health outcomes.

- **Maximise accountability within ICDS in the implementation of Supplementary Nutrition Programme (SNP) and other key functions:** Establish monitoring mechanisms that would engender an environment where frontline workers carry out their roles and responsibilities efficiently and leakages are minimised. Involve community along with ICDS supervisory staff to create accountability.

To achieve the above objectives, IPMS consists of four components:

1. **Sevika self-reporting:** Sevikas report their daily activities at the AWC and track the activities of participating children via a mobile device.

2. **LS / CDPO Monitoring (“top-down” monitoring):** LS’ and CDPOs collect regular and verifiable data on AWC performance and beneficiary health via smartphone.

3. **Community grievance redressal and feedback (“bottom-up” monitoring):** Beneficiaries and community members register and track their grievances and feedback via call centre.

4. **Sevika-beneficiary interactions:** Sevikas track home visits to pregnant women and lactating mothers, and beneficiary health, using basic mobile phones.

Enhanced data collection is only useful if it is actionable and accessible to decision-makers and community members. An online dashboard will generate interactive, easy-to-use and analytically rich digital reports to facilitate appropriate action by policymakers and beneficiaries to improve frontline worker performance.

This report highlights the first three components of IPMS: Sevika self-reporting, LS/CDPO monitoring, and community grievance redressal and feedback. The fourth component – Sevika-beneficiary interactions – has already been fully designed through a pilot in Saharsa, Bihar and is not discussed in this document.

**Purpose and structure of this report**

The primary purpose of this report is to describe the design and basic technical specifications of IPMS, so it can serve as an implementation resource for DSW, ICDS, and BTAST. This document will serve as an initial roadmap for the IPMS interventions,

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7 The four districts are Madhubani, Supaul, Araria, and Kishanganj.
8 IPMS Project Team, “IPMS Concept Note,” February 2014.
9 Note that the core purpose of this document is not to detail the conceptual arguments for why IPMS will address the shortcomings of ICDS performance management, though portions of the report do touch on this. An in-depth examination of the theory of change and theoretical arguments for why IPMS will improve ICDS is beyond the scope of the present report.
but should be considered a living document that will be refined as piloting of IPMS begins. This report is organised as follows:

Chapter 2 reviews the relevant literature on performance management and monitoring systems to improve public service delivery. Chapter 3 and 0 detail the top-down and bottom-up approaches, respectively. Chapter 5 outlines guiding principles for how the IPMS platform should present information in order to ensure transparency and dissemination of data, and Chapter 6 offers recommendations on how the data should be used to manage and improve the performance of ICDS staff. Chapter 7 provides concluding thoughts. Extensive technical notes are provided in the Appendices.

Throughout the document, we hope to answer the following key questions for DSW and ICDS in order to guide the design and implementation of IPMS:

1. **Information**: What information should be collected to enable improved service delivery? How can this information be made accurate and verifiable?

2. **Reports**: What information will be disseminated to each stakeholder, with what frequency, and through what medium? What are the guiding principles behind the construction of a data reporting system?

3. **Actions**: What actions should ICDS take based on the information generated by IPMS, and maximise improvement?

4. **Technical operational requirements**: What technical specifications should be included in IPMS and what selection criteria should be used to choose the technology partner?

This report is based on extensive qualitative research and inputs and experience of the IPMS Project Team. We conducted a literature review of similar interventions to ensure no key factors are overlooked and to get a good understanding of what works and does not work. Secondly, we conducted interviews with key government stakeholders at all levels, including senior DSW officials and frontline workers; community members; and technical experts to guide our recommendations for the operational and functional details of IPMS. Finally, we observed technology-based monitoring pilots and operational call centres to understand ground-level operations. A list of our interviews and observations is listed in Appendix 2.
CHAPTER 2: LITERATURE REVIEW

A review of technology-based performance management and monitoring initiatives suggests that service delivery can be improved with appropriate rewards and punishments. Nowadays, the review also indicates that previous performance management efforts often failed when they did not account for the complex accountability relationships between government officials, frontline workers, politicians, and community members.

The literature demonstrates three broad trends: (1) the potential for mobile data collection tools to improve data quality; (2) the need for systematic incentives to act on the data generated; and (3) the potential for informing frontline workers and community members of frontline worker performance to improve service delivery.

