BREAKTHROUGHS FOR HEALTHY BIRTH:

What "Health Diaries" tell us about financial and medical preparation for giving birth among women in West Bengal and Jharkhand

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Aikyatan Development Society (ADS)

Aikyatan Development Society is a nonprofit development organization engaged in the self-help group (SHG) movement, health care, and livelihoods to address the poverty of poor families in the district of Burdwan in West Bengal, India. ADS's sanitation program with the state government is the largest program of ADS, and it is well known for effective linkages with the public health system and SHG strengthening. It was conceived in 1999 with active support of CARE India and became a partner of Freedom from Hunger and Freedom from Hunger India Trust in 2014. Through this partnership, ADS has reached 2,000 SHGs (women's savings and credit groups) with health education in WASH, nutrition, and anemia prevention.

Bandhan Konnagar (Bandhan)

Bandhan Konnagar (BK) is a nonprofit entity registered under the West Bengal Societies Registration Act 1961. Its main thrust is to alleviate poverty and help bring about women's empowerment. It was founded in 2001 as a pro-poor organization, catering to more than 1 million households across 11 states. Bandhan Konnagar offers an entire suite of development programs in the areas of education, health, securing of livelihood, market linkage, skill development, and financial literacy – all focused on turning the lives of the underprivileged around. In 2007, BK started its health initiatives in collaboration with Freedom from Hunger and at present its operation spreads to 7 states. It has reached out to more than 1 million households mainly with mother and child health care issues besides water and sanitation. At present, in partnership with Freedom from Hunger India Trust, Bandhan Konnagar is implementing a project called "Safe Motherhood Initiative through Linkages and Education (SMILE)" where the study on "Prevent anemia for better health" was conducted.

Freedom from Hunger India Trust

Established in 2012, Freedom from Hunger India Trust (FFHIT) is an independent Indian nonprofit organization based in New Delhi with an office in West Bengal. The technical staff of FFHIT oversee health, nutrition, financial inclusion, vulnerable youth, and savings group methodologies, and they provide expert advice on learner-centered curriculum design. FFHIT's goal is to achieve nutrition and food security, reduce poverty, and improve economic and social status of poor and marginalized women and their families through increased integration of financial services with other essential services such as health, nutrition, and livelihood opportunities. FFHIT is also an active member of National Coalition of Food and Nutrition Security.

Grameen Foundation

Grameen Foundation is a global nonprofit organization that helps the world's poorest people achieve their full potential by providing access to essential financial services and information on health and agriculture that can transform their lives. In 2016, Grameen Foundation and the global nonprofit Freedom from Hunger decided to join forces under the banner of Grameen Foundation. The integration of the two organizations brings together Grameen Foundation's expertise in digital innovation to end poverty and Freedom from Hunger's focus on providing the world's poorest women with self-help tools to reduce hunger and poverty. Grameen Foundation is headquartered in Washington, D.C., with offices in the U.S., Asia, Africa, and Latin America. For more information, please visit www.grameenfoundation.org or follow us on Twitter: @GrameenFdn.

RESULTS Educational Fund

RESULTS Educational Fund (a US-based nonprofit 501(c)(3)) is an advocacy organization working in the United States and around the world on projects focused on three key pillars in the fight to end poverty: 1) health, 2) education, and 3) economic opportunity. RESULTS Educational Fund performs cutting-edge research and oversight in these three areas; educates and mobilizes the public, policymakers, and the media; and supports powerful citizenship by training volunteers in public speaking, generating media, and educating their communities and elected officials on issues of poverty. In May 2016, the Microcredit Summit Campaign merged its structure and operations with those of its parent organization, RESULTS Educational Fund. For more information, please see www.results.org.

Community of Practice for Health and Microfinance

The Community of Practice for Health and Microfinance (COPHAM) in India is an experiment to bring together stakeholders in the health and microfinance sectors to promote universal healthcare coverage. COPHAM members learn from each others' experience and create strategic partnerships to leverage their complementary strengths. The COPHAM is facilitated in collaboration by RESULTS Educational Fund, the ACTION global health advocacy partnership, Freedom from Hunger India Trust, and Grameen Foundation. Aikyatan Development Society (ADS) and Bandhan, whose data is presented in this report, are both active members of the COPHAM. For more information, please see http://healthandmicrofinance.org/.

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Finally, this program and this assessment would not be possible without the collaboration and participation of the 45 women who participated in this research over several months and gave their precious time.

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Figures and Tables

Abbreviations

ADS	Aikyatan Development Society
ANM	Auxiliary Nurse Midwife
CPI	Consumer Price Index
ICDS	Integrated Child Development Services
INR	Indian Rupee
IPL	International Poverty Line
JK	Jharkhand
JSY	Janani Suraksha Yojana
LIC	Life Insurance Corporation of India
MASS	Maa aur Shishu Swasthya (Mother and Child Health) program
NFHS-4	National Family Health Survey 4
NRHM	National Rural Health Mission
OOP	Out-of-Pocket
PHC	Primary Health Centers
PPI	Poverty Probability Index
RSBY	Rashtriya Swasthya Bima Yojana
SHG	Self-help Groups
USD	U.S. Dollars
WB	West Bengal

Background

India accounts for the highest number of maternal and child deaths globally.[1] Institutional birth is believed to greatly contribute to reductions in maternal and child mortality[2] as most maternal, perinatal and neonatal complications and mortality occur during labor and delivery.[3] To reduce maternal and child mortality in India, the government's National Rural Health Mission (NRHM) program introduced a cash transfer scheme in 2005 called the *Janani Suraksha Yojana* (JSY) to encourage women of low socioeconomic status to give birth in health facilities[4] as childbirth costs have often been cited as barriers to facility-based care.[5] Under JSY, low-income women utilize a JSY card to receive cash assistance that should be provided by the medical facility after the delivery of the baby in a maximum amount of 2000 Indian Rupees (INR) as well as antenatal care and a micro birth plan that helps health workers monitor the care of the woman through her pregnancy and post-natal care.[6]

This research brief will present results from a series of "health diaries"—or frequent surveyor-administered surveys—conducted with 45 women in West Bengal and Jharkhand, India to uncover how low-income women prepare for and experience childbirth and its associated costs.

