THE UTKRISHT IMPACT BOND.

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IMPROVING MATERNAL AND NEWBORN HEALTH CARE IN RAJASTHAN, INDIA

Final Report

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Contents

Figures

Tables

Abbreviations

CMS	Catalyst Management Services
DIB	Development Impact Bond
FOGSI	Federation of Obstetric and Gynaecological Societies of India
HLFPPT	Hindustan Latex Family Planning Promotion Trust
ICMR	Indian Council of Medical Research
IRR	internal rate of return
ISC	Implementation Steering Committee
KPI	Key Performance Indicator
MBBS	Bachelor of Medicine, Bachelor of Surgery
MoHFW	Ministry of Health and Family Welfare, Government of India
MoU	Memorandum of Understanding
NABH	National Accreditation Board for Hospitals and Healthcare Providers
PMIS	Project Management Information System
PSI	Population Services International
QI	Quality Improvement
SHCO	Small Healthcare Organization
SP	Service Provider
UBS-OF	UBS Optimus Foundation
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

1. Executive Summary

The Utkrisht Development Impact Bond (DIB) was an innovative, successful, outcomes-based funding program to improve quality of maternal and newborn health in the private sector of Rajasthan, India. The Utkrisht program brought together experts in quality improvement (QI), outcome funders, and a social investor to deliver this impact bond. Central to its design was that outcome funders only pay when results are achieved. After three years of implementation, the program improved the quality of maternal and newborn care in 405 small private healthcare facilities throughout Rajasthan, improving the delivery of care to an estimated over 450,000 mothers and newborns. The Utkrisht program judged quality based on a joint quality standard comprised of both NABH (National Accreditation Board for Hospitals and Healthcare Providers) and FOGSI (Federation of Obstetric and Gynaecological Societies of India) standards. Consistent with its DIB design, The Utkrisht program also delivered a financial return for both its investor and implementation team, in addition to results above and beyond the baseline target.

The two Service Providers (SPs) followed a similar process to improve the quality of care in enrolled healthcare facilities. They signed memorandums of understanding (MOUs) and conducted a baseline assessment that informed a tailored improvement plan for each facility. From there, customized trainings and capacity building worked towards specific NABH and Manyata quality standards. During this time the SPs provided extensive customized support, both in person and remotely, to help facility staff integrate the learnings into their daily work routines and clinical practices. SP staff also supported the facilities' data collection practices and conducted mock assessments in preparation for verification or certification assessments.

The two Service Providers (SP) achieved different results. Hindustan Latex Family Planning Promotion Trust (HLFPPT) supported 236 facilities to meet quality standards, at an average cost of USD 12,314 per facility. Population Services International (PSI) supported 169 facilities to meet quality standards, but at an average cost of almost USD 17,196 per facility. These differences can be attributed to overhead costs of a domestic versus international organization; staffing levels and attrition; and motivation.

Achievement of these results entailed a focus on meeting quality standards at enrolled facilities while continuously assessing adaptations to achieve the results. This adaptive management was facilitated by a few factors. Continuous data collection and monitoring provided early detection of emerging issues, such as changes in the volume of births happening in private facilities. This allowed the governing committee to consider adaptations and choose the most appropriate path forward. The project's governance structure provided a forum for considering, debating, and approving any changes to the design or verification process. Participation from each partner organization meant that differing perspectives were considered and aligned on decisions. The strong commitment of each partner organization led to high and consistent participation in this governance process.

The COVID-19 pandemic emerged during the second of the three years of the Utkrisht program, and the largest COVID-19 wave to date hit India as The Utkrisht program was set to end. COVID-19 presented a significant challenge to the implementation of the quality improvement work and

verification of results, since in-person visits to enrolled facilities was not possible. It also disrupted the planned schedule of results. Nonetheless, the flexibility inherent to an impact bond allowed the implementation team to pivot to first remote, then hybrid, ways of working, enabling it to re-set after the initial disruption.

The Utkrisht program was envisioned from the start as a learning DIB. To that end, this report summarizes the lessons learned, both in terms of the quality improvement (QI) work for mothers and newborns, and the impact bond mechanism. These learnings can inform future impact bonds and contribute to the development of this innovative mechanism. The Utkrisht program succeeded in one of the essential tenets of an impact bond: it shifted the risk of not achieving outcomes to the investor, and outcome payers did not pay when outcomes were not achieved.

Learnings from the quality improvement work highlighted the importance of the commitment of senior leadership – such as the owner and gynaecologist – within the health facilities. Sustainability of QI work is not guaranteed; certification assessments show a snapshot in time, but one which, hopefully, is renewed on a regular basis. COVID-19, causing high attrition at facilities and forcing remote assessments before they were field-tested, further adds to the uncertainty around sustainability.

While quality standards were verified during The Utkrisht program, health impacts were not. All partners are interested in the ultimate reductions to maternal and newborn mortality and morbidity, and the Utkrisht program was designed based on evidence, including from global overviews[i,ii,iii,iv] and specific interventions in Bangladesh[v], India (Maharashtra)[vi], India[vii], and Sri Lanka[viii] showing that improved quality can increase such indicators.

However, direct measurement of such maternal and child health metrics was beyond the purview of this DIB. This points to a crucial tension when selecting outcome metrics in an impact bond or other pay-for-performance mechanisms: the metric chosen should be meaningful, timely, and attributable to the inputs, but not so broad as to be unanswerable by a pragmatic means of verification.

Colocation of the performance manager and the service providers in a shared Jaipur office shaped the performance management style. It allowed the performance manager to oversee the implementation in a day-to-day level of detail and enabled many site visits to and spot checks of enrolled facilities. Colocation also fostered a more collaborative relationship between the performance manager and service providers.

For the impact bond mechanism, adaptive management emerged as a key enabler of the Utkrisht program's success. This adaptive management was, in turn, made possible by detailed field data and a robust governance structure, comprised of partner organizations, that made key decisions as needed.

While the Utkrisht program was an overall success, it did not achieve maximum efficiency. HLFPPT did not fully utilize its budget, which meant it could have supported additional facilities – if there had been additional eligible facilities in Rajasthan – in achieving improved quality standards. More assertive performance management could have stimulated further

overachievement by HLFPPT within the existing budget. In addition, learnings from HLFPPT's performance could have been taken onboard by the PSI team to improve its performance.

While the Utkrisht program succeeded in many ways, one can imagine ways it could have had greater impact. One way may have been transferring resources from the lower performing SP (PSI) to the higher performing one (HLFPPT). Another is by driving the price per facility down from $18,000 per facility, in order to reach more facilities within the same resource envelope. Reducing price per facility may have been possible through economies of scale (such as lower per-unit management costs for additional facilities); gradient pricing based on quality scores rather than a pass/fail approach to QI; and alternative uses of the $1.5 million in financial surplus created by the difference between outcome funds and implementation costs.

These results and learnings contribute to the growing body of evidence on impact bond implementation, particularly in the health sector. The COVID-19 pandemic struck during implementation, providing a real-world stress test. The Utkrisht program succeeded through this stress test, enabled by implementation flexibility, willingness of the investor to continue its commitment to the programme, and implementers commitment to continue providing healthcare support during a global health crisis.

2. The Utkrisht program Design and Structure

2.1 Framework

The Utkrisht program Development Impact Bond (DIB) used innovative social financing to draw together several partners for the purposes of improving the quality of maternal and newborn healthcare in private health facilities in Rajasthan, India, with the ultimate goal of reducing maternal and newborn deaths. DIBs shift the focus of development work from inputs – such as budget or technical assistance to health facilities – to outcomes, in this case, the achievement of quality standards. As such, they are one form of performance-based contracts. DIBs also shift the risk of not achieving outcomes to an investor, and financially incentivize the implementation team to achieve greater more results. Given the number of partner organizations involved, a DIB typically requires close coordination, adaptive management, and continuous communication.

2.1.1 Quality Standards

The Utkrisht program judged quality based on a joint quality standard comprised of both NABH (National Accreditation Board for Hospitals and Healthcare Providers) and FOGSI (Federation of Obstetric and Gynaecological Societies of India) standards.

In the case of NABH, facilities had to meet Pre-Entry Level Certification standards for small healthcare organizations (SHCOs). These standards apply to all areas of the health facility, not only to maternity and newborn care. The standards are not clinical in nature, but instead, focus on documentation and processes such as standard operating procedures, signage, recordkeeping, waste disposal, etc. To pass verification at the Progressive Level, a facility had to earn at least 30% of the total points assessed in each NABH chapter. To pass verification at the Certification Level, a facility had to earn at least 50% of the total points assessed in each NABH chapter.

The Utkrisht program also used the quality standards of FOGSI's Manyata certification. Manyata's 16 clinical standards focus on antenatal, intrapartum, and postpartum care, aligned with World Health Organization and national guidelines. In contrast to NABH standards, they are solely focused on maternal and newborn care, and emphasize clinical behavior more so than NABH. To pass verification at the Progressive Level, a facility had to fully meet at least six of the 16 Manyata standards. To pass verification at the Certification Level, a facility had to fully meet at least 11 of the 16 Manyata standards.

2.1.2 Verification

The independent verification process was conducted by Mathematica and contracted by MSD for Mothers[1] on behalf of both outcome payers. Mathematica conducted six semi-annual verification "rounds." Ahead of these verification rounds, Palladium submitted to Mathematica a list of facilities – called a "ready pool" – it deemed to be at the Progressive Level or Certification Level of quality standards. Mathematica then assessed a statistically significant sample of the facilities in each ready pool to determine if their placement in that ready pool was accurate. The entire ready pool was than deemed "accurate" or "not accurate" based on the results from the subset of facilities assessed by Mathematica. The outcome payers then paid the investor for all verified results. For example, if Mathematica deemed a ready pool of 100 facilities to be "accurate" based on assessing a sample of 22 facilities, the outcome payers would pay the investor the agreed-upon price for each of those 100 facilities. For more detail on outcome payments, see Section 2.2.1.

In July 2019, the criteria for outcome payment triggers changed such that actual NABH certification or Manyata certification could be substituted in lieu of Mathematica's verification. See Section 4.2 for details.