Mobile devices accompanied by effective verification mechanisms, can enhance government’s knowledge of programme implementation. Mobile technology has expanded possibilities for rapid and high quality data collection. A meta-analysis of recent studies concludes that mobile technology has boosted both quality and quantity of field data: “[the] use of mobile technology can potentially enhance the capacity of CHWs [Community Health Workers] to take on new and challenging tasks, particularly collecting complete, timely and accurate health data for field-based research and providing health care services in the field with fewer errors and higher adherence to protocols.”

High-quality performance data is necessary, but insufficient to improve service delivery. A complimenting incentive structure is necessary. Extensive literature suggests that incentives – both financial and non-monetary rewards, and punitive incentives – must be provided if improved data collection is to lead to improved service delivery. For example, a field trial in Zambia demonstrated that non-financial incentives like community recognition for excellence, resulted in improved community worker performance, while there was no effect of financial rewards. This also compares to a study in Orissa, where CHWs were largely motivated by “the desire to gain social recognition.”

Community involvement in monitoring efforts has also yielded positive effects. A study that compared head-to-head the effect of top-down monitoring, community oversight (“bottom-up monitoring”) and a package of both found that it was the combined package that most successfully reduced leakage in village funds. A study...

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10 A detailed summary of past programmes is listed in Appendix 3.
14 Oiklen, Monitoring Corruption.
in Uganda also concluded similarly.\textsuperscript{15}

Even in India, a study in rural Maharashtra found suggestive evidence that when the local community was involved in gauging the performance of health workers, health workers’ performance improved, contributing to better community health indicators.\textsuperscript{16}

Beyond community involvement, self-reports can also result in improved employee performance. Literature also evidences that employees use data collected to modify their own actions. A programme in Tanzania found that reminding CHWs of their own overdue visits via SMS before advising supervisors of their poor performance reduced the occurrence of overdue visits by 85\%.\textsuperscript{17}

Learning from previous interventions, IPMS will combine verifiable data collection, appropriate incentives and data dissemination. The initiative will use the technology platform to strengthen accountability channels by providing high quality and regular data on frontline worker performance. An experimental impact evaluation of IPMS will determine whether such a system can improve accountability and implementation of ICDS, and, in turn, nutrition outcomes in rural Bihar.


CHAPTER 3: TOP-DOWN MONITORING

IPMS’ “top-down monitoring” intervention adopts a two-tiered approach to improve the quality and frequency of data on frontline worker performance: First, senior officials (LS' and CDPOs) will monitor the performance of frontline workers using smartphones; and second, frontline workers will report their own performance using phones. This chapter discusses both of these components and concludes by suggesting a technology vendor management plan: selection criteria, an implementation plan, and payment policy.

LS/CDPO monitoring

As shown in Figure 1, ICDS has an extensive reporting structure. Sevikas' performance is supervised by Lady Supervisors (LS’). Each LS monitors approximately 25 AWCs, and is required to visit all of them each month. Around five LS’, in turn, report to a Child Development Project Officer (CDPO), who is expected to oversee all the AWCs in a block and prepare quarterly, half-yearly and yearly Monthly Progress Reports. The CDPO answers to the District Programme Officer (DPO), who is managed by the Directorate of ICDS.

Despite such a hierarchy, monitoring and supervision is irregular. Our quantitative assessment found that only 21% of Sevikas had been visited by a CDPO in a quarter, and LS’ conducted less than half of their required visits. Our interviews and field visits reveal three major areas of improvement:

• Monitoring by LS’ and CDPOs was not happening as directed.
• The data collected was not verifiable.
• Action was not taken on the basis of the data collected.

These issues are addressed by the IPMS in the following manner:

1. Smartphones for LS’ and CDPOs: Android-based smartphones containing an intuitive and multilingual survey will be provided. This can improve the frequency and quality of monitoring and boost LS’ and CDPOs ability to contribute real-time information.

2. User-Friendly, time-stamped Surveys: The surveys should be short and record key questions such as whether a centre was open, hot meals were served, and preschool activities were conducted, along with the nutritional status of randomly sampled beneficiaries. These surveys will have tamper-proof time and date stamps, GPS tags, and will include photographs of the AWC, thus making it difficult for...
LS’ and CDPOs to record fake monitoring visits. These features also make the data collected verifiable.