In 2015, Freedom from Hunger India Trust, Grameen Foundation,[a] and RESULTS Educational Fund launched a collaborative effort called the *Maa aur Shishu Swasthya* (Mother and Child Health) program (*hereafter*: MASS), implemented across West Bengal and Jharkhand with two key financial service partners, Aikyatan Development Society (ADS) and Bandhan. As part of MASS, members of self-help groups (SHGs) served by ADS and village bank clients and community members served by Bandhan-Konnagar (Bandhan Bank's development program arm) participated in an integrated package of financial services, health education sessions and linkages to local health services aiming to improve health outcomes of women and their families.

ADS Health Savings Box

At ADS, SHGs were also encouraged to save for health expenses utilizing a health savings methodology that mimics Grameen Foundation's *Saving for Change* [b]

[a] Freedom from Hunger, which started this program, merged with Grameen Foundation in 2017. Going forward, the combined organization will be known as Grameen Foundation.

[b] *Saving for Change* is a methodology jointly developed by Freedom from Hunger, Oxfam America and Strømme Foundation for self-managed savings and lending groups integrated with simple trainings in health, business and money management.

methodology in addition to their regular savings and loan activities. With the health savings methodology, women first deposit savings into their general group "account" and then repeat the savings process earmarking savings specifically for health. By December 2017, an estimated 170,000 women had participated in education on health topics such as anemia, healthy pregnancies, menstruation, and acute respiratory infections. As of January 2018, 1,555 ADS self-help groups were noted to be saving for health in addition to their regular SHG activities (accounting for approximately 15,550 women who have access to health loans and an annual savings payout earmarked for health expenses).

Methods

Under MASS, research and evaluation activities have played a key role in helping the partners to understand changes in knowledge, attitudes and practices associated with the health programming as well as to uncover how households planned for and experienced pregnancy and childbirth. Several pre- and post-test studies have assessed outcomes related to education sessions and health provider linkages associated with anemia, healthy pregnancy, and menstruation and learning games for girls. This research brief will focus on a research activity known as the "Health Diaries" and content related to prenatal and childbirth practices and costs.

Between May 2017 and December 2017, the Health Diaries, or a series of frequent household surveys were administered by a research firm located in West Bengal, AG Consultancy, with approximately 45 women. The 45 women were purposefully selected so as to capture a range of experiences related to pregnancy. For this reason, pregnant women, women with young children, and mothers or mothers-in-law of pregnant women were selected to participate. Fifteen women were tracked among ADS members; 30 Bandhan clients were split between Jharkhand (n=15) and West Bengal (n=15).

A total of 10 surveys were conducted every three to four weeks to capture health events (tracking illnesses, accidents, etc.) experienced by the woman or others in her household, how they responded to these events with treatment, how much these events cost the household, how they covered these costs, and the perceived burden of the costs. Each of the 10 surveys also had a special theme that focused on a topic of interest that was assumed to influence how households made decisions related to health care. These topics included household demographics, health preferences, pregnancy and childbirth experiences, income generation, food security, attitudes and perception, gender and intra-household decision-making, education, financial services, and program participation experiences. This research brief will focus on key findings related to pregnancy and childbirth and pulls from data from all 10 surveys where relevant.

While this study relies on a small sample size and, therefore, does not allow for extrapolation or assumptions to be made about microfinance groups or self-help groups nor generalizations about women in Jharkhand or West Bengal, attempts have been made to incorporate similar data from the latest national survey to provide benchmarks, helping to set this data into the overall context.

Results

Demographics

Out of the women interviewed, the average age of marriage was 16 years old, with 71 percent of them marrying between the ages of 12 and 17. Only one person married after the age of 21. The majority (74 percent) wanted to get married at that time. Of those who did not want to get married at that time, they really wanted to finish their studies. One woman shared, *"I had a desire to study more and I did not want to get married. But finding a good person as a groom, my parents arranged my marriage."*

Pregnancy: then and now

At survey one, 40 percent of the 45 women (n=18) were pregnant, and all but 2 of the 18 had previously given birth to other children. All had given birth (or miscarried) by the final survey. The average age of the pregnant women was 26 (youngest was 18; oldest was 36 years old). Of those that were pregnant, 33 percent (6 of 18) did not want to be pregnant at that time. The average age of giving birth for the first time was 18 years of age. The youngest age reported was 14 years of age and the oldest was 23.

Interviews with all women regarding their last (or current) pregnancy revealed that some of the women's husbands were angry to discover their wives were pregnant or the women were worried about giving birth to another girl. One woman shared, *"When my husband came to know that I was pregnant, I was very uncomfortable. We did not have any plan to have a baby. My husband pressured me to have an abortion."* Another woman was also asked to abort her child, *"When I was pregnant, my husband was suffering from some health problems, and at that time, my body was very weak. So, my husband asked me to abort the child, but I did not."* Another woman echoed a similar experience, *"My husband did not want another child, so every day there was unrest between us."*

FAMILY PLANNING

"When my husband came to know that I was pregnant, I was very uncomfortable. We did not…plan to have a baby, [and he] pressured me to have an abortion."

