

Community Health Aid Efficacy: Informed Observations from Himalayan Communities in Northeastern India

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Abstract

In India, the concurrence of market and government failures in healthcare exacerbate the economic and medical burden of disease for a considerable number of citizens, however there is currently little data and research focusing on healthcare in Himalayan communities of Northeastern India, which face infrastructural and economic isolation. Thus, the following research question has been posed: Have community health programs for Himalayan communities in the Kalimpong, Darjeeling, and Dooars regions of North Bengal been effective in improving the economic and medical well-being of the poor? This research question has been informed through data gathered from semi-structured interviews and surveys, conducted from January 2017 to March 2017 with community health volunteers (CHVs) of Himserve, a non-government organization (NGO) that has been offering health services to Himalayan communities in Northeastern India for the past 14 years. The main findings of this research are as follows: medical and economic burdens of disease for patients with non-chronic and non-acute illnesses have seen improvement, especially for pre & post-natal care, kidney stones, hypertension, and malnourishment, however for patients with chronic or acute illnesses there has been little to no improvement in alleviating the economic and medical burdens of disease, particularly for stroke and heart disease, cancer, epilepsy, and diabetes.

Keywords: International Economic Development, Aid Efficacy, Public Health

1. Introduction

According to a 2014 report by the OECD, India expended 4% of its GDP on healthcare in 2012, equating to less than half the OECD average of 9.3%.¹ Of the health expenditure in India, 60% was from out-of-pocket expenses, which is higher than any other OECD country.² Communities that are isolated and poorer than others often face additional health and financial burdens, and in the case of Himalayan communities in the Darjeeling, Dooars, and Kalimpong regions of North Bengal, there is little data and research that focuses on healthcare. A 2016 literature review on studies of health inequalities in India concludes with a recommendation that “studies on health inequalities in the future focus on... underrepresented health outcomes and populations.”³ This research aims to set up a platform for future studies on public health and health economics in rural communities of North Bengal, while further providing an account of efforts made by an organization in this region through qualitative and quantitative data. The paper begins with background information on and definition of market and government failures in the Indian healthcare system, while also highlighting the importance of alleviating the externalities associated with these failures. Subsequently, background information on aid efficacy is provided with focus on three prevailing views in current literature. Of these three views, the recommendations of Dr. Abhijit Banerjee and Dr. Esther Duflo, who highlight that aid efficacy is a highly intricate topic that should be approached on a case-by-case basis, have been heeded. Background on market failure, government failure, and aid efficacy provide a framework for this research paper. Within this framework lies

the scope of this research project: A study on the effectiveness of small-scale aid through an NGO in North Bengal in alleviating economic and medical burdens of disease. To assess these burdens, qualitative data from semi-structured interviews alongside quantitative data from surveys conducted by Himserve during assessment of their community health volunteer program, which trains women from each community in preventative health, emergency response, and midwifery, will be utilized.

2. Background

2.1 Market Failures of the Indian Healthcare System

Market failures provide a way for economists to approach public policy so they may “identify the specific systematic reasons why an unfettered free and competitive market will not allocate resources efficiently. These... justify government intervention and usually imply a particular set of appropriate interventions.”⁴ The primary market failure which arises in the Indian healthcare market is “the universal failure of insurance markets due to asymmetric information.”⁵ Lack of knowledge about the behaviors that individuals may take after receiving insurance (moral hazard) combined with uncertainty regarding the risk type (adverse selection) that each individual may withhold have led to low rates of insurance among Indian citizens, with particularly low rates of insurance among rural communities. The Indian Ministry of Statistics and Programme Implementation states that in 2014, “as high as 86% of [the] rural population... [was] not covered under any scheme of health expenditure support.”⁶ To provide further context, research shows that “Indians on average spend 58 percent of their total annual expenditure. Over 40 percent... borrow heavily or sell assets to cover expenses... [and] over 25 percent... fall below the poverty line because of hospital expenses.”⁷ The fact that so many Indian citizens are spending so much money out-of-pocket, and further have a high propensity to borrow or sell assets is not only an issue for the economic well-being of poor Indians, but also for the economic well-being of the health care market as a whole. Further, because India’s health care market is so overwhelmingly private, and because of the market failures mentioned above, government intervention is easily justified to fill the gaps caused by market failure. However, the government has limitations and failures of its own.