3. Accessible IPMS Server for Data Storage and Dissemination: The survey data will be stored centrally on an IPMS server and will automatically generate reports for senior ICDS officials to identify bottlenecks in the functioning of the AWC system. A separate web-based application will facilitate LS’ and CDPOs’ ability to review their own performance as well as that of AWCs within their respective catchment areas. See Appendix 4 for a comprehensive list of technical specifications.

Sevika self-reporting

In addition to better monitoring, service delivery can be improved by empowering Sevikas to better understand and track their own performance. We recommend the provision of feature phones to Sevikas, that allow them to track their performance and act as an additional data source in case of disputes between Sevikas and LS’.

The reporting functionality of these feature phones will be similar to that of LS/CDPO monitoring and is detailed in Appendix 6. The phones will be preloaded with a simple questionnaire about the day-to-day activities at the AWC,19 featuring questions on staff and student attendance, including timestamps and photographs. As with the LS/CDPO monitoring application, data collected will be transmitted in real-time and can then be used to generate reports to prompt appropriate actions by supervising ICDS officials.

Vendor management

IPMS will outsource the task of application development to a qualified vendor. Given the crucial role that the vendor plays in the implementation of this scheme, we suggest a competitive vendor selection process that heavily weights demonstrated ability to create a user-friendly and intuitive system over other factors.

Selection criteria

The vendor should be selected based on its demonstrated skills and experience developing high-quality, user-friendly mobile applications for use in the social sector. The vendor should be prepared to collaborate with vendors selected for other tasks, including the call centre.

Implementation plan

A detailed implementation plan should chart the timeline of all activities required to roll out this component: procurement of phones, SIM cards, and airtime plans; software development; setup of the IPMS server and reporting patterns; and

19 Data regarding Sevikas’ other functions, such as home visits and THR delivery, will be received using the Sevika-beneficiary interaction application.
troubleshooting mechanisms. We emphasise the importance of training and monitoring at each level to ensure programmatic success. The final implementation strategy will be determined by the vendor, BTAST, and ICDS.\textsuperscript{20}

Payment policy

Payment should be offered in tranches to incentivise active participation in all steps, not just software development. The payment policy should be output-oriented. For example, the vendor could receive partial compensation on the basis of response from the application users. See Appendix 8 for more details.

\textsuperscript{20} See Appendix 7 for a recommended implementation plan, and Appendix 8 for a proposed payment plan.
CHAPTER 4: BOTTOM-UP MONITORING

It is critical to maintain channels of accountability between the Sevikas and beneficiaries. Increasing accountability within the formal bureaucratic structure is just one approach to improving service delivery, and may have potential shortcomings (such as LS’ and Sevikas colluding). Thus, IPMS will have a “bottom-up monitoring” component to cement communication lines between beneficiaries and ICDS officials via a call centre, using two mechanisms:

- Informing beneficiaries of their rights and entitlements under ICDS
- Affording beneficiaries the ability to report AWC performance and lodge complaints in a data-driven complaint resolution system.

The chapter discusses these aforementioned mechanisms, followed by an overview of the technical specifications of the call centre and a vendor management plan.

Information collection: performance and complaints

The ICDS’ grievance redressal system is in need of upgradation and improvements. According to Dr. Chandani, Additional Director of ICDS Bihar, a short-staffed grievance resolution team in Patna is presently unable to address the quantity of complaints received by mail, phone, and other state-level grievance redressal offices. Instead, grievances are forwarded to the respective District Magistrates, who have many other priorities and are often unable to address the complaints. In addition, field interviews suggest that many beneficiaries either do not know how to or are afraid to lodge complaints about ICDS performance.

The IPMS call centre can help ICDS capture the pent-up demand for communication lines, and understand service delivery by taking advantage of reasonable phone coverage in Bihar. The call centre will collect AWC performance information from beneficiaries, and complaints from beneficiaries and ICDS officials. When asked, call centre agents can also provide callers with information about their AWCs.