2.1.3 Role of Partner Organizations

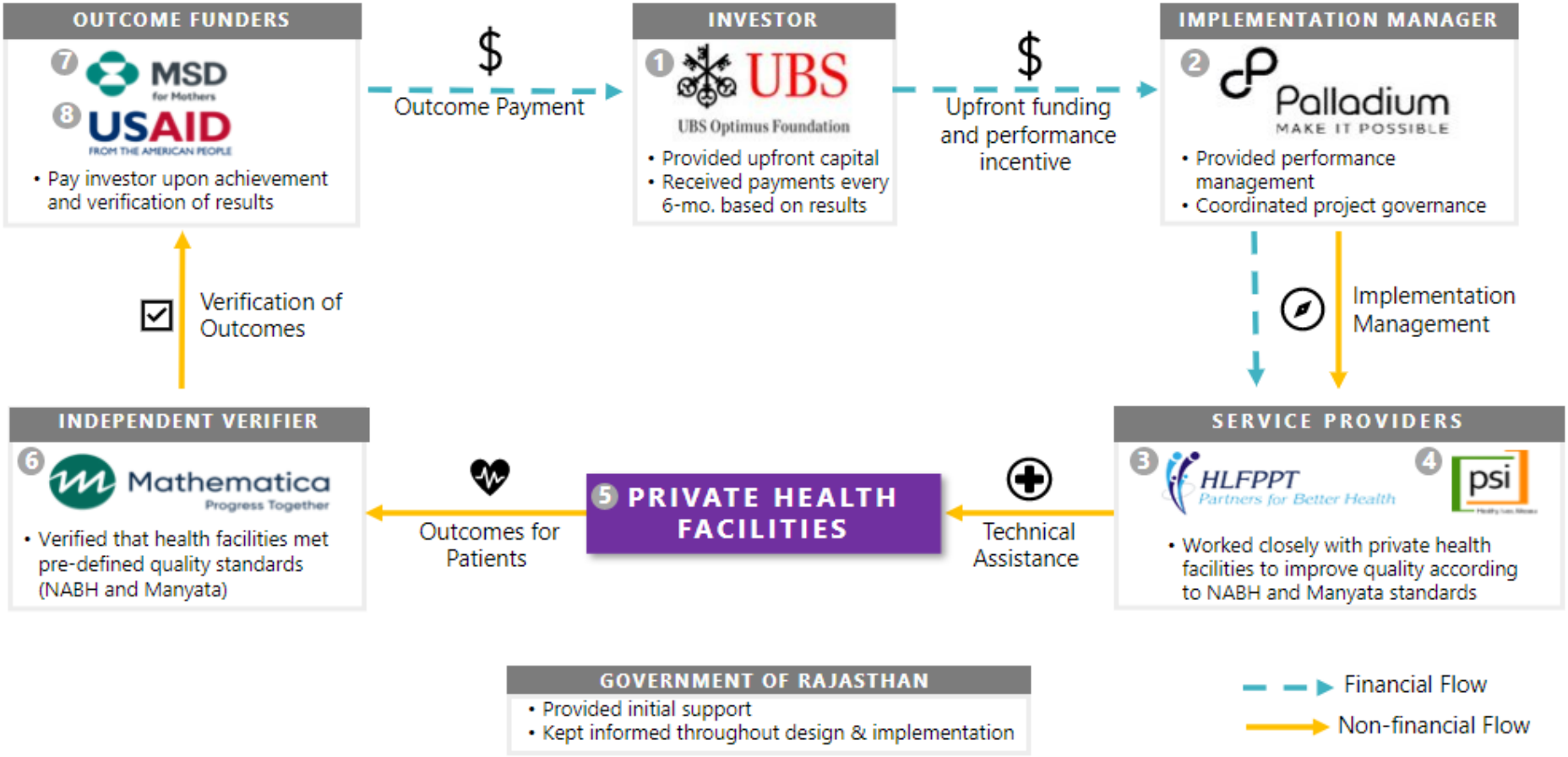
Each organization in The Utkrisht program played a unique role. **UBS Optimus Foundation (UBS-OF)** served as the investor. It provided the capital to the implementation team to improve the quality of maternal and newborn care in private health facilities. The implementation team consisted of **Palladium**, **PSI**, and **HLFPPT.** Palladium's role as implementation manager included performance management of the service providers and a coordinating role overseeing project governance. PSI and HLFPPT were the service providers; they worked closely with participating private health facilities to improve quality standards. **Mathematica** served as the independent verification agent, verifying that quality standards at the Utkrisht program health facilities met a set of pre-defined quality standards. Once quality standards at participating facilities were verified, the outcome payers paid a predetermined amount per facility to the investor, UBS-OF. The outcome payers for the Utkrisht program were the **United States Agency for International Development (USAID)** and **MSD for Mothers**. Finally, **Catalyst Management Services (CMS)** was the independent process evaluator, which observed and documented DIB processes. CMS's reports were independent from the Utkrisht program's financial model and highlight learnings that can be applied to future impact bonds.

These roles, and the flow of resources and information, are shown in

Figure 1.

[1] MSD for Mothers is MSD's global initiative to help create a world where no woman has to die while giving life. MSD for Mothers is an initiative of Merck & Co. Inc., Kenilworth, NJ, U.S.A.

Figure 1: Structure, Flows, and Partner Organizations

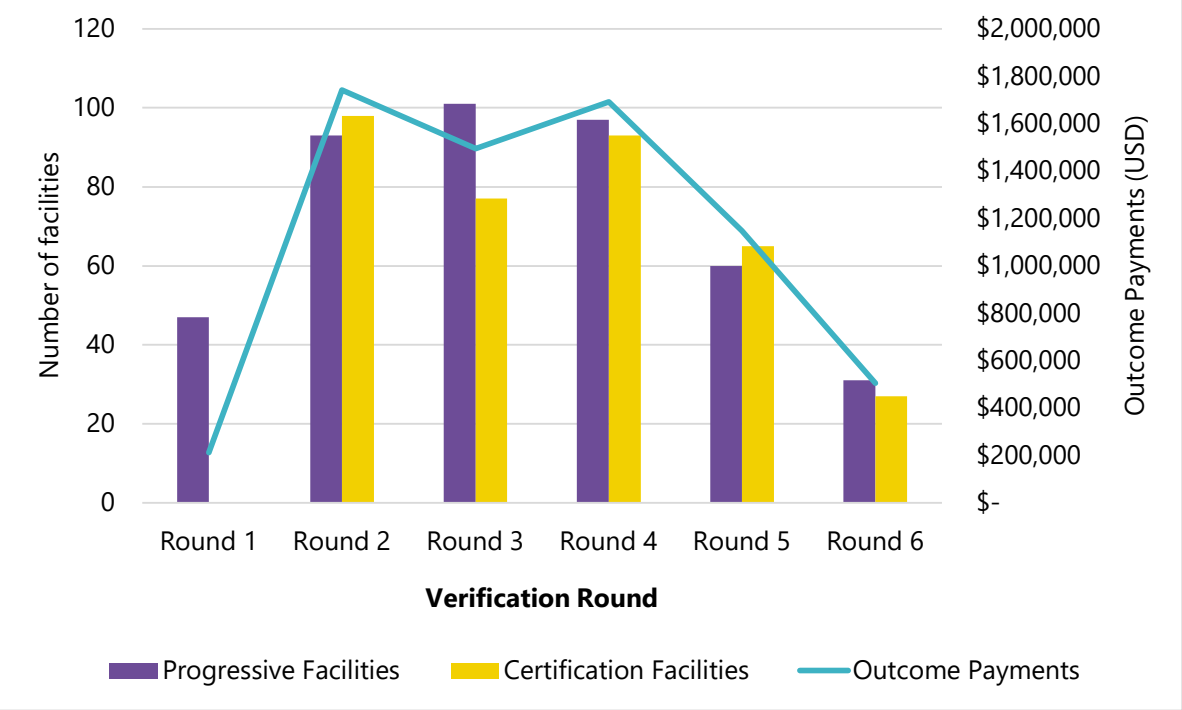


While not formally part of the Utkrisht program, the **NABH** and the **FOGSI** were both highly relevant.The Utkrisht program used their quality standards as the quality benchmarks for outcome payments.

2.1.4 Expected Pace of Accreditation

The Utkrisht program was designed to have an increase in results (facilities meeting quality standards) during the first year of project start-up, followed by a period of steady results, and then a decrease in the number of enrolled facilities as the project closed Iout. This cadence is shown in Figure 2, with the bars representing the number of facilities planned to be at Progressive and Certification Level. The line accompanying the right axis shows the size of the corresponding outcome payments envisioned before the start of project implementation.

Figure 2: Expected Results: Facilities at Quality Standards and Outcome Payments



A range of results was envisioned for the Utkrisht program, recognizing some uncertainty in the total volume of results that would be achieved during the three years of implementation. The "base case," or minimum, in Figure 2 was envisioned to be 360 facilities at Certification Level and 69 facilities at Progressive Level, or $6,790,500 in outcome funds. The maximum amount of outcome funds available was $8M.

2.2 Impact bond structure

The program was set up as a DIB with multiple goals. First, like all impact bonds, outcome payers only pay once outcomes are achieved, thus shifting the risk of not achieving results to the investor. Second, the investor is paid for the program results and can make a return, which is capped, if it manages the program successfully. Third, the implementation team are incentivized

to achieve a greater volume of results beyond the base case because doing so rewards them financially.

2.2.1 Outcome Payments

Outcome payments were set from the outset at $4,500 for the Progressive Level and $13,500 for certification facilities that had previously been paid out at the Progressive Level. This Progressive Level was established as a means of rewarding progress and to facilitate cash flow, especially in the early stages of the Project. Facilities that were not previously assessed at the Progressive Level and moved directly to the Certification Level were paid out at $18,000 each. These values were set based on analyses of service-provider costs and expected returns on investment. They were also cross-checked with costs for similar work supported by MSD for Mothers and carried out by Jhpiego.

2.2.2 Return on Investment

Under the Utkrisht program design, the investor earned a return on its capital invested. It was capped at an 8% internal rate of return (IRR), with any additional remaining outcome funds being passed on to the implementation team. In addition, the investor only kept 80% of the returns within that 8% IRR cap, with the remaining 20% being passed on to the implementation team. The final IRR depended on actual implementation costs, volume of outcome funds received, and the timing of these cashflows.