GENDER BIAS

"I was worried about whether it will be a boy or girl. If it was a girl, then she will go to her husband's house after being married, [but] a boy…will take care of us for our whole life."

Women voiced appreciation that, unlike their mothers' generation, boys and girls are now equally valued. However, this did not necessarily allay any fears that they themselves could give birth to another girl. Girls can represent a cost that promises no return on investment or security in their later years. Several women alluded to this tension — that there are different costs associated with boys and girls; that they would need to spend a great deal for their daughter's marriage and then send her to support another household, but any investment in a boy would be like insurance for the future. *"I was worried about whether it will be a boy or girl. If it was a girl, then she will go to her husband's house after being married. If it would be a boy, then he will take care of us for our whole life."* And, yet another woman saw this situation in another light: *"I was worried if he was a boy, then we would have to do*

something about his future. But if she was born a girl, she would get married, and then our responsibility would be over."

All the women shared that times have changed since their mothers' time, particularly related to safe childbirth. When asked how pregnancy and childbirth has changed over time, almost all (n=34) indicated an increase in institutional births as well as reductions in maternal mortality, immediate immunizations, ambulances, and house visits by health workers. Only 6 of the 45 women were born in a health facility whereas 65 percent of them indicated that they had given birth to their youngest child in a health facility. The remaining gave birth at home, and the majority of those women lived in Jharkhand.

Prenatal care

Eighty-one percent of the women had more than four prenatal visits (table 1) which is much greater than state-level averages: the latest National Family Health Survey-4 (NFHS-4) that was conducted in India for 2015–2016 estimated that 30 percent of women Jharkhand and 77 percent of women in West Bengal have had at least four prenatal visits.[7] On average, women from the health diaries had 5.8 prenatal visits. Out of the women who mentioned having fewer than four visits, one woman shared that she had to travel far for her prenatal visits. For the other women who had fewer than four visits, they mentioned going to quacks — or unlicensed doctors — for their prenatal care.

Women were asked where they sought prenatal care for their last child. Most sought care from the public health care facilities (whether from public hospitals, primary health centers, sub-centers, or Anganwadi centers). While women in West Bengal often sought care from public health care facilities or private medical doctors, women in Jharkhand often sought care from quacks or from local Anganwadi centers. Women who visited quacks mentioned most often that they preferred the quacks because this person sits in the village (cost is perceived to be less), and if they do not have money to pay the quack immediately, they can pay when it is possible.

BEHAVIOR CHANGE

Eighty-one percent of the women had more than 4 prenatal visits, which is much greater than state-level averages: the latest NFHS-4 (2015–2016) estimated that 30 percent of women in Jharkhand and 77 percent of women in West Bengal have had at least 4 prenatal visits.

Fifty-six percent (n=25) indicated they sought prenatal care from more than one location, mainly due to the different roles that the health facilities play. For example, one woman shared she went to the Anganwadi center three times to get an injection and to be weighed. She went to the hospital five times for blood pressure tests, blood tests, and to have the baby checked. Another woman indicated she went to the quack doctor most often but went to the Anganwadi center to get a tetanus injection and to be weighed. Others went to private doctors when the sub-centers were not open.

Table 1: Prenatal care

	ADS West Bengal	Bandhan West Bengal (WB)	Bandhan Jharkhand (JK)	Total

Average number of prenatal visits	6.4	5.8	5.3	5.8
Where prenatal care was sought				
Hospital	33.3%	7.1%	20.0%	20.5%
Primary Health Centers (PHC)*	13.3%	0.0%	6.7%	6.8%
Sub-center*	26.7%	42.9%	13.3%	27.3%
ICDS/Anganwadi Centers**	0.0%	7.1%	33.3%	13.6%
Private doctor	20.0%	35.7%	0.0%	18.2%
Quack	6.7%	7.1%	26.7%	13.6%

*__Sub-centers__ are state-owned rural health care facilities and serve between 3000 and 5000 people in rural areas. Each sub-center is required to be manned by at least one auxiliary nurse midwife (ANM) / female health worker and one male health worker. **PHCs** cover populations of 20,000 to 30,000 people and are required to be manned by a medical officer supported by 14 paramedical and other staff.[8]

**__Anganwadi centers or__ Integrated Child Development Services (ICDS) centers provide basic health care in Indian villages such contraceptive counseling and supply, nutrition education and supplementation, as well as pre-school activities.[9]

Childbirth

Of the 31 women who answered the question, did you give birth in a facility, 65 percent (20 of 31 women[c]) said yes and 35 percent gave birth at home. Of the women who gave birth at home (n=11), 9 were Bandhan clients from Jharkhand and 2 were Bandhan clients in West Bengal. Three women from West Bengal gave birth in nursing/birthing centers (two were from ADS and one was from Bandhan) and two people from ADS gave birth in a private hospital.

Costs incurred for prenatal care and childbirth

Despite the fact that most health care for low income households in India is supposed to be free, there are still out-of-pocket (OOP) expenses incurred. Table 2 presents the costs (in INR and USD) estimated by the women for the various possible OOP expenses, and these costs are broken down by partner data.

OUT-OF-POCKET EXPENSES

On average, women reported spending 2164 INR (32 USD) for prenatal care and 2974 INR (45 USD) for childbirth.

Only 11 percent of the women reported having no OOP expenses for prenatal care, and 33 percent reported having none for childbirth. The main reason behind having no OOP expenses for childbirth is due to the women giving birth at home. On average, women reported spending 2164 INR (32 USD[d]) for prenatal care and 2974 INR (45 USD) for childbirth.