The call-centre provides an efficient means to enable ICDS officials to address complaints, via a user-friendly tracking system. Once a grievance is received in the IPMS database, an officer will be assigned and asked to submit a report on the enquiry. The system will remind the officer several times to ensure timely reporting. Once the report is received, the complainant will be contacted to know whether she is satisfied before closing the complaint. If the complaint is not closed, the process of escalation may continue as per Appendix 11. If the chain of escalation ends, senior officers should close the complaint on the basis of written agreement by related beneficiaries or officers.

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As suggested by the Project Team, a “grievance dashboard,” hosted on a local server but accessible online through IPMS, could let beneficiaries, civil society organizations and ICDS officials track and update grievances online.\textsuperscript{22}

**Information calls to beneficiaries**

The ICDS can achieve improved service delivery, by increased community pressure for the supply of services. Increased community awareness is therefore essential. Presently, ICDS places posters at AWCs to inform beneficiaries of their entitlements. Yet during spot-checks, we found that posters were often absent from AWCs,\textsuperscript{23} and even when they were displayed, they often failed to reflect all information that should be disseminated to beneficiaries. It is thus unlikely that all information reaches those who need it. A call centre-based campaign will complement existing efforts to increase awareness of entitlements among beneficiaries.

The call centre can function in two ways:

1. **Live operator:** Beneficiaries receive an SMS with a phone number they can call to inquire about their entitlements. Their call is immediately connected to an agent who answers queries.

2. **Pre-recorded sound bites:** Based on the caller’s query type (determined via IVRS), the caller receives a pre-recorded message with an initial response. The caller can then opt to speak with an agent if her query remains unresolved.

While call flows are limited, we recommend that IPMS use option 1, to best tailor responses to beneficiaries’ needs. As flow increases, staffing constraints may necessitate moving to option 2. Training and staffing will play a pivotal role in establishing the early reputation and continued efficacy of the call centre. We recommend the following measures to ensure maximum information distribution:

1. Comprehensive training should be carefully mapped. Refresher courses should be offered as necessary with the help of state-level ICDS officers.

2. Call centre agents should be dedicated to conducting outbound calls to provide information to registered beneficiaries about their rights and entitlements.

3. Repetitive reminders can also be set using automated outbound calls. For example, the system can send reminders to beneficiaries to collect their THR every month. By randomly selecting at least three beneficiaries per village to receive a call, it may be possible that other beneficiaries come to know through word-of-mouth. If so, the system could augment the number of beneficiaries who exercise their rights and entitlements.

\textsuperscript{22} See Appendix 9 for a detailed task list.

\textsuperscript{23} Sevikas claimed the posters had deteriorated, or that there was not enough space.
Specifications of the call centre

Successful implementation requires careful thought about both human resources and software. Staff at the call centre must speak a diverse array of Bihar’s local languages and dialects to reflect the diverse linguistic background of potential beneficiaries. The centre should be based in Patna, and should be exclusively dedicated to IPMS.

The centre’s software should be designed to efficiently utilise staff resources. Abhishek Arnav, Project Manager for the Rural Development Department’s flagship monitoring programme, “e-shakti,” suggested that the centre incorporate an Interactive Voice Response System (IVRS), coupled with an Automated Call Distribution (ACD) system, to automatically channel calls to the appropriate operator according to language selection and the reason for the call. The software should record audio for quality control purposes, and function on a Virtual Private Network. Finally, it should have the capability to make calls, receive calls, and output reports.

Next, the centre should respect the financial constraints of beneficiaries by utilizing a “missed call system.” This system requires beneficiaries to register by dialling a central number, after which the software will send a confirmation and automatically return the beneficiary’s call. Because the caller – and not the recipient – pays for airtime, IPMS will foot the costs. Our research suggests that a missed-call system is more cost-effective than a toll-free number.

A primary advantage of the call centre system is its ability to streamline data flows. Experts recommend developing dedicated Customer Relations Management (CRM) software to assist in this process. CRM software categorises data from beneficiaries and government officials; makes calls and sends emails and SMS messages; and integrates with other IPMS databases, smoothing the functioning of the call centre. Further, the centre should have a performance management system that manages the workload of the agents according to their performance and appropriately manages the number of operators as per the call traffic.

Vendor management

Based on our discussions with the Secretary of DSW and the PT, we highlight some guiding principles for the vendor selection of bottom-up monitoring.