2.2.3 Implementation Team Incentive Fees

The Utkrisht program design also called for the implementation team to receive a portion of the financial returns. These financial incentives came in two forms: 20% of the investor's return (up to 8% IRR) and all returns above 8% IRR to the investor.

2.2.4 Outcome Payment Caps

A total of up to $8 million in outcome payments was available on the Utkrisht program. However, outcome payments were also subject to a margin payment cap that set a maximized annual return based on actual program costs. The margin payment cap was defined as Year 1 costs x (1.15 x1.15 x 1.15) + Year 2 costs x (1.15 x 1.15) + Year 3 costs x 1.15.

2.3 Governance

With many partner organizations implementing a complex and novel structure, governance was key to maintaining alignment and common understandings, discussing achievements and areas of concern, and making project decisions.

Table 1 shows the committees that met on a regular basis to monitor progress, address key risks, and make decisions.

Table 1: Governance Mechanisms

Committee	Frequency of Meetings	Membership	Purpose and Responsibilities
Implementation Steering Committee (ISC)	Once every six months, plus ad hoc "hot topic" meetings as needed	USAID, MSD for Mothers, UBS-OF, Palladium	Review overall project progress as per work plan Review findings by independent verifier (Mathematica) • Examine or address issues and risks including: Achievements and progress towards outcome targets • Material issues and risks and risk mitigation • Efficacy of different service provider approaches Review the change in the context, approaches, and realignment of program design and decide on amendments to DIB terms
Project Board	Quarterly, timed after submission of quarterly or semi-annual reports	UBS-OF, Palladium, PSI, HLFPPT	Monitor the overall project delivery by service providers, which included: • Progress towards outcome targets • Work plan updates and changes • Financial forecasts and variances • Material issues, risks, and risk mitigation Make recommendations to ISC
Non-Executive Advisory Committee (Later named Leadership Committee)	Annually	Members of ISC and Project Board; MD-NHM; Members from NABH, Manyata, FOGSI, government departments	Provide strategic advice and guidance on overall project Offer recommendations for internationalization and dissemination of learnings, guidance on future direction Utilize wider network to enable program to draw on latest developments in maternal and neonatal care within and beyond Rajasthan and India

Independent Verification Committee	3 meetings around verification round	USAID, MSD for Mothers, UBS-OF, Palladium	Review verification plan and process, with specific focus on: • Progress towards outcome targets • Facility sampling • Timing of verification process • Discuss verification findings Material issues, risks, and risk mitigation

2.4 Contractual Structure

A series of contracts between the partner organizations underpinned the Utkrisht program structure:

- Two outcome funder agreements between UBS-OF and USAID and MSD for Mothers that documented the terms of payment by the outcome funders to the investor based on agreed amounts per result (see Section 2.2.1) as verified by the independent verifier
- A contract between MSD for Mothers (on behalf of itself and USAID) and Mathematica, for services verifying results
- A grant agreement and a service agreement between UBS-OF and Palladium that detailed the payments to be made by UBS-OF, technical assistance and management to be provided by Palladium, and the terms of final settlement for outcomes achieved
- Two service provider agreements between Palladium and HLFPPT and PSI that documented the obligations of the parties and the services to be provided, the terms of payment of advances to service providers for the costs of service delivery, and the terms of final settlement for outcomes achieved.

These contracts provide guidance on all matters in the Utkrisht program implementation. Alignment of these contracts was key to successful implementation.

3. Field Implementation

3.1 Workflow

At the onset of implementation, the districts comprising Rajasthan state were divided between the two service providers (SPs), based largely on their respective experience in these districts. Jaipur district was divided between the SPs. The first task was to map private facilities in each district to identify eligible facilities. The Utkrisht program focused on working with small private facilities that had the minimum resources to be able to engage and sustain in the QI work (see Figure 3 for the eligibility criteria). These eligibility criteria had to be slightly adjusted from the original criteria based on the information found via mapping; see Section 4.1 for more information on that adaptation.

Figure 3: Eligibility Criteria for Facilities

1. Up to 100 beds
2. Certificate from the Pollution Control Board
3. 24/7 electricity
4. 24/7 water supply
5. Labor room
6. Operation theater
7. 3+ certified nurse-midwives
8. Full-time doctor (MBBS or gynaecologist)
9. Monthly average of 10+ deliveries
10. Willingness to participate in QI

After mapping all facilities and identifying those eligible to work with the Utkrisht program, fieldwork of the QI intervention proceeded as follows:

- **Signing memorandums of understanding (MoUs) between each eligible and interested facility and either PSI or HLFPPT:** The SPs conducted often extensive discussions with each eligible facility to explain the proposed QI work, the process to be undertaken, expectations of the facility, and the benefits of QI and certification. An interested facility provided evidence of eligibility (see Figure 3) and signed an MoU with either PSI or HLFPPT. Each enrolled facility worked exclusively with either SP.
- **Baseline assessment of quality standards:** After signing an MoU, the SPs conducted detailed assessments of each facility's baseline state for all NABH and Manyata quality standards (see Section 2.1.1). These baseline scores were shared with the respective facility's owner and gynaecologist, who had in-depth discussions with the SP staff about their facility's strengths and weaknesses, and how to initiate the QI work.
- **Training and capacity building:** The SPs customized the improvement plan for each facility based on that facility's baseline assessment scores, physical infrastructure, available resources, human resources, baseline clinical skills, and health services offered. Each facility's customized improvement plan was built on a general combined NABH and Manyata QI plan customized to each facility's needs. A core component of the plan was a series of trainings covering all NABH and Manyata topics. Initially, all QI work took place in person at the facility. However, with the onset of the COVID-19 pandemic, the work shifted first to a remote mode, and later, to a hybrid mode. For more information on COVID-19 adaptations, see Section 4.4.

- **Continuous support:** In addition to trainings, the SP teams provided extensive customized support, both in person and remotely via WhatsApp groups including SPs and facility staff, to help facility staff integrate the learnings from the QI trainings into their daily work routines and clinical practices. . The WhatsApp group chats were a valuable resource for facility staff to ask questions, and for SP staff to reinforce concepts.
- **Improved data collection: SP staff worked to strengthen data-collection and recordkeeping practices in enrolled facilities**. Improved data-collection formats, practices, and workflows were introduced, practiced, and monitored as per NABH and Manyata requirements. Data for predefined variables were also collected and submitted to the Utkrisht program as per the MoU. The SPs continuously updated the facilities' progress on all NABH and Manyata scores in the Utkrisht program's Project Management Information System (PMIS).
- **Mock assessments:** Mock assessments, performed by a combination of SP staff and NABH or Manyata assessors, were regularly carried out to monitor performance and prepare facility staff for the Utkrisht program verification, NABH assessment, or Manyata assessment.
- **Facilitating the Utkrisht program verification, NABH assessment, and Manyata assessment processes:** The implementation team supported the facilities that were assessed by Mathematica, NABH, and Manyata.

The QI processes of PSI and HLFPPT were largely similar, differing in small ways such as nomenclature and staffing structure.

At no point did any of the facilities receive any direct funding from the Utkrisht program, and the Utkrisht program did not provide any capital improvements, purchase of equipment or supplies, or payment for the participation of facility staff. The Utkrisht program provided only technical assistance to enrolled facilities. Enrolled facilities provided their staff time and made all needed purchases and upgrades from their own finances. According to Mathematica's analyses, facilities enrolled with HLFPPT spent an average of $9,656 on quality improvement during their engagement with the Utkrisht program, while facilities enrolled with PSI spent an average of $11,478.

3.2 Performance Management

One key aspect of Palladium's role as implementation manager was its management of the SPs' performance towards achieving results (numbers of facilities meeting quality standards). Palladium's
colocation in an the Utkrisht program office in Jaipur, shared with PSI and HLFPPT, significantly influenced its approach to performance management. Colocation allowed for continuous and informal conversations, development of relationships, and ongoing technical assistance from Palladium to the SPs (examples: the PMIS, implications of the DIB structure, updates to the verification process, etc.). Colocation also facilitated frequent site visits by Palladium to enrolled facilities throughout Rajasthan. It provided a hand-in-glove relationship with the SPs, as opposed to an arm's length approach that may be taken by performance managers not colocated with SPs.

Building on the improvements made following Round 2, Palladium enhanced its field visits where the team lead conducted monthly field-monitoring visits of facilities. During weekly meetings with the SPs, Palladium reviewed field observations; reviewed and analyzed data from PMIS and followed up on actions previously recommended for continued improvements. Palladium also facilitated ongoing coaching/mentoring visits by Manyata technical experts. To learn about the latest updates on NABH, Palladium's team lead attended a five-day Quality Assurance Training on NABH in December 2019.

Palladium's performance management included:

3.2.1 Weekly Review Meetings

Palladium led weekly review meetings in the Jaipur office (later moved online, due to COVID-19) with PSI and HLFPPT. During these meetings, the implementation team reviewed fieldwork with facilities, discussed upcoming SP plans, and monitored facilities' progress toward meeting quality standards. The standing meetings offered an opportunity to discuss any areas of concern, successes, or learnings from specific facilities. They also provided a forum for the implementation team to discuss ISC information needs and decisions (see Section 2.3), and any relevant issues pertaining to other stakeholders, such as FOGSI, NABH, and the government.

These weekly meetings were critical in monitoring progress and making decisions. They created an effective forum for sharing experiences, raising and discussing new ideas, and providing updates and feedback.

3.2.2 Project Management Information System and Evidence-Based Decision-Making

Palladium developed and managed a PMIS to monitor facilities' progress toward quality standards and make decisions about which facilities were ready for verification. The SPs collected data and assessed quality standards as they worked with facilities and entered it into the PMIS.

Palladium also developed a dashboard for each SP to be able to easily see relevant summary metrics for their enrolled facilities. Palladium updated each dashboard weekly and worked with PSI's and HLFPPT's data leads on data cleaning and interpretation. These dashboards had many applications: They were used to monitor each facility's progress, from baseline assessment through to verification readiness. Analyzing a facility's scores shed light on its strengths and weakness and helped form the field team's plans for next steps for each facility.

The dashboards became important tools in helping the implementation team decide which facilities were and were not ready to be placed into verification "ready pools" (see Section 2.1.2). Each facility's scores, along with qualitative observations as discussed in the weekly review meetings, were analyzed, to inform whether a facility was ready or not for verification.