[c] By the 10th survey, when this question was asked, only 31 of 44 women answered this question. While the original sample was 45, only 44 women were still participating after survey 3.

[d] Exchange rate in May 2018: 1 USD=67.8 INR

The most significant costs for seeking prenatal care were for medicines (1303 INR or 20 USD) followed by pathology tests (739 INR or 11 USD). It is not clear what medicines were being purchased for prenatal care, but iron and folic acid tablets are supposed to be free in the government clinics. ADS members accrued the most OOP expenses (2603 INR or 39 USD for prenatal care and 6128 INR or 91 USD for childbirth), which is likely associated with where they sought prenatal and delivery care. Bandhan Jharkhand clients, despite relying on quacks and at-home births, accrued most of their OOP expenses from medicine costs, and they faced larger transport costs compared to the women in West Bengal. They spent more money than did Bandhan West Bengal clients for prenatal care and childbirth when they did not rely on quacks or at-home birth. Informal payments, which averaged about 424 INR (6 USD), are typically small payments, tips or gifts provided to birth assistants or others for their care during childbirth.

Burden of childbirth expenses

The Poverty Probability Index (PPI ®)[e] suggests that approximately 9 percent of the ADS and Bandhan participants in this study live below the 1.90 USD international poverty line, 35 percent live below the national poverty line, and 46 percent live below the 3.10 USD international poverty line (table 3). Despite this small sample size, at least for ADS, these estimates are very similar to a pre- and post-test assessment that was conducted across ADS' key program areas in 2017 with a sample size of 266 members.[10] The poverty rates are higher in Jharkhand, which is to be expected. The state-level benchmarks are also provided in table 3 as a reference and suggest that the findings from this study are not far from the state-level poverty rates.

[e] The International Poverty Line (IPL) 1.90 USD/day, IPL 3.10 USD/day, and national poverty line indices were constructed using values from the *India Progress out of Poverty Index (PPI): Scorecard.* Raw values were generated based on responses, summed, and then matched with probability ranges using PPI® documentation. A limitation of this research is that the sample size of the survey is very small and as a result, the results of the PPI analysis are simply suggestive of a likely poverty rate for the respondents. A defined level of confidence in the likelihood that the survey respondents live below various poverty lines would require a much larger sample size.

Table 2: Estimated costs for prenatal care and delivery

	Prenatal care costs					Childbirth costs						
	Doctor's fee	Medicine	Pathology tests	Transport	Total	Doctor's fee	Medicine	Pathology tests	Bed fee	Transport	Informal payment	Total
Had no cost	60%	22%	42%	36%	11%	82%	44%	87%	87%	62%	33%	[29%
INR												
Total	446.67	1303.14	738.46	472.10	2163.53	2660.00	1459.09	2666.67	2500.00	992.93	424.07	2974.17
ADS	471.11	1337.33	783.33	445.83	2603.33	3125.00	2025.00	2666.67	2500.00	1042.86	405.56	6127.78
Bandhan WB	500.00	750.00	618.75	358.27	1595.08	--	925.00	--	--	760.20	512.50	1160.10
Bandhan JK	150.00	1709.09	808.33	733.33	2180.77	800.00	1220.00	--	--	1400.00	370.00	1950.00
USD												
Total	6.70	19.55	11.08	7.08	32.45	39.90	21.89	40.00	37.50	14.89	6.36	44.61
ADS	7.07	20.06	11.75	6.69	39.05	46.88	30.38	40.00	$37.50	15.64	6.08	91.92
Bandhan WB	7.50	11.25	9.28	5.37	23.93	--	13.88	--	--	11.40	7.69	17.40
Bandhan JK	2.25	25.64	12.13	11.00	32.71	12.00	18.30	--	--	21.00	5.55	29.25

Using the INR equivalents for expenditures per person for the three poverty lines,[11] the monthly household expenditures are calculated using the average household size for the women in this study (5.5 for West Bengal and 8.0 for Jharkhand) and adjusted household expenditures estimated in 2011 using PPI documentation for 2017 USD (applying a consumer price index factor—CPI—of 1.4).[12] This monthly expenditure estimate can be used to compare the childbirth expenses to determine how much a burden the expenses are for a household if they were to fall below any of the poverty rates provided. Given prenatal care costs are likely shared over a nine-month period, the financial burden of these expenses will not be captured here. Medical expenses are considered catastrophic if they result in more than 10 percent of household income.[13]

COST BURDEN FOR CHILDBIRTH

The results suggest that all average childbirth expenses could be considered catastrophic for women living below any of the three poverty lines and among any of the women being served by ADS and Bandhan in West Bengal and Jharkhand.

The results suggest that all average childbirth expenses could be considered catastrophic for women living below any of the three poverty rates and among any of the women being served by ADS and Bandhan in West Bengal and Jharkhand. The average childbirth expenses for members of ADS were 125 percent of monthly household expenses if the woman's household lived below the 1.90 USD poverty line, 86 percent if she lived below the national poverty line, 78 percent if she lived below the 3.10 USD poverty line. Contrast to these are the expenses incurred by women being served by Bandhan in West Bengal whose expenses were still above the 10 percent threshold — albeit slightly — for catastrophic expenses.