Selection criteria

The success of IPMS relies on selecting a highly skilled and experienced vendor. The vendor should have experience in developing similar user-friendly call centre platforms such as CRMs, IVRS, ACDs, and Computer Telephony Integration. Further, the vendor

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24. One expert recommended the use of a Virtual Private Network (VPN) to facilitate operators’ online data access without permitting them to access outside websites.
25. We also considered the option of a toll-free number, but a missed call system is much cheaper.
27. See Appendix 10 for detailed technical specifications, as discussed with PT. Also, see Appendix 13 for infrastructural specifications of the call centre.
should be willing to collaborate with other vendors selected for IPMS to help create an integrated IPMS platform. ICDS should prioritise selection based on demonstrated ability to create a user-friendly call centre platform that generates actionable data.

Implementation plan\textsuperscript{28}

Successful implementation requires advance planning to coordinate the many moving pieces related to the call centre. The vendor, in consultation with the ICDS, should prepare a detailed plan that covers hiring and training call centre staff, developing the required software and hardware systems, integration with the IPMS dashboard, and procuring and marketing the phone number.

Payment policy\textsuperscript{29}

This payment policy is aimed at treating the vendor as a potential collaborator and stakeholder. Based on conversations with field experts,\textsuperscript{30} we recommend a “pay for performance” policy, with a monitoring system for fraudulent calls and complaints. The government will directly cover the costs (fixed and operational). However, the vendor will be incentivised for successful call centre functioning, with a bonus above the cost of infrastructure and pre-established operational costs. It should be defined by the number of grievances solved over time, number of successful outbound calls, ability to attract inbound calls, and number of unique registered beneficiaries. In addition, the payment could be contingent on a third-party evaluation.

\textsuperscript{28} See Appendix 14 for a detailed implementation plan.
\textsuperscript{29} The payment policy is further detailed in Appendix 12.
\textsuperscript{30} GlodyneTechnoserve Ltd., CSM Technologies, and SERCO.
CHAPTER 5: REPORTING, TRANSPARENCY, AND OPEN DATA

Once data collection is improved, ICDS will have an abundance of information on AWC, Sevika, LS and CDPO performance in Bihar. Making that evidence actionable entails building effective reporting and information dissemination measures. IPMS incorporates four reporting channels:

1. IPMS online dashboard;
2. Outbound calls to beneficiaries and community members;
3. Supervisory mobile applications for LS’ and CDPOs;
4. Email summaries to CDPOs and other senior officers about block/district performance.

This chapter elaborates on the first channel. The second is covered in the previous chapter. The third channel – supervisory mobile applications for LS’ and CDPOs – is a simple web-based application that displays performance reports generated by IPMS dashboard; it is currently being piloted in Saharsa, Bihar. The fourth option – email summaries – can be incorporated into the IPMS dashboard by automatically sending appropriate reports to concerned ICDS officials.

IPMS dashboard

The dashboard is IPMS’ central platform for user queries. It will cater to ICDS and DSW officials, as well as the general public and civil society organizations. Reports can be generated either by the user using a real-time online report generating platform, or emailed manually to another recipient.

Technical features

The PT recommends that the following technical features be included in the dashboard:

• Customisation of reports: The dashboard will include built-in templates and a query builder for more complex reports.
• Security: The dashboard should allow public access to aggregate data, but require user authentication for sensitive information.
• Appearance: The dashboard should be easy and attractive to use.
• Editing recorded data: Only administrators should have access to raw data, provided in a read-only format. No user should be able to edit the raw data.
• Multi-format support: The dashboard should output reports in standard formats,
such as PDF, csv, xls, doc, etc.

- **Compatibility**: The dashboard should facilitate comparison of data from various sources – call centre, ICDS officials, and others – by geographic area.

- **Data availability**: Different types of users should have different access restrictions. For example, the LS – a junior officer – should only be able to view a subset of information available to the more senior CDPO.

- **Presentation**: The dashboard should present collected indicators in tables, graphs, time trends, and color-coded maps.\(^{31}\) Figure 2 provides one possibility.

![Dashboard: IPMS](http://dashboard.ipmsicits.gov.in)

**Figure 2. Sample report generated by the IPMS dashboard**

**User experience**

We recommend a clear, efficient presentation of data, aimed at simplifying user experience. The site map of the recommended interface is described below and diagrammed in Figure 3. Appendix 16 diagrams the potential user interface of tabs 1-3.