Additionally, the dashboards contained information about key performance indicators (KPIs) and tracked which facilities had received NABH or Manyata certification.

Figure 4: Screenshot of PMIS Dashboard

Palladium encountered multiple challenges implementing the PMIS, all of which were overcome in the first half of the project, including:

- **Lack of data awareness and data fluency among SP field staff.** To overcome this challenge, Palladium conducted multiple trainings and provided support to SP staff on how to use the PMIS and why it was important. Palladium also provided trainings on how to use all the dashboards' features.
- **Lack of a PMIS single point of contact for each SP.** This challenge was eliminated when each SP hired a data lead to be the single point of contact. This streamlined communication with Palladium's data lead and increased the support available to SP field staff. The SPs' data leads also boosted the SPs' data-analysis capabilities.
- **Parallel data systems.** At the Project onset, SPs were collecting data in their own systems, in addition to the project-wide PMIS. Palladium trainings and the SPs hiring their own data leads eliminated this duplication of efforts.
- **Lack of data awareness and data fluency among facility staff.** The technical assistance provided in each facility included increased awareness of the importance of data and regular recordkeeping. The SPs also trained facility staff on basic data-analysis techniques so they could use the data.

3.3 Advocacy, Networking, and Communication

Advocacy, networking, and communication occurred at various levels of the Utkrisht program. When working with facilities in Rajasthan, the implementation team conducted significant awareness raising and demand generation around Manyata certification. While NABH

certification was already of interest to many facilities because it is recognized by India's Ministry of Health for health insurance reimbursement purposes, most facilities were initially unfamiliar with Manyata certification and its benefits. The implementation team focused on demand generation about Manyata certification. Tools included personal conversations with facility owners, understanding the local markets, showcasing champion facilities, and creating buzz among the obstetric community in Rajasthan. As a result, 421 facilities had obtained Manyata certification by the end of the Utkrisht program implementation.

The fact that impact bonds are complex and new, especially in the global health sector, necessitated education and awareness-raising. Palladium worked with FOGSI, the government of Rajasthan, and other institutions to increase understanding of DIBs, and to share the experiences and achievements of the Utkrisht program broadly. Understanding of DIBs was increased via print media coverage; distribution of brochures; and meetings with government officials, development partners, and health facilities. The Utkrisht program representatives also shared information in a variety of webinars and conferences, including:

- *Manyata Experience Sharing Forum,* MSD for Mothers, November 25, 2019, Mumbai.
- Jaipur OBGY Society's conference, January 3-5, 2020.
- *HP+: COVID-19 and Beyond – Is the Private Sector Part of the Solution?* Conducted by USAID on October 20, 2020.
- Series of HLFPPT webinars, February 22-28, 2021, about Quality Improvement in Manyata and NABH. Participants included representatives from FOGSI, NABH, and Utkrisht program facilities.
- *Engaging with Evidence: Lessons from the world's first maternal health development impact bond,* Government Outcomes Lab, University of Oxford, March 17, 2021.
- *Improving Private Sector Maternal Health and Neonatal Care in India through Innovative Financing,* USAID Global Health Science and Practice Technical Exchange, April 22, 2021.

4. Flexibility, Adaptation, and Innovations

An impact bond balances the rigidity of achieving set results in a set amount of time with flexibility in *how* the results are achieved. The implementation manager, as both the performance manager of the SPs' fieldwork and the owner of the DIB's governance structure, sits at the intersection of these two dynamics. As circumstances around field implementation change, sometimes adjustments need to be made to the original design. In the Utkrisht program, any proposed changes to the original design were adjudicated by the ISC (see Section 2.3). Changes to field implementation usually did not require any approval but were part of the inherent flexibility of an impact bond. Some of the examples of this adaptive management in the Utkrisht program were:

4.1 Adjusting Facility Eligibility Criteria

At the outset of the Utkrisht program, several criteria were defined for which type of small private health facilities the Utkrisht program would work with. These criteria are outlined in Figure 3, though at the outset, facilities were required to have at least 20 births per month. After mapping private health facilities in Rajasthan (see Section 3.1) and analyzing the data, Palladium realized there was an insufficient number of eligible facilities to meet the expected results (see Section 2.1.4). This shortfall was due to policy changes, as described in Figure 5 below. Following a deeper dive into the data, Palladium proposed several options for revising the eligibility criteria to increase (or ensure/) the number of eligible facilities to meet the Utkrisht program's expected results. The ISC chose to lower the minimum number of births per month from 20 to 10. The implementation team collected and reported on monthly data on births from all enrolled facilities.

Figure 5: Government Policies' Effects on Mothers' Choice of Public vs Private Facilities

Changes in the Government of Rajasthan's health policies directly impacted the private health facilities enrolled in the Utkrisht program. At the time the Utkrisht program was designed, the Bhamashah Swasthya Bima Yojana health insurance scheme paid for maternal and newborn care in private facilities impanelled with the scheme. However, the state government changed in December 2018 brought a shift away from government support of private facilities. The new administration weakened and then ended the Bhamashah Health Insurance Scheme, which meant that private facilities now had to directly charge patients for care provided. This change meant many women now sought care instead at free public facilities. Furthermore, the new administration also drastically reduced the number of private facilities participating in its maternity benefits scheme (Janani Suraksha Yojana) that pays women for institutional deliveries. As a result of these changes in state-wide health policies, the number of women delivering in private facilities fell between the design and implementation of the Utkrisht program. The original the Utkrisht program design called for only working with facilities with at least 20 deliveries per month, which became difficult to fulfill as deliveries in Rajasthan shifted to public facilities.

4.2 Changes to Verification Process and Outcome Payment Triggers

Facilities in both the Progressive and Certification Level Ready Pools of Round 2 (see Section 3.1.3) did not pass verification on the Manyata standards (They passed on NABH standards.), which resulted in no outcome payments being made for Round 2. This led Palladium to conduct an in-depth analysis, since all facilities had been deemed to meet Manyata standards, according to the Utkrisht program's PMIS and discussions with the SPs' staff working with the facilities. Further confusing the situation was the fact that some of the facilities in these ready pools, and some facilities assessed by Mathematica, had recently received Manyata certification, which has a higher score threshold than the Utkrisht program's verification.

Palladium's analysis concluded there were differences between how Mathematica and FOGSI assessed the same facilities on Manyata standards and resulted in changes to verification methodology. First, Mathematica changed some of its practices in how it assessed some Manyata quality standards; for example, it asked clinicians to demonstrate their skills on mannequins, rather than relying solely on verbal interviews, to reduce cultural and linguistic barriers to clinicians explaining their clinical practices. Mathematica also did not take all of Palladium's recommendations, such as hiring obstetricians (as FOGSI does) to conduct the assessment, which provides greater expertise to interpret obstetric practices observed in the facility. As a result, the ISC agreed to accept Manyata or NABH certification in lieu of Mathematica's verification, a practice used in the remainder of the Utkrisht program, when all facilities in the Certification ready pools were certified by Manyata. This meant Mathematica only assessed facilities on NABH standards.

The final changes to verification methodology were in response to the COVID-19 pandemic: First, Round 4 (April–May 2020) was suspended due to the new pandemic situation and resultant lockdown throughout India. The facilities that had been ready for Round 4 verification were shifted to Round 5. Round 5 was conducted remotely in October 2020. Palladium suggested Mathematica hire NABH assessors, rather than Mathematica's independent consultants, because they had spent the preceding months assessing facilities remotely and thus already had a standardized process. Palladium recommended this change to avoid the possibility of Mathematica's verification differing from actual certification processes, as had happened earlier with Manyata, especially in light of very new procedures to assess facilities remotely. Mathematica agreed and used NABH assessors for Round 5. (Manyata standards did not need to be assessed because all facilities in the ready pool had already received Manyata certification.) Finally, while Round 6 data collection began in April 2021, it was quickly halted due to India's devastating wave of COVID-19 at that time. After stopping the verification process, Palladium proposed various solutions (see Section 2.3) for judging the Round 6 ready pool, given the project's imminent end. The ISC chose to pass the Round 6 ready pool on the grounds that *all* facilities (rather than only a sample, as with the verification process) had been assessed for Manyata certification by FOGSI assessors before the COVID-19 wave. Historically, the the Utkrisht program facilities had a very high rate of passing verification on NABH standards. Given the extreme circumstances and uncertainty about the timeline of the COVID-19 wave, the ISC

decided to assume the Round 6 facilities also met NABH standards and passed the Round 6 ready pool.

Continuous Adaptation in Independent Verification

Round 1 (September–October 2018)

Conducted as planned. Mathematica assessed facilities on both NABH and Manyata standards. Only a Progressive Level ready pool was assessed (no Certification Level) due to the recent program start-up. The Progressive pool passed.

Round 2 (April–May 2019)

Conducted as planned. Mathematica assessed facilities on both NABH and Manyata standards. Both Progressive and Certification ready pools were assessed. Neither the Progressive nor Certification pools passed. However, 43 facilities were later paid out at the Certification Level, because they had both NABH and Manyata certifications.

Round 3 (September–October 2019)

Actual Manyata certification was accepted in lieu of Mathematica's assessment of Manyata standards. For those facilities already possessing Manyata certification, Mathematica only assessed NABH standards. Facilities with both Manyata and NABH certifications passed without the assessment of Mathematica. Both Progressive and Certification ready pools were assessed. Facilities not paid out in Round 2 were included in Round 3. The Progressive pool did not pass, but the Certification pool did pass.

Round 4 (April–May 2020)

Cancelled due to the onset of COVID-19 and the related lockdown. Round 4 facilities were included in the Round 5 ready pool.

Round 5 (September–October 2020)

Included only a Certification ready pool (no Progressive pool). All facilities in the ready pool were already certified by Manyata, so Mathematica only assessed the sampled facilities on NABH standards. Due to COVID-19, verification was conducted remotely. For this round, Mathematica changed to using NABH assessors as the data collectors. The Certification pool passed.

Round 6 (April–May 2021)

Included only a Certification ready pool (no Progressive pool). All facilities in the ready pool were already certified by Manyata, so Mathematica assessed them on NABH standards. Data collection began but was suspended due to the extreme COVID-19 surge in India at that time. The Certification pool passed, per the ISC's decision to pass it based on the facilities' Manyata certifications.