Table 3: Poverty rate and catastrophic medical expense estimates

	PPI 1.90 USD	National	PPI 3.10 USD
TOTAL	9%	35%	46%
ADS	4%	23%	33%
ALL BANDHAN	11%	41%	52%
West Bengal	5%	25%	36%
Jharkhand	16%	56%	69%
Household Poverty rate for West Bengal state (rural)	3.5%	26.9%	41.7%
Household Poverty rate for Jharkhand state (rural)	9.3%	41.3%	60.2%
Monthly household expenditures for West Bengal (INR)	4888 INR (21.16/day*5.5 =	7094 INR (30.71/day*5.5	7900 INR (34.2/day*5.5 =

Daily expenditures per person in INR West Bengal (rural) * Average household size (5.5) * 30 days * CPI (1.4)	**116.38)*30 days *1.4**	**= 168.91)*30 days *1.4**	**188.10)*30 days *1.4**
Monthly household expenditures for Jharkhand (INR) Daily expenditures per person in INR Jharkhand (rural) * Average household size (8.0) * 30 days * CPI (1.4**)**	**6915 INR** (20.58/day*8.0 = 164.64)*30 days *1.4	**9986 INR** (29.72/day*8.0 = 237.76)*30 days *1.4	**11225 INR** (33.41/day*8.0= 267.28)*30 days *1.4

ADS West Bengal Childbirth Expense Burden (Average childbirth expense/ monthly household expenditure)	125% **(6127/4888 INR)**	86% **(6127/7094 INR)**	78% **(6127/7900 INR)**
Bandhan West Bengal Childbirth Expense Burden (Average childbirth expense/ monthly household expenditure)	**24%** (1160/4888 INR)	**16%** (1160/7094 INR)	**15%** (1160/7900 INR)
Bandhan Jharkhand Childbirth Expense Burden (Average childbirth expense/ monthly household expenditure)	**28%** (1950/6915 INR)	**20%** (1950/9986 INR)	**17%** (1950/11225 INR)

These OOP expenses can be benchmarked to NFHS-4.[14] Table 4 shows that the expenses for the ADS clients might not necessarily be outliers given the average costs estimated to be incurred in the state of West Bengal.

Table 4 also outlines the state-level metrics for institutional birth, percent of population covered by a health scheme or insurance, and the percent of mothers that received JSY benefits. Given the deeper poverty in Jharkhand, more women qualified for and accessed JSY benefits compared to women in West Bengal, but fewer had access to health insurance.

Table 4: Key state-level indicators from NFHS-4 (2015-16)

	Jharkhand			**West Bengal**		
	Urban	Rural	Total	Urban	Rural	Total
Average out of pocket expense per delivery in a public health facility (INR)	1889	1391	1476	8783	7400	7782

Women who gave birth in an institution	81.6%	57.3%	61.9%	83.7%	71.9%	75.2%
Households covered by a health scheme or health insurance	13.1%	13.2%	13.3%	28.1%	36.1%	33.4%
Mothers who received financial assistance under JSY for births delivered in an institution	25.2%	47.4%	41.6%	17.4%	34.0%	28.7%

When data from the health diaries is assessed, approximately 18 percent of the women interviewed had accessed JSY benefits. Of those who did not access JSY and could have, they indicated that due to giving birth at home, they did not qualify to receive this benefit or that someone in their family, mainly their own parents, had given financial support to cover the costs of the birth. Of the 8 women who received JSY benefits, 7 of them received 1000 INR and one woman received 1200 INR. When these amounts are compared to the average costs incurred above, the JSY benefit may cover only half of the costs incurred, at best. One woman, from West Bengal, shared she went four times to the health center to inquire about her JSY benefit and the ANM indicated there was no check. She finally gave up. So while JSY benefits are supposed to be provided to the woman at the medical facility after the delivery, this does not appear to happen in practice for everyone.

SAVINGS BEHAVIOR

The majority of the women indicated they saved, or were saving, to cover the costs of childbirth, and the majority saved this money at home.

Said one ADS client:
"I keep some money in my house, and my father also gives me money. If I save money in a bank or a group, I cannot get it instantly. Also, there is no chase to repay the money if I want to access that money instantly."

In addition to JSY, the majority of the women indicated they saved, or were saving, to cover the costs of childbirth, and the majority saved this money at home, followed by saving this money in a bank. Of the 45 women, 11 noted that they saved money at home for health because it provided them instant access to the funds (7 of the 11 women were from ADS). They noted this is a reason why they did not rely on a bank account or their SHG for saving because they cannot have instant access to the funds. One woman from ADS shared, *"I keep some money in my house, and my father also gives me money. If I save money in a bank or a group, I cannot get it instantly. Also, there is no chase to repay the money if I want to access that money instantly."* This was also noted by a few women—that taking a loan could result in being "chased" for repayment. It was easier to borrow from family and friends as this allowed for more flexibility in repayment if it was required.

Despite the reported costs for childbirth, the majority indicated that these expenses were not a burden due to the savings they set aside specifically for this cost or because they were able to

rely on family members who helped cover the cost burden. One woman from Jharkhand shared, *"It was no burden. We kept some money at home for the delivery of the baby. So there was no problem in spending for the child's birth."*

Table 5: Managing childbirth costs

	ADS West Bengal	Bandhan West Bengal	Bandhan Jharkhand	Total
Saved money to cover costs of childbirth	87%	67%	93%	82%
Where saved:				
Home	73%	53%	87%	71%
SHG	7%	0%	0%	2%
Bank	13%	13%	7%	11%
Purchased livestock to sell for delivery costs	0%	7%	0%	2%
Purchased other assets to sell for delivery costs	20%	0%	0%	7%
Received JSY Benefits				
Yes	13%	20%	20%	18%
No	60%	60%	60%	60%
Didn't qualify	27%	20%	20%	22%
Degree of burden of childbirth costs				
Huge burden	7%	13%	7%	9%
Modest burden	7%	0%	7%	4%
No burden	80%	73%	87%	80%

Figure 1 shows the percentage, of the 18 women who were pregnant when the health diaries were initiated, who were saving for childbirth costs and the average amounts.