1. **Home**: Presents a slideshow of statewide data in maps and graphs.

2. **Official login**: User-authenticated tab provides detailed information to officials regarding AWC performance. Officials can download premade reports and also generate custom reports.

3. **Public access point**: Offers a query builder for basic AWC performance data.

4. **Community grievance redressal**: This tab serves two purposes. First, ICDS...
officials can track and upgrade the status of a grievance and download call centre reports using a secure login. Second, members of the public can track their own complaints using unique ticket numbers. The call centre vendor should develop this page.

Figure 3. IPMS dashboard site map
CHAPTER 6: TRIGGERS AND ACTIONS TO ACT ON IPMS-GENERATED DATA

IPMS will result in the collection and dissemination of hitherto unprecedented amounts of data. A mechanism to complete the loop, from evidence to action, is therefore required and hinges on timely and adequate data collection. However, data collection is insufficient to change outcomes, if unaccompanied by any action regarding that data. Accordingly, service augmentation must be rewarded and the lack of it must be penalised. This chapter details a structure to assign rewards and punishments (actions) based on the myriad data collected through IPMS (triggers). Together, we call this a triggers and actions framework.

Score-Based Standardised Incentives

An incentive system linked to IPMS needs standardised awards and punishments, constant improvements, defined evaluative metrics, automated actions, historical data use, and honest and participatory incentive structures.

Accordingly, the triggers and actions framework will contain the following:

1. **Point system**: A point system is proposed to generate standardised criteria for awards and punishments. Such a system enables automated actions, and simplifies decision-making, as there will be a pre-defined set of actions based on the points that each person receives. It also creates a level playing field for evaluating worker performance and guarantees that any pre-existing status quo will not be worsened.

2. **Absolute and relative thresholds**: Absolute thresholds specify a minimum standard of quality that every worker is required to uphold. Those scoring below the required minimum will be penalised. In addition, constant improvement must also be incentivised and a relative thresholds based on a percentile system is used to compare employee performance.

3. **Top down, bottom-up and self-reporting components**: Just like the key components of IPMS, the point system works best if it incorporates points assigned to top-down, bottom-up and employee assessments. Accordingly, the triggers and action framework will incorporate all three data sources – LS, Sevika and beneficiaries – to ensure that the system is both honest (cross-verify reports) and participatory. Past submissions of the worker will also be evaluated, to track and incentivise rapid improvements.
Example – Triggers and Actions for Sevikas

The triggers and actions framework is explained here using a fictitious framework that can be set up for Sevikas. This general framework can also be applied to all other levels of employees. Note this example is purely for explanation purposes and is not an actual proposal. The final point system and action-set should be based on consultations with all relevant stakeholders at DSW and ICDS.

Assume each Sevika begins with 100 points. Thirty points each are allocated for data from top-down monitoring, bottom-up monitoring, and Sevika-self-reports. The final 10 points are allocated based on an average of the past reports. The distribution of points from the different data sources can be as detailed below.

Top down: 30 points are assigned for LS monitoring reports in the beginning of the quarter. LS’ must make three quarterly visits, assessing the Sevika for 10 points each visit. Points are allocated on the basis of a standardised form filled by each LS on their mobile application. An example of how the ten points can be allocated based on variety of performance metrics is listed in Appendix 18. In case the Sevika received less than 3 visits in a quarter, she is awarded a full 10 points for those visits.

Bottom up: Another 30 points are assigned for beneficiary reports. For each negative report from a beneficiary, the call centre will try to determine the accuracy of the same using LS monitoring data and Sevika Self-Reporting data. If it seems that the call is genuine, then the Sevika loses one point for each such call. No more than 5 negative points can be added on one day and each unique phone number can only complain once a quarter. Call centres will also contact beneficiaries each week and solicit feedback, which can also be used towards determining negative points, if any.

Employee reports and improvement: Sevikas’ own reporting data using SSR and SBI is also assigned 30 points. Non-submission of a report on one day leads to a negative point. If the report is only partially submitted, half a point is deducted. To accommodate for any technological glitches or other problems that are beyond the Sevika’s control, negative points will only kick in after 10 days of non-submission.