4.3 Elimination of the Progressive Ready Pool

The original design of the Utkrisht program called for two levels of quality standards: the Progressive Level and the Certification Level. As described in Section 2.1.2, the Progressive Level had lower scoring requirements than the Certification Level. This was intended to provide 25% of the outcome payments ($4,500) for Progressive facilities that were on their way to the Certification Level, which provides 75% of the outcome payments ($13,500). However, the implementation team found the Progressive Level was not helpful in achieving outcomes and came with two downsides: first, working with so many facilities at once stretched the SPs' teams thin and made it hard for them to have in-depth familiarity with each facility. Second, facilities in the Progressive ready pool usually did not yet have Manyata certification, and thus were subject to Mathematica's verification, which continued to differentiate from the Manyata certification process. Additionally, Manyata accreditation was occurring at a faster pace than originally planned in the design phase – thus mitigating the need for earlier "Progressive" outcome payments.

In response to these challenges with, after Round 3 (October 2019), the implementation team shifted priority toward the Certification Level. This meant eliminating the Progressive ready pool from the remaining verification rounds and increasing the size of the Certification ready pools to financially compensate for the lack of Progressive outcome funds. Facilities that skipped the Progressive Level and went directly to the Certification Level were paid out at $18,000.

4.4 Adaptations to the COVID-19 Pandemic

The COVID-19 pandemic swept the world in 2020, quickly changing work and healthcare. Prime Minister Modi ordered a strict, nationwide lockdown on March 24, 2020. Many enrolled facilities limited their operations and paused all elective procedures. Some facility staff were not able to reach the facilities where they were working due to the lockdown and greatly reduced transportation options, creating staff shortages at some facilities. Lack of transportation and fear of exposure to COVID-19 also prevented some pregnant and lactating women from visiting the facilities for antenatal, delivery, postnatal, and neonatal care, putting them at risk of poor health outcomes. Personal protective equipment and COVID-19 tests were in short supply. Some facilities did not have sufficient COVID-19 protocols, and some staff were unsure how to operate during the pandemic.

In March 2020, the Utkrisht program's field implementation work (see Section 3) suddenly shifted from fully in-person to fully remote, including closing the Utkrisht program's Jaipur office. Providing remote technical assistance to the facilities was challenging at first, because many facilities did not have previous experience with remote work. In response, the SPs initially spent a lot of time coaching facilities' staff on conducting video calls and how to work remotely. Some facility staff joined remote trainings from the facility, and others joined from their homes; each presented unique challenges. To train facility staff at home, the SP staff innovated to use household objects such as tables, clothes, towels, dolls, bottles, etc., as training aids. The implementation team put heavy emphasis on the infection-prevention measures in the NABH and Manyata quality standards, since those standards were so relevant to COVID-19 mitigation.

They also quickly created remote training modules about COVID-19 and the Indian government's and World Health Organization's information, advice, and procedures for health facilities during the pandemic. The SPs advised on setting up COVID-19 screening points at facilities and trained facility staff on COVID-19 mitigation measures. For example, HLFPPT connected facilities experiencing shortages of personal protective equipment with local vendors who had supplies in stock. After the Utkrisht program's support, some HLFPPT-supported facilities were able to provide staff for government COVID-19 screening efforts, as well as in establishing government-sponsored isolation and quarantine centers for suspected COVID-19 patients. The SPs also explained how to safely provide maternal and neonatal services in the context of the pandemic. Facilities expressed gratitude for the continued support during the pandemic, including the addition of COVID-19 topics in training. To monitor remote assistance and training, the implementation team collected data about online training through a structured format and analyzed and discussed the data on a weekly basis to enable the team to determine what improvements were needed.

The Utkrisht program developed a series of COVID-19 information, education, and communication materials for enrolled facilities, including the various protocols to be followed in facilities. For example, the Utkrisht program implementation team established a newsletter to provide regular updates on COVID-19, the effects of COVID-19 on pregnancy, how to use personal protective equipment, facility disinfection protocols, establishing screening points in facilities, and sample collection protocols under COVID-19. The SPs monitored and supported facilities through WhatsApp groups, online video sessions (WhatsApp, Zoom, WebEx, Google Hangout, Teams, etc.), and audio calls.

In April 2020, Round 4 verification was cancelled because it could not be conducted in person, and remote assessment procedures had not been established. Round 5 verification was conducted remotely, and Round 6 data collection was cancelled due to India's second wave of COVID-19. See Section 4.2 for a description of each verification round.

5. Results

The Utkrisht program achieved results in the range of the expectations set out in the design, but above the minimum base case outlined in the design and shown in Figure 2, thus improving quality of care for more mothers and newborns. The results also maximized the investor's return and triggered financial incentives for the implementation team.

5.1 Facilities Meeting Quality Standards

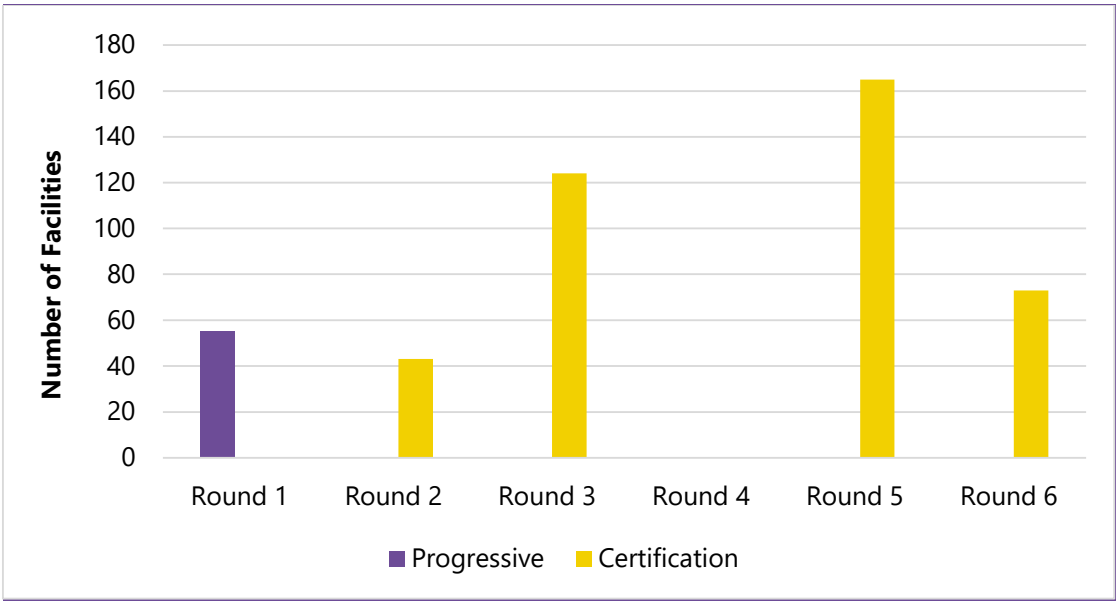
Over the course of three years, the Utkrisht program enabled 405 facilities to meet the Certification Level standards, plus an additional six facilities to meet Progressive Level standards. Though the cumulative results over three years were within the range envisioned in the DIB's design, the cadence of achievement, as shown in

Figure 6, differed from the design (Figure 2). The differences were largely due to two factors: the issues with the verification process (see Section 4.2) and the impact of the COVID-19 pandemic (see Section Adaptations to the COVID-19 Pandemic4.4).

Results were achieved (

Figure 6) in a different way and at a different pace than was originally envisioned (Figure 2) for multiple reasons. Round 1 finished largely as expected, with only a Progressive Level pool, because at that early date, no facilities were yet at the Certification Level. However, the Progressive ready pools of Rounds 2 and 3 did not pass verification on Manyata standards, and thus were not paid out. Although the Round 2 Certification ready pool also did not pass verification, 43 facilities from that ready pool were paid out a few months later because they had both NABH and Manyata certifications (see Section 4.2). Starting with Round 4, the implementation team made the strategic decision to eliminate the Progressive ready pool to focus on a higher volume of Certification Level facilities (see Section 4.3). Round 4 was cancelled due to the COVID-19 pandemic; those facilities were instead included in Round 5, making it especially large. Finally, Round 6 was larger than originally envisioned, which led to the high achievement of overall results across the three years. Thus, the continuous course correction and adaptive management described in Section 4 were vital to the Utkrisht program's success.

Figure 6: Results by Verification Round



5.2 Performance of Service Providers

Figure 7 shows the conversion of facilities from eligible status to Certification Level of quality standards over the three years of the Utkrisht program. Only 29% of all mapped facilities met the Utkrisht program's eligibility criteria (see Figure 3). Impressively, 90% of eligible facilities signed MoUs with the Utkrisht program. Eighty-two percent of enrolled facilities reached the Progressive Level, and 99% of those facilities eventually achieved the Certification Level. Overall, 73% of eligible facilities eventually met Certification Level standards. Conversion rates were similar between PSI and HLFPPT.