2.2 Government Failures of the Indian Healthcare System

In the article, “Understanding Government Failure in Public Health Services,” the authors outline the ways in which Governments are responsible for equitably aiding in market transactions. The authors reference the WDR 2004 accountability framework which outlines accountability between policymakers and market agents (patients and healthcare providers in this case). Government accountability splits into two sections under the WDR 2004 framework, the first of which being the accountability of “voice,” meaning that the government must “have a clear understanding of what the citizenry wants.”⁸ Second is the “compact,” or the ability “to transmit these demands to the actual provider... and to make sure that the incentives for these providers are aligned with the ultimate preferences or well-being, of the citizens.”⁹ There are a multitude of ways in which these two points of accountability are not upheld by the government, which leads to government failures. “Voice” government failures occur simply due to the actions of politicians on all levels of government. Politicians have higher incentive to invest in non-communicable disease control because investments in this area are considered both more tangible and more quickly gratifying than investments in communicable disease control.¹⁰ The incentive for politicians lies in the fact that “it is harder for politicians to take credit for successfully adopting public health measures whereas they can be at the official opening of a physical facility.”¹¹ Further, with only a scarce amount of resources, politicians focus on where elites want their money invested, which in the case of India is more favorably allotted to education expansion rather than public healthcare.¹² The danger of government failure is even more imminent for populations that already face political isolation, as they may not be receiving the services that would best support their communities.

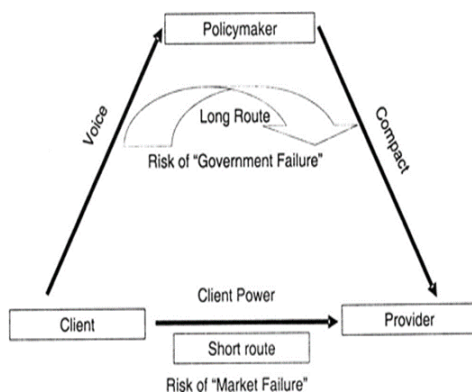


Figure 1: WDR Accountability Framework, taken from “Understanding Government Failure in Public Health Services” by Jeffrey Hammer (et al.)

The WDR Accountability Framework highlights the communication methods of Clients, which are marginalized communities in the context of this research, Policymakers, and Providers. The framework highlights the risks of market and government failure and provides visual representation of the modes of transmission of these failures via communication.

Whether this government failure fully relates to “politics” or not, it is still important for the voices of the poor to be supported and heard by the Indian government, which means that allocation of funds for program evaluation and quality improvement measures of public health care services could be a good step towards progress in improving the “voice” of the poor. In fact, “Compact” government failures arise primarily due to lack of incentives for providers within the public health care system. Medical care providers in India are provided salary-based payment, which is not affected by absences or performance, leading to a consequential breakdown in the quality of services provided at public health centers in India.¹³ In “Understanding Government Failure in Public Health Services,” the following observations of public health centers in India were mentioned: vacancies in posts leading to inadequate staff, absenteeism among medical care providers, inadequate competence of staff, inadequate effort applied by staff, discourteous behavior, and illegal payments.¹⁴ Salary-based payment for public providers is a very easily observable “compact” government failure, insofar that tangible evidence of performance, which has been measured in public health centers in India, remains astronomically low compared to performance measurements of private providers, leading to the highly privatized health care market which we see today.¹⁵ Both the “compact” and “voice” government failures have led to a breakdown of India’s public health care system. Luckily, NGOs are available to try and fill the gaps left by market and government failures.

3. Previous Research

3.1 Introduction to Aid Efficacy

Extensive research on the efficacy of government and non-government programs has been conducted, primarily in the form of Randomized Control Trials (RCTs), within developing communities all around the world. These studies provide valuable insight for policymakers, NGOs, and other researchers that wish to work with the populations being studied. The fact that there is a scarce amount of literature on rural Himalayan communities in the Darjeeling, Dooars, and Kalimpong regions of North Bengal means that regional and state policymakers may have a highly opaque understanding of the services that would best support these communities. A fair amount of literature exists for urban regions of North Bengal, such as a study on the “Prevalence of Ischemic Heart Disease Among [the] Urban Population of Siliguri, West Bengal”¹⁶ and for other rural communities in West Bengal, such as a study on “Typhoid Fever in Rural Communities of West Bengal, India,”¹⁷ which takes place in the 24 Pargana District of West Bengal, near Kolkata. In context of this paper, “Aid” is considered on a regional level and is assessed through an NGO that works within the Kalimpong, Darjeeling, and Dooars regions of North Bengal. The topic of “Aid Efficacy” has long been discussed, primarily at a more macro level, however there are compelling reasons to scale down program and aid effectiveness research. Three views of aid efficacy have seemed to become commonplace in discussion regarding efforts to gauge the impact of both foreign and domestic forms of aid: “Big Push” Approach, “Dead Aid” Approach,

and the “Case-By-Case” Approach. This section focuses on providing background information regarding these three approaches to “Aid Efficacy,” and situates this research into the “Case-by-Case” approach to the topic.

3.2 The “Big Push” Approach

The “Big Push” approach to aid efficacy has been coined by Jeffrey Sachs, an American development economist from Columbia University. Jeffrey Sachs asserts that individuals living in poverty find themselves in “poverty traps,” meaning they are not able to reserve or generate enough capital to improve their economic condition and invest towards their future, due purely to a lack of resources. The lack of resources available for saving and investing in their future worsens their economic condition by showing that their income tomorrow is less than their income today. Jeffrey Sachs argues that it takes a “big push” of aid to move individuals out of poverty traps.