Finally, to promote steady learning and improvement, 10 points are awarded to the Sevika based on her average of previous quarterly reports. This ensures that previous performance remains part of institutional memory, albeit a low proportion of the overall score.

Rewards and punitive actions on the absolute scale will be as per the following:

- If a Sevika gets between 0-20 points, she will be issued a show cause notice
- If she gets between 20.1-50 points, she will get a letter of warning.

Rewards and punitive action based on relative scores can be based on the table below.
<table>
<thead>
<tr>
<th>Percentile</th>
<th>Administrative Level</th>
<th>Periodicity</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 5</td>
<td>Block</td>
<td>Quarterly</td>
<td>Letter of warning from DPO</td>
</tr>
<tr>
<td>5.1 to 10</td>
<td>Block</td>
<td>Quarterly</td>
<td>Letter of warning from CDPO</td>
</tr>
<tr>
<td>90 to 94.9</td>
<td>Block</td>
<td>Quarterly</td>
<td>Letter of appreciation from CDPO</td>
</tr>
<tr>
<td>95 to 100</td>
<td>Block</td>
<td>Quarterly</td>
<td>Letter of appreciation from DPO</td>
</tr>
<tr>
<td>98-100</td>
<td>Block</td>
<td>Annually</td>
<td>Sevika of the Block Awards</td>
</tr>
<tr>
<td>95 to 97.9</td>
<td>District</td>
<td>Quarterly</td>
<td>Certificate of Distinction by DPO</td>
</tr>
<tr>
<td>98 to 100</td>
<td>District</td>
<td>Quarterly</td>
<td>Sevika of The Quarter Award</td>
</tr>
<tr>
<td>99 to 100</td>
<td>District</td>
<td>Annually</td>
<td>Honoured at Independence Day at District Function</td>
</tr>
<tr>
<td>99.9 to 100</td>
<td>State</td>
<td>Annually</td>
<td>Honoured at Independence Day at State Function</td>
</tr>
</tbody>
</table>
CHAPTER 7: CONCLUSION

The ICDS’ extensive coverage, mandate and institutional framework, are a good leverage to comprehensively address Bihar’s child health and nutritional indicators. However, the system faces demand and supply issues that likely lower its impact. Poor employee monitoring, inadequate Sevika-beneficiary relationships, and inefficient grievance redressal systems, all contribute towards supply and demand gaps. In addition, the ICDS is also in need of improving its accountability framework between employees, supervisors and beneficiaries. Studies from around the world, have demonstrated the role of technology-reliant monitoring systems, in improving accountability and augmented service delivery.

The IPMS is envisioned as an intervention aimed towards collection of accurate data to address the ICDS’ supply and demand related shortcomings. The key components of IPMS – top down monitoring, bottom-up monitoring, Sevika self-reporting and Sevika beneficiary interactions, are capable of generating large volumes of data. This system of triangulation between data sources also ensures that data is accurate and nuanced. Online dashboards and other reporting mechanism will facilitate managerial decision making by Block, District, and State officials.

Any large-scale data collection effort, if not accompanied with the correct incentives can lead to its eventual disuse. The system of triggers and automated actions discussed in this report is therefore important for the success of IPMS.

Finally, the complex nature of this intervention calls for a systematic and rigorous evaluation to understand both the impact of IPMS on nutrition and ICDS performance and the underlying mechanisms that led to the impact (or the lack thereof). Ideally, each of the components of IPMS will be evaluated separately to identify which components are more effective than others.

IPMS can revolutionise the way Bihar seeks to ensure accountability and improve nutritional goals. There are therefore endless administrative solutions that can spring from IPMS that are applicable to similar systems elsewhere both within and beyond nutrition delivery. We hope that this design document provides the appropriate stepping stone to achieve this vision, and guides implementers in achieving IPMS’ goals.
IDEAS FOR GROWTH

The International Growth Centre (IGC) aims to promote sustainable growth in developing countries by providing demand-led policy advice based on frontier research. The IGC directs a global network of world-leading researchers and in-country teams in Africa and South Asia and works closely with partner governments to generate high quality research and policy advice on key growth challenges. Based at LSE and in partnership with the University of Oxford, the IGC is funded by the UK Department for International Development (DfID).