Figure 7: Facility Engagement and Conversions, 2018-2021

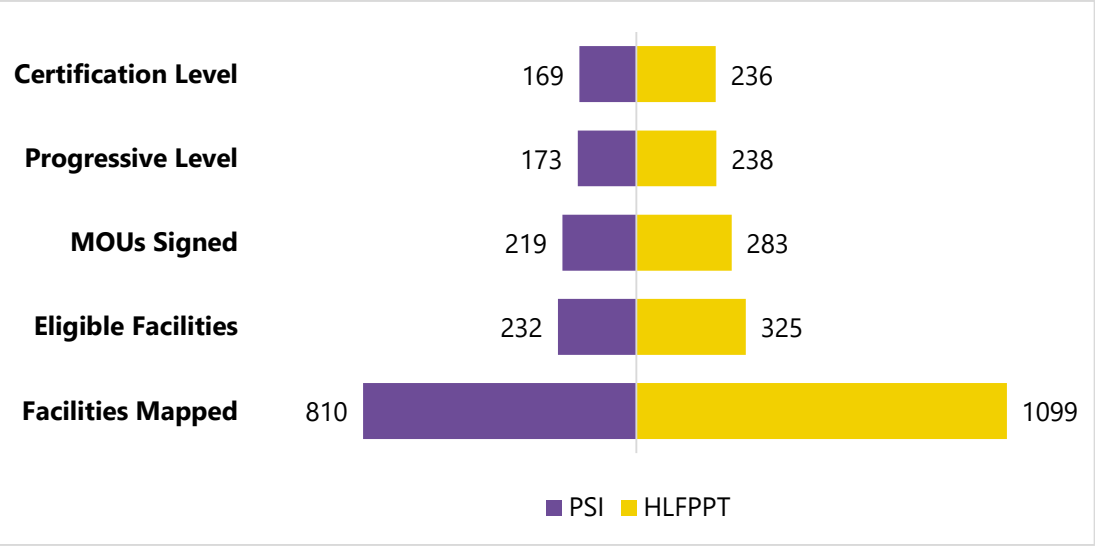


Table 2: Key Performance Indicators

		Planned	Actual	Comment
Number of facilities mapped	HLFPPT	300	1099	
	PSI	511	810	
Number of facilities assessed	HLFPPT	260	285	
	PSI	511	225	
Number of facilities with signed MoU	HLFPPT	260	283	Including facilities which signed MoU but dropped out later
	PSI	225	233	
Number of facilities achieving Progressive standard	HLFPPT	228	256	As per PMIS (not verified)
	PSI	195	200	
Number of facilities achieving Certification standard	HLFPPT	180	238	As per PMIS (not verified)
	PSI	180	173	
Number of facilities dropped out	HLFPPT	42	37	
	PSI	36	14	
Number of facilities not progressing	HLFPPT		29	As per PMIS, these are the facilities with "in progress" status
	PSI		25	

As can be seen in Figure 7 and Table 2, HLFPPT had more facilities reaching Certification Level than PSI, especially at the end of the Utkrisht program. Round 6 included 55 HLFPPT facilities, but only 17 PSI facilities (all Certification Level). Both SPs began with similar strategies, varying in small ways such as nomenclature of field staff. They also worked in a similar number of districts.

Staffing approach was one key difference between PSI and HLFPPT. PSI had high and continuous attrition among both field and senior staff, which meant that new hires did not always understand the nuances of the DIB. In contrast, HLFPPT's high retention led to a staff with more project experience, which contributed to its higher performance. Furthermore, in the second half of the project, HLFPPT increased its field workforce by hiring recent graduates from health and hospital management and public health programs. These junior teams were supported, both in person and remotely, by HLFPPT's senior staff. In contrast, PSI teams were smaller because their compensation was higher.

Following the complications with verification outlined in Section 4.2, HLFPPT was more effective than PSI in shifting its strategy towards actual certification instead of Mathematica's verification. Focusing on Manyata Certification – not only Manyata readiness – set them up for success in terms of verification. HLFPPT also focused on NABH certification, which established trust and appreciation from the facilities, and incentivized additional facilities to enroll. HLFPPT's focus on NABH certification was facilitated by its institutional experience with NABH certification. In

contrast, PSI did not focus as much on NABH certification, which led to less interest from facilities.

The two SPs also varied in the degree to which they collaborated with the performance manager, Palladium. HLFPPT worked in close collaboration and consultation with Palladium on many issues related to project management and implementation, such as staff motivation, recruitment, enrolment of facilities, and training and mentorship approaches. It was open to feedback and improvement suggestions.

The SPs also varied in their motivation to achieve more results. HLFPPT was motivated to achieve a higher number of facilities, which led to strategies such as working in more remote areas and re-approaching previously enrolled facilities that had dropped out. PSI was comfortable with having fewer incentive facilities.

HLFPPT and PSI also had drastically different costs, with cost per facility being 60% lower for HLFPPT than for PSI (see Table 6). This is likely related to PSI being an international organization, with higher associated costs and costs being subject to exchange rate fluctuations.

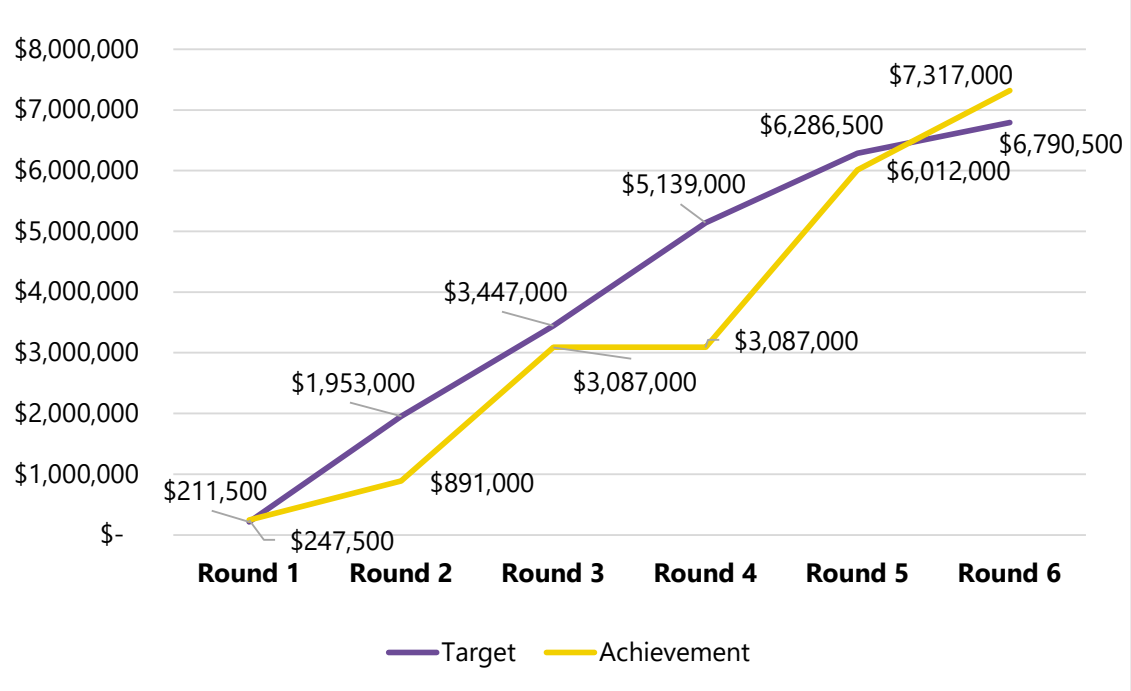
5.3 Financial Results

Final outcome payments were $7,317,000, against a target range of $6,790,000–$8,000,000. $522,000 in outcome payments were made above the base case, or 43% of the maximum possible incentive case that went up to $8,000,000. The difference between these outcome payments and the implementation costs (see Section 6), created a financial surplus.

While cumulative results over the three years of implementation were higher than the baseline target, the cadence of those results was different than anticipated (as can be seen in

Figure 8), which can impact financial returns. Multiple factors contributed to these changes: Verification was more difficult than anticipated, as the challenge of replicating a local certification process, in all its nuances, became clear. Also, a verification round was paused due to the COVID-19 pandemic, causing outcomes to be pushed later in the DIB.

Figure 8: Cumulative Outcome Payments: Targets vs Achievement



The total costs of implementation across the three years were $5,735,093. This, subtracted from the total outcome funds received, created a financial surplus of $1,581,907, which was distributed between the investor and the implementation team per the project design and contracts.

As per the project design (see Section 2.2), the UBS-OF's IRR was capped at 8%. Given the timing of implementation costs and receipt of outcome funds, this totalled $389,000. UBS-OF retained 80%, or $311,200. The remaining 20%, or $77,800, was transferred to the implementation team as the base incentive fee, which was then distributed among Palladium, PSI, and HLFPPT. Palladium received 26% of the fee, proportionate to its share of the implementation budget, and the remaining 74% was split evenly between PSI and HLFPPT.

The remaining $1,270,707 of outcome funds was distributed among the implementation team as a performance incentive fee.

5.4 Health Impacts

The Utkrisht program was designed to improve the quality of maternal and newborn care provided in small private healthcare facilities in Rajasthan.

Table 3 shows more than 450,000 mothers and newborns received improved care due to the Utkrisht program, which trained over 6,000 healthcare workers throughout the state.

Table 3: Beneficiaries

	Year 1	Year 2	Year 3	Cumulative
Total direct beneficiaries (mothers and newborns)	57,824	204,732	188,610	451,166
Healthcare workers trained	2,340	2,364	1,488	6,192

Table 4 shows the health outcome data collected during the second and third years of the project.

Table 4: Health Outcome Indicators

Indicators	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
No. of deliveries	20,304	30,044	30,680	21,338	25,046	27,532	24,661	17,066
No. of deliveries having complications	479	1,101	511	291	294	498	272	333
No. of pregnant women receiving uterotonics during the third stage of labor	14,810	25,591	30,359	19,842	25,045	27,368	24,588	17,042
No. of high-risk pregnancies	816	2,194	846	383	619	634	363	246
No. of pre-term deliveries (≤36 weeks	475	1,075	818	260	370	332	230	169
No. of low-birth-weight babies (≤1,800 gm)	560	1,054	913	419	470	500	487	372
No. of neonates referred to SNCU/NICU within facility	1,363	1,785	1,369	479	476	337	494	35
No. of neonatal referrals outside facility	232	250	188	81	119	80	64	58
Neonatal deaths	4	1	3	0	0	0	0	0
No. of neonatal deaths reviewed	4	1	3	0	0	0	0	0
Maternal deaths	0	0	0	0	0	0	0	0
No. of maternal deaths reviewed	0	0	0	0	0	0	0	0

6. Financial Summary for the Implementation Team

Financial reporting covers the period February 2018--August 2021. The implementation team, especially HLFPPT, underspent against projections. As a result, the payment from UBS-OF to the implementation team was slightly delayed from the original schedule. As shown in Table 5, total implementation team underspending was 8%, as compared to original forecasts.

Table 5: Cumulative Costs, February 2018–August 2021

Implementation Partners	Total Budget	Total Expenses	Variance	Utilization
Palladium	$1,626,241	$1,626,664	-$423	100%
PSI	$2,201,796	$2,191,565	$10,231	100%
HLFPPT	$2,383,620	$1,911,448	$472,172	80%
Total	$6,211,657	$5,729,677	$481,980	92%

Interestingly, HLFPPT had both lower costs and a higher number of facilities at Certification Level. The reasons behind this are discussed in Section 5.2. As noted in

Table 1, HLFPPT averaged just over $12,314 per facility, while PSI averaged nearly $17,195 per facility. These costs were drastically different. More active performance management could have ensured combined increased performance.