Saving for childbirth

On average, savings earmarked for childbirth costs averaged above 3,000 INR (44 USD) until the last survey when all of the 18 women had given birth (or miscarried) and therefore, were no longer saving for childbirth costs (figure 1). There was one woman from West Bengal (an ADS member) who saved up to 30,000 INR (440 USD) who skewed the average through the 4th survey, when she gave birth. She was planning for a cesarean delivery. She and her husband saved his income at home to cover the amount. By survey 7, the average amount represents only one woman who was still pregnant and her saving amount. This data does demonstrate that women are actively saving money, in varying amounts, to cover the costs of childbirth.

Health financing

Women were asked, if given the opportunity to provide input into a financial product that could help them plan for the costs associated with childbirth, what their preference would be. Ranking their preference by first, second and so on, they most commonly answered savings as the first choice, followed by borrowing and mortgaging assets; insurance products were mentioned the least often (table 6). Most women only mentioned two strategies, but some

mentioned four different strategies. Table 6 highlights that among those preferring savings, they wanted or anticipated saving at home, saving generally (they did not specify where or how), or saving in a bank account. Saving at home accounted for most mentions of saving. Among borrowing, borrowing through use of a loan administered by the SHG was most often mentioned. Among mortgaging, mortgaging small and large assets were almost equally considered. What is interesting to note is that women did not specify using moneylenders or borrowing from friends, family or others as often when considering financial tools they would like to use, which contrasts to how many of them actually handle health costs by relying on family, friends, and neighbors.

Figure 1: Savings for childbirth

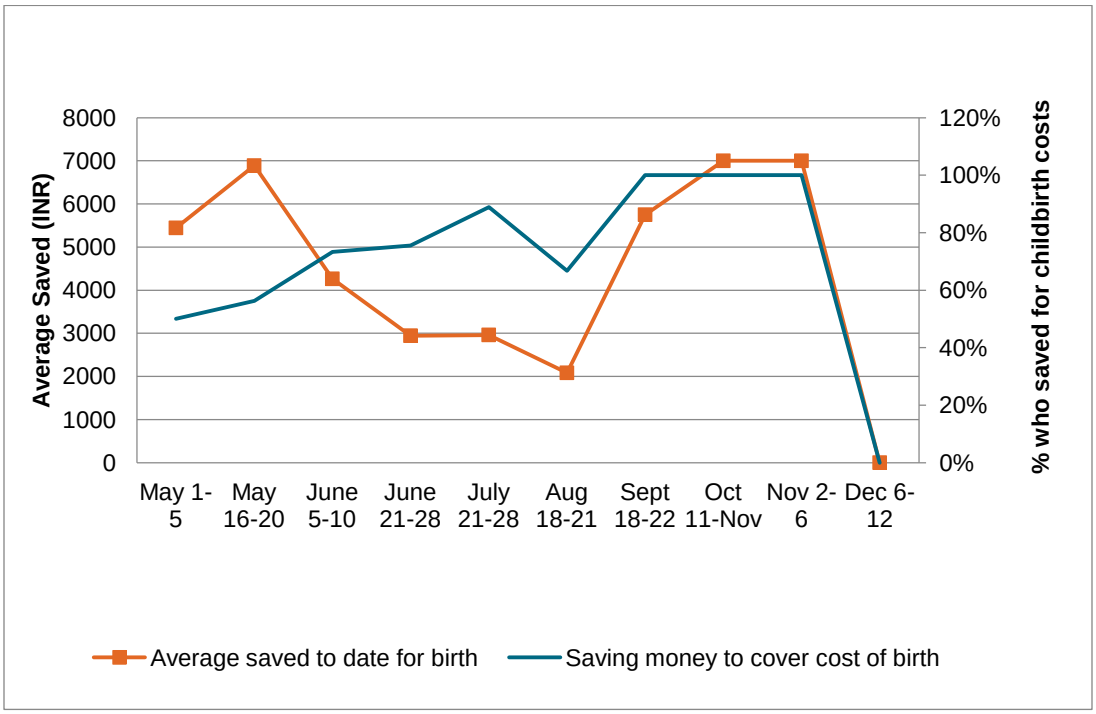

Table 6: Health financing preferences

	1st	2nd	3rd	4th	TOTAL	
					N	%
SAVING	24	6	1	0	31	**84%**
Saving at home	***13***	*2*	*1*	*0*	*16*	*43%*
Saving (generic)	*6*	*2*	*0*	*0*	*8*	*22%*
Bank account	*5*	*2*	*0*	*0*	*7*	*19%*
BORROWING	3	16	7	0	26	**70%**
SHG loan	*3*	***12***	*5*	*0*	*20*	*54%*
Loan (generic)	*0*	*2*	*1*	*0*	*3*	*8%*

Borrow from family	*0*	*2*	*1*	*0*	*3*	*8%*
MORTGAGING	0	2	12	2	16	**43%**
Mortgage land/house	*0*	*0*	*7*	*1*	*8*	*22%*
Mortgage smaller assets (jewelry, livestock)	*0*	*2*	*5*	*1*	*8*	*22%*
INSURANCE	6	3	2	0	11	**30%**
Insurance (government: RSBY[f], etc.)	*4*	*3*	*2*	*0*	*9*	*24%*
Insurance (private: LIC[g])	*2*	*0*	*0*	*0*	*2*	*5%*
Not/wouldn't do anything due to not desiring any more children	8					***18%***

Discussion and Implications

The Health Diaries research reveals that most women seek prenatal care but not always from formal medical providers, as many women, particularly in Jharkhand, will seek care from local unqualified medical providers, or quacks. Quacks are utilized due to their proximity to the community and for their perceived low costs. Despite the availability of free public health services for prenatal care, women are also visiting multiple providers for prenatal care, mixing public health, private, and informal medical care. Some of this is due to the structure of the health system in India where lower-level health centers cannot provide advanced medical support or testing, which may occur only in hospitals or primary health centers.