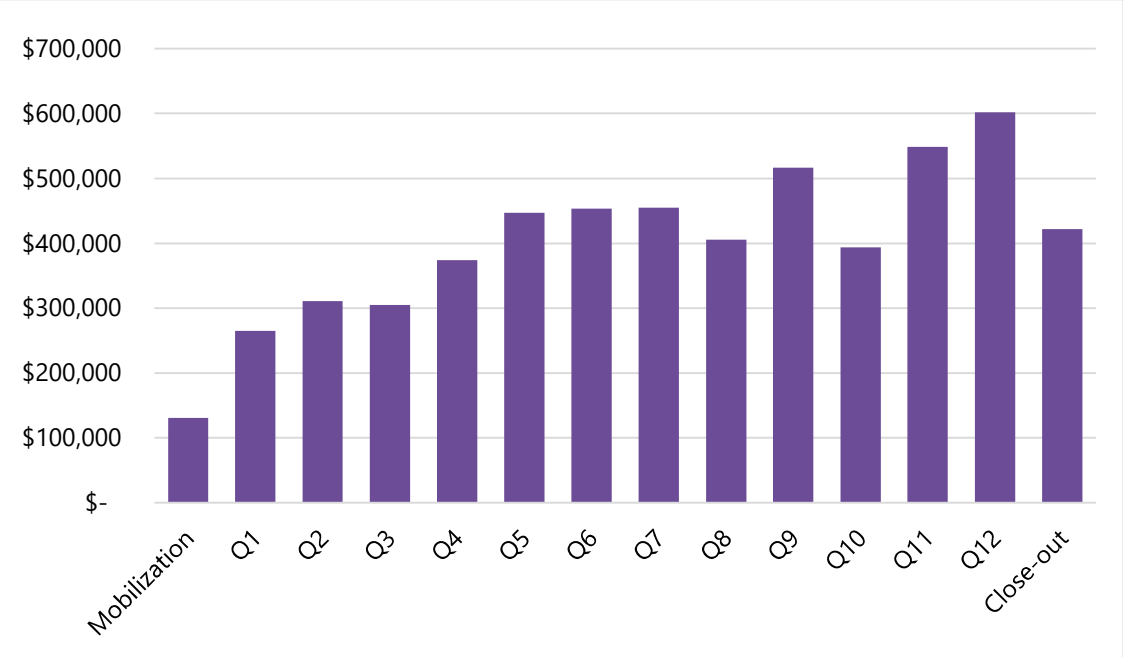
Table 6: Cumulative Costs per Facility, by SP, February 2018–August 2021

Service Provider	Total Costs	Palladium Costs	Certified Facilities	Service Provider Costs per Facility	Total Implementation Costs per Facility
PSI	$2,191,565	$813,332	169	$12,968	$17,780
HLFPPT	$1,911,448	$813,332	236	$8,099	$11,546
Total	$4,103,014	$1,626,664	405	$21,067	$14,147

6.1 Quarterly Expenditure

Initial expenditures were low due to the work being focused in and around Jaipur, without travel costs. Later in the project, expenditures increased due to travel costs to work outside Jaipur, increased QI and performance management activities, and equipment for remote work.

Figure 9: Quarterly Costs



6.2 Program Costs

While cumulative costs were slightly under projections, they varied by type of cost, as shown in Table 7.

Table 7: Cumulative Costs by Type

	Budget	Actuals	Comment
Delivery Costs			
Personnel costs	$2,411,883	$2,347,979	Small variance
Travel costs	$435,322	$314,445	
Equipment	$63,931	$91,366	Overspend by HLFPPT for purchase of remote training equipment
Program activity	$885,080	$512,441	Underspend by HLFPPT

Other direct costs	$167,187	$139,779	Underspend by HLFPPT
Program Management			
Personnel costs	$938,765	$1,083,522	PSI overspend for management of QI work
Travel costs	$64,576	$81,331	Palladium overspend for field monitoring and visits from U.S. staff
Program activity	$11,665	$5,746	Activities cancelled due to COVID-19
PMIS	$140,000	$102,651	Underspend due to in-house development of dashboard and other monitoring tools
Other shared services	$281,299	$221,144	Cost control by Palladium to finance other important activities like travel and other direct costs
Other costs	$43,271	$93,610	Jaipur office costs
Subtotal Costs	$5,442,978	$4,994,013	
Indirect costs	$683,297	$647,901	Small variance
Fees	$85,382	$84,639	Small variance
Total Program Costs	$6,211,657	$5,726,553	

7. Operating Environment and Vision

7.1 Operating Environment

7.1.1 Project Partners

Throughout the three years of implementation, there were no major changes in the main partner organizations and their roles as outlined in Section Role of Partner Organizations2.1.3. However, during the course of implementation, the relationships with NABH and FOGSI strengthened and grew more important, largely due to changes in the verification process as described in Section 4.2.

7.1.2 Stakeholder Environment

FOGSI and NABH were key stakeholders and, as such, Palladium encouraged HLFPPT and PSI to establish strong working relationships with them. Palladium proactively engaged with FOGSI to orient and update it on the Utkrisht program, and to coordinate Manyata assessments of enrolled facilities. As described in Section 4.2, Palladium also suggested and coordinated remote verification assessments for Rounds 5 and 6 by NABH assessors. Various staff from Palladium, PSI, and HLFPPT participated in workshops, seminars, webinars, and meetings organized by FOGSI, NABH, MSD for Mothers, and USAID.

7.1.3 Policies and Regulations

There are three types of policies and regulations relevant to the Utkrisht program:

(1) **Government health insurance policies**: In the first year of the Utkrisht program, the change in Rajasthan state politics lead to fewer insurance benefits (Janani Suraksha Yojana, aka maternity benefit scheme, and Bhamashah Health Insurance scheme) for private facilities, which decreased the volume of births in private facilities. As discussed in Section 4.1, this policy change decreased the universe of facilities eligible to enrol in the Utkrisht program, which led to a decision to adapt the Utkrisht program's eligibility criteria. However, in May 2021, a new government health insurance scheme, Chiranjeevi, was launched that encouraged use of private health facilities.

(2) **NABH and Manyata regulations**: During the course of the Utkrisht program, both NABH and Manyata improved their certification processes. NABH's new online portal to apply for certification, hiring of more assessors, and shifting some assessment components online all encouraged more the Utkrisht program facilities to apply for certification. Manyata made similar positive improvements in its processes.

(3) **COVID-19 policies and regulations:** During the first wave and lockdown of COVID-19 in India (April–August 2020), the Utkrisht program facilities experienced many difficulties, including fewer staff and fewer patients because the lockdown limited transportation options, and some pregnant women avoided health facilities out of fear of contracting COVID-19 there. During India's second COVID-19 wave (April–June 2021), the government converted

many private health facilities into COVID-19 treatment centers, which often suspended their maternity services.

7.1.4 SWOT (Strength, Weakness, Opportunity, Threat) Analysis

SWOT	Description	Mitigation	Change
Strength			
Strong field presence of SPs	Already familiar with some enrolled facilities or similar ones, and understand how to work with them and motivate them to join the Utkrisht program.		
Strong technical team with experience	Implementation team was experienced in QI, which allowed for faster QI processes.		
Ensuring NABH and/or Manyata certification	Supporting facilities to get actual certifications increased their interest in participating in the Utkrisht program and has improved its sustainability.		
Exploring districts in a phased manner	Both SPs strategically planned the geographic rollout of their interventions, which facilitated efficient resource planning.		
PMIS	PMIS was an asset to field implementation planning and performance management by monitoring facility progress and trends to make strategic course corrections.		

SWOT	Description	Mitigation	Change
Weakness			
No previous experience in impact bonds	The Utkrisht program was the first DIB for the health sector in India. We have learned and evolved during the implementation process.	The implementation team approached the facilities with an aim to achieve actual certification. This kept the team focused on the bigger goal, rather than preparing facilities for project verification.	Facilities participated enthusiastically, which can be seen through our relationship with them even beyond the project timelines.
Gap between rapid assessment and actual project rollout	Due to delayed initiation of the project after rapid assessment done by SPs, many identified facilities were already engaged by consultants on a paid basis. Due to the state government policy shift on insurance, the number of deliveries in the private sector had declined since the time of rapid assessment and were not eligible for the Utkrisht program's criteria for engagement.	SP teams approached the facilities and co-ordinated with local FOGSI bodies for facilitating experience-sharing to generate interest in Manyata. The HLFPPT team organized district-level workshops to engage facilities. Outcome funders revised the minimum delivery criteria for engagement as per current trends.	Increased facility enrolment in the Utkrisht program.
Lack of awareness about FOGSI initiatives	The facility owners, doctors, and staff were unaware of Manyata certification.	Various communication tools such as presentations, brochures, and testimonials were created and shared with facilities to generate awareness and willingness to implement Manyata standards. The implementation team	Gynaecologists at the facilities valued the importance of Manyata certification. Having skilled support staff in the facility who can manage high-risk pregnancies and delivery-

SWOT	Description	Mitigation	Change
		also conducted and participated in workshops and events.	related complications were an added advantage. Updated and accurate knowledge reinforced confidence in the QI initiative.
Opportunity			
Changes in policies and regulations	Changes in guidelines by IRDA for facilities providing cashless services. Recognition of facilities awarded with quality certifications in different levels and respective incentivized reimbursement in national and state health schemes (Ayushman Bharat).	SPs leveraged this opportunity and encouraged the facility owners to enrol in the Utkrisht program.	The facilities were motivated to enrol in the Utkrisht program and aim for actual certifications for maximum benefits.
Introduction of an online portal for applying for NABH Certification	NABH introduced a digital platform that requires detailed pictures and description of facility, the procedures and protocols followed, licenses, and other mandatory documents for application.	SP teams supported facilities for NABH Certification through the online portal. They guided facilities through required documentation, uploading relevant pictures, legal licences renewal, and preparing training videos.	The SPs' success in helping enrolled facilities navigate NABH's new online portal increased interest in other facilities to enrol in the Utkrisht program.

SWOT	Description	Mitigation	Change
Virtual assessments initiated by NABH and Manyata	After the pandemic began, NABH and Manyata assessments shifted from in person to online. This could have been demotivating for the facilities and staff, as they were not technology savvy and unaware of the virtual platform.	The implementation team supported enrolled facilities to navigate the online platforms. Remote mock assessments conducted by the SPs' technical teams built the confidence of facility staff in preparation for actual assessments.	The facilities were encouraged to apply for both the certifications. This also paved way for a virtual third-party project-verification process and towards the sustainability of quality issues.
COVID-19	The COVID-19 pandemic forced technical assistance to be moved online, thus increasing cost efficiency. The COVID-19 pandemic provided an opportunity to demonstrate SPs' deep relationship with facilities beyond Manyata/NABH. The implementation team's support improved the facilities' responses to COVID-19.	-	-
Threat			
Facility drop-out	A few enrolled facilities withdrew from the project due to lack of time for training and QI work, etc.	SPs re-approached dropped-out facilities and successfully re-enrolled some in the Utkrisht program, with a focus on actual NABH and Manyata certifications.	This helped in addressing the dropout rates, and only facilities that were seriously looking for a joint quality standard were engaged.

SWOT	Description	Mitigation	Change
Reduction in delivery load	Various facilities reported a decline in delivery load compared with rapid assessment, which led to a smaller number of eligible facilities.	The ISC reduced the delivery load minimum from 20 to 10 per month.	This helped in engaging more facilities, and hence, beneficiaries.
COVID-19 pandemic and related lockdown	This led to restricted field movement of the technical team, less staff availability at facilities, and increased financial burden for facilities due to reduced patient visits.	SPs shifted to online training and support. Later, they adopted hybrid capacity building and support for certifications, which was a mix of onsite and virtual sessions. The implementation team updated facilities on changing COVID-19 guidelines from sources such as the Ministry of Health and Family Welfare.	The facility staff who were less aware of technology platforms, such as Zoom and Google Meet, were trained to use these. The Utkrisht program materials helped facilities and their staff in managing the COVID-19 situation smoothly and reduced transmission within the facilities.

7.2 Vision

Operating Environment	Description
Advocacy	Use of evidence and data to document project progress, strong governance framework and active cross-partner communications, updates provided to the government of Rajasthan, and sharing of the Utkrisht program's approach and achievements in conferences and training programs organized by various partners have supported advocacy efforts.
Scaling and Replication	The success of the world's first maternal health DIB has demonstrated a new way of project financing and implementation. Such success must be scaled up and replicated in other sectors and locations. Palladium is working to find new partners and like-minded organizations that can support such initiatives. Based on the Utkrisht program's success, Palladium has approached the UNDP and Pimpiri-Chinchwad Municipal Corporation (Pune, Maharashtra) to support a social impact bond (SIB) to improve health status and medical services in hospitals. Soon, the first SIB in India in health will be launched there.
Sustainability	**Sustainability at the facility level:** Sustainability at the facility level should be seen from the perspective of reputation, reliability, and recognition. Once facilities are certified, they make every effort to remain so. They are motivated to invest in maintaining their certification credentials, which involves an assessment every two years. We have seen quality standards remain intact, even during the challenges of the pandemic. **Sustainability at the learning level:** The novelty of the Utkrisht program – as a health DIB and doing QI work with small and sometimes remote private facilities – provided many opportunities for learning. One important learning was that buy-in from facility leadership, such as the facility owner and gynaecologist, was critical to improving quality. Another learning was that digital platforms both increased buy-in from facilities and played a significant role in QI. Another learning was the importance of detailed and real-time data to track the performance of each facility. This was especially crucial for a fast-paced project where results were verified every six months and revising the pace of targets was continuous. These data enabled very detailed planning and monitoring at the facility level. Government officials actively participated in both annual Leadership Committee meetings and project reports were shared with the government throughout the project. However, government engagement was low throughout the Utkrisht program due to its focus on the private

Operating Environment	Description
	sector, and also the change in administration. Government has not historically participated in QI work in private facilities, and inclusion of some public facilities would have increased government involvement. Other key learnings included the importance of active risk management, continuous improvement, and project governance.

8. Learnings and Conclusion

The Utkrisht program and its partners were, from the beginning of the project, focused on what learnings could be gleaned from the first maternal-newborn health impact bond. The following are some of the lessons learned, both in terms of QI and the impact bond mechanism.

8.1 Quality Improvement

Many of the enrolled facilities had not previously worked with any QI initiatives. The implementation team found that the commitment of the facility owner and the facility's gynaecologist were crucial to improving a facility's maternal newborn services. The attitudes of senior management and senior clinicians, along with the facility's baseline scores, set the pace of progress towards meeting quality standards.

In the latter part of the project, because of the COVID-19 pandemic, digital platforms played a significant role in QI and the commitment of the facilities. As with many activities during the COVID-19 pandemic, verification and some technical assistance had to be moved to a remote, online mode before field-testing of such approaches could be conducted.

While the Utkrisht program improved the quality of maternal and newborn care at a point in time, questions remain about the sustainability of those improvements. These are especially relevant questions given the staff turnover at these facilities, which increased during India's second COVID-19 wave of April–May 2021. While NABH's connection to health insurance schemes will motivate some the Utkrisht program facilities to apply for re-certification in the future, questions remain about how motivated the facilities will be for Manyata re-certification.

8.2 Impact Bond Mechanism

Utrkisht's success (see Section 5) depended on a high level of adaptive management and continuous course correction; specific examples are outlined in Section 4. Adaptive management allowed the Utkrisht program to stay focused on the ultimate results – achieving improved quality standards at scale – by adjusting various levers, such as which facilities were engaged, the cadence of achieving results, and how results were verified. These continuous adaptations were, in turn, enabled by data and constant collaboration among partner organizations. Additionally, the close link between outcome payments and results served to escalate attention to issues earlier than other contract structures.

The main data engine of the Utkrisht program was the implementation team's PMIS, which allowed the team to see when there were insufficient numbers of facilities meeting eligibility criteria (see Figure 3); create customized QI plans for each facility; identify which facilities might be ready for verification; and track which facilities received NABH or Manyata certification. Analyses of such information allowed the implementation team to make adjustments as needed. When adjustments were to the original design or the verification agent's methodology, the governance structure, especially the ISC, was crucial to making decisions and approving changes;

it allowed for continuous exchange of perspectives among the partner organizations while working towards decisions.

Colocation of the implementation team in a Jaipur office created a collaborative working relationship among the organizations. This allowed for an informal style of performance management (see Section 3.2), in which Palladium was intimately familiar with the fieldwork and able to continuously monitor it in person and in real time. While the freedom of the impact bond approach allowed the implementation team to achieve results as it saw fit, that freedom did not result in drastically different approaches between the two SPs, it did allow the team to quickly make changes to adapt to the unforeseen COVID-19 pandemic without needing to seek approvals for altering the approach.

The Utkrisht program showcased the challenges involved in a verification meant to mirror a complex assessment process such as quality accreditation. While quality accreditation is based on many seemingly objective elements, the Utkrisht program has spotlighted how the data collectors, methods of assessment, purpose of assessment, and many other factors can affect results. Verification methods in future impact bonds may consider alternatives to replicating an existing local process.

The two SPs on the Utkrisht program had different costs (see Section 5.2), but this was not linked to any incentive. Future impact bonds or pay-for-performance mechanisms may wish to tie incentives not only to achievement of results, as in the Utkrisht program, but also to the cost-effectiveness of achieving those results.

The intention of the impact bond design, to transfer the risk of not achieving outcomes to the investor, bore out in the Utkrisht program. When results were not verified (see Section 4.2), the outcome funders did not pay, and the investor's planned cashflow was disrupted; however, the implementers were paid for their activities.

While the impact bond worked well to achieve the results agreed upon – improved adherence to quality standards – questions arose throughout its implementation about downstream impacts on maternal and newborn mortality. While all parties in an impact bond are interested in ultimately achieving such impactful social good, often, measuring and attributing such downstream impacts are impossible without an independent impact study. This points to a tension when selecting the outcome metrics for an impact bond: The ultimate social impact that parties would like to achieve – for example, reductions in mortality – are often highly complex and influenced by a myriad of factors, many beyond the scope of a single intervention, or even a set of interventions. Attribution of changes to such complex social metrics to a specific intervention is often extremely difficult. Further upstream metrics that are more closely related to specific interventions, and where attribution is less complex, may be more suitable for impact bonds.

While the Utkrisht program succeeded in many ways, one can imagine ways it could have had greater impact. In terms of design elements, the Utkrisht program could have considered some form of dynamic pricing. The outcome payment price was set at a static $18,000 per facility. Instead, the design could have defined a reduced price per facility in line with the concept of

economies of scale. That is, management and other costs could have been anticipated to decrease for each additional facility. These reduced costs that accompany larger volume could have, in turn, been passed on to outcome funders in the form of lower pricing.

Another design idea that could have been considered was gradient pricing based on degrees of quality at facilities. The Utkrisht program's metric of success was a binary yes/no describing if each facility had met a threshold of quality, which was comprised of scoring on many detailed sub-elements of quality. Based on that binary, either full outcome payment or no outcome payments were made. Instead, the pricing could have considered gradient pricing of differing amounts based on each facility's overall quality score, rather than a simple yes/no decision on a full outcome payment amount. For example, a facility that improved its quality scores from its baseline assessment, but did not reach the Certification Level threshold, could have triggered a $9,000 outcome payment. While this approach was somewhat incorporated into the design in the form of the $4,500 payments made for the Progressive Level, those were envisioned as an intermediary point in time on a facility's journey towards the Certification Level.

Finally, the $1.5 million in financial surplus created by the difference between outcome funds and implementation costs could have been used in a different way. The Utkrisht program's design calls for these funds to be distributed between the investor (as a return on its investment, subject to the agreed-upon cap) and the implementation team (as a performance incentive fee). This distribution incentivizes capital investment and achieving a greater volume of results. However the Utkrisht program's design could have defined a way for some of this financial surplus to have been used to create further volume or impact.

In terms of operational elements, resources could have been shifted away from the lower performing SP (PSI) to the higher performing one (HLFPPT). This operational change may have decreased the project's average cost per outcome. It may have also led to achievement of more results, if more eligible facilities in Rajasthan had been available. In the last six months of the project, HLFPPT worked with a much larger number of facilities than did PSI.

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