The women interviewed for the diaries reported spending, on average, 2163 INR (32 USD) for seeking prenatal care and 2974 (45 USD) for childbirth costs. The prenatal care costs could be underestimated because it is not completely clear whether women were estimating for all visits or just one or a few visits. In either case, the estimated cost of the childbirth expenses exceeded the 10 percent of income threshold for all three poverty lines assessed, suggesting that the costs could be catastrophic for low-income households. However, some of the women interviewed did not feel the costs were a significant burden due to the fact they were saving for the childbirth costs (which they tended not to do for health costs, in general[15]). In contrast, some women were also giving birth at home because of cost, suggesting, for some, the costs represent a significant barrier.

Most women saved their money at home for pregnancy- and childbirth-related costs due to the fact they could access these funds immediately. When asked about financial products they would like to have for preparing for childbirth costs, most women preferred savings (especially saving their money at home), followed by borrowing from their group, mortgaging assets and then lastly, insurance. This order of preference suggests that the proximity of access to money

[f] Rashtriya Swasthya Bima Yojana (RSBY): a government-run health insurance program for low-income households in India; it provides cashless insurance for hospitalization costs in public and private hospitals.
[g] Life Insurance Corporation of India: a private insurance company providing life, health, and other insurance products.

to the household is prioritized. While there are government insurance schemes available, these evidently are not perceived as first-line financial products, which may be due to the hassles households have to experience to both enroll for and use these products. Moreover, pay-outs for some households are not guaranteed, as was seen with the one client who never received her JSY payment after the birth of her child. In the final survey, the women were asked how they would like Bandhan and ADS to support them going forward, a few women, particularly in Jharkhand, mentioned the desire to receive more education on the government schemes that are meant to support them: *"If they tell us about the government schemes then we can get advantages from them."*

This prioritization of use of financial tools has important implications for the design of such products as the group health savings that ADS has been implementing with their SHGs. Women in the ADS SHGs first save and borrow with their group funds directed towards business or other household investments as is normal, but they save in a second round specifically for health. These health funds are kept in a lock-box with the group, so the funds are more easily accessible by the members. To gain access to the funds prior to the annual pay-out, women can request a loan from the available funds in the box. This requires that the group members meet and decide on who can take health loans at any given meeting.

As of January 2018, the majority of ADS groups (1555 out of 2060 SHGs, accounting for 75 percent of their groups) had chosen to save for health in addition to their regular savings. Almost 91 percent of those saving for health had yet cross the one year mark, meaning most had not yet reached the annual payout period where the women would receive their full savings back plus any additional interest or fees that would have accumulated on those savings. Given only 69 loans had been disbursed, this means very few groups were likely accumulating any interest because it is the interest on the loans that provides that "interest" on the total savings at payout time. The average loan size was approximately 475 INR (7 USD), which given the average costs reported above for prenatal care, represents a small fraction of the costs incurred. This is likely resulting in women depleting whatever savings at home first, followed by taking the health loan with the group. This alone may not be a poor strategy, but it is important to note the preference for having money that is quickly accessible for health costs, which the health savings may not necessarily provide, making it more of a secondary strategy than a primary one for covering health costs. A full analysis of the ADS' nascent health savings program will be covered elsewhere, but its applicability to prenatal and childbirth costs is worthy of reflection as well.

In conclusion, the health diaries research suggests the following for prenatal and childbirth costs among low-income women in West Bengal and Jharkhand:

1. **Low-income households are incurring possibly catastrophic expenses for prenatal care and childbirth, despite available government programs meant to mitigate these costs.** Transport costs alone can be close to or greater than the JSY benefit meant to incentivize institutional birth. Mathematically, the JSY benefit is not sufficient for a low-income household to give birth in an institution if the perceived costs exceed the total benefit they can receive. This finding has been confirmed elsewhere.[16]
2. **Households are actively saving for prenatal and/or childbirth expenses, even if they plan to give birth at home**. Indirect expenses, such as transport or gifts they provide to those that assist them during childbirth, are not insignificant.

3. **Most of the women in Jharkhand interviewed for this research gave and continue to give birth at home, despite government support to encourage institutional birth.** In a 2013 study, it was found that Jharkhand state, along with Assam, Bihar, Chhattisgarh, and Uttar Pradesh, were among the states where the majority of births were conducted at home without any medical assistance.[17] Another study found that women in Jharkhand were inclined to deliver their next baby in a health facility given the perceived better availability of medicines and supplies and improved health outcomes of both mother and newborn, but there would need to be improved quality of public maternal health services to increase maternal satisfaction with the services.[18] It has also been found that JSY benefits have not been equally distributed in Jharkhand, where JSY benefits favor wealthier groups.[19] Moreover, an additional study noted that resistance to institutional birth from family prevented some women who wanted to give birth in an institution. Additionally, some women misreported the onset of true labor pain, which delayed transporting the mother to the facility in time and forcing her to give birth at home.[20]
4. **Households are quickly forced to mortgage large assets** (the third most-mentioned strategy prior to using insurance) when they have exhausted at-home savings and loans they can receive from their groups. This suggests that there is an opportunity to fill this gap, perhaps with access to larger emergency loans, to help households avoid losing important assets such as their home or land.
5. **Financial products designed to assist women in preparing for and covering childbirth costs will have to be designed in such a way that they respond to the urgency in which women feel they have to respond to these costs.** Most prefer to use savings kept at home because, in their words, *"when I need money, I get it instantly."* While ADS' health savings are quite new and active use of the health savings may grow over time, it is important to note and track the preferences women have in responding to health costs, which suggest that the health savings may not be actively used if 1) they have to wait until the group meets to request a health loan and 2) the amount of the health loan is not sufficient to cover the remaining gap a woman has in covering a particular health cost. It is just as easy, and likely preferable, to get a "no-interest" loan from family and friends, if the amount is not significant, due to the relative hassle of seeking a loan from the SHG.

The sample size for this study is quite small; however, the results provide interesting and important insights into the costs incurred by low-income households in West Bengal and Jharkhand. However, given the reported costs are similar to those captured by the NFHS–4, there can be some added confidence that what has been reflected here is likely representative of other similar households. Given that most of the women interviewed were members of SHGs or village banks, these women are obviously in a position to save and have mechanisms to do so, but this does not fully remove their vulnerability to the significant costs they incur to seek prenatal care and for childbirth expenses.

References

[1] Gorain A, Barik A, Chowdhury A, Rai RK. 2017. Preference in place of delivery among rural Indian women. *PLoS ONE* 12(12): e0190117. https://doi.org/10.1371/journal.pone.0190117.

[2] Goudar SS, Goco N, Somannavar MS, et al. 2015. Institutional deliveries and perinatal and neonatal mortality in Southern and Central India. *Reproductive Health*. 12(Suppl 2):S13. doi:10.1186/1742-4755-12-S2-S13.

[3] Lawn JE, Cousens S, Zupan J for the Lancet Neonatal Survival Steering Team. 2005. 4 million neonatal deaths: When? Where? Why? *Lancet*. 365(9462):891–900. doi: 10.1016/S0140-6736(05)71048-5; Ronsmans C, Graham WJ for Lancet Maternal Survival Series steering group. 2006. Maternal mortality: who, when, where, and why. *Lancet.* 368(9542):1189–200. doi: 10.1016/S0140-6736(06)69380-X.; Li XF, Fortney JA, Kotelchuck M, Glover LH. 1996. The postpartum period: the key to maternal mortality. *Int J Gynaecol Obstet*. 1996;54(1):1–10. doi: 10.1016/0020-7292(96)02667-7.

[4] Janani Suraksha Yojana (JSY). 2016. National Health Portal. Government of India. https://www.nhp.gov.in/janani-suraksha-yojana-jsy-_pg.

[5] Mohanty S, Srivastava A. 2013. Out-of-pocket expenditure on institutional delivery in India. *Health Policy and Planning*: 28(3), pgs 247–262. https://doi.org/10.1093/heapol/czs057

[6] Janani Suraksha Yojana (JSY).

[7] "Key Findings from HFHS-4, 2015–2016," National Family Health Survey, India. http://rchiips.org/nfhs/factsheet_NFHS-4.shtml. West Bengal and Jharkhand state reports.

[8] Government of India. 2014. Number of Sub-Centres, Primary Health Centres and Community Health Centres Established During Five Year Plans. Open Government Data (OGD) Platform India. https://data.gov.in/catalog/number-sub-centres-primary-health-centres-and-community-health-centres-established-during.

[9]Government of India. 2015. Anganwadi Centers. ICDS. https://data.gov.in/keywords/anganwadi-centers-icds.

[10] Banura E, Gray B, Chakraborty A. 2018. Healthy Mothers Make Healthy Communities: Research Brief. Grameen Foundation and Freedom from Hunger India Trust. Washington, DC and New Delhi, India. *Forthcoming.*

[11] Schreiner M. 2016. India 2011 Progress out of Poverty Index® (PPI®): Design Memo. https://www.povertyindex.org/country/india. Microfinance Risk Management, L.L.C.

[12] The inflation rate calculation draws from previous work by Choudury D, Bhagat P, Zia W. 2017. Research on Triggers and Barriers to Uptake of Dental Healthcare Services Among Low Income Households in Urban India. Grameen Foundation India.

[13] Leatherman S, Geissler K, Gray B and Gash M. 2012. Health Financing: A New Role for Microfinance Institutions? *J. Int. Dev*. 25(7). doi: 10.1002/jid.2829.

[14] "Key Findings from NFHS-4, 2015–2016," National Family Health Survey, India. http://rchiips.org/nfhs/factsheet_NFHS-4.shtml. West Bengal and Jharkhand state reports.

[15] Bardsley AB, Gray B. 2018. Breakthroughs in Affordable Healthcare: What "Health Diaries" tell us about managing health care and costs among low-income women in West Bengal and Jharkhand. *Forthcoming.*

[16] Mohanty S, Srivastava A. 2013. Out-of-pocket expenditure on institutional delivery in India. *Health Policy and Planning.* 28(3), pgs 247–262. https://doi.org/10.1093/heapol/czs057.

[17] Ibid.

[18] Bhattacharyya S, Srivastava A, Roy R, Avan B. 2016. Factors influencing women's preference for health facility deliveries in Jharkhand state, India: a cross-sectional analysis. *BMC Pregnancy and Childbirth*. 16(50). doi: 10.1186/s12884-016-0839-6.
[19] Thongkong et al. 2017. How equitable is the uptake of conditional cash transfers for maternity care in India? Evidence from the Janani Suraksha Yojana scheme in Odisha and Jharkhand International. *Journal for Equity in Health.* 16(48). doi: 10.1186/s12939-017-0539-5.
[20] Gorain A, Barik A, Chowdhury A, Rai RK. 2017. Preference in place of delivery among rural Indian women. *PLoS ONE.* 12(12): e0190117. https://doi.org/10.1371/journal.pone.0190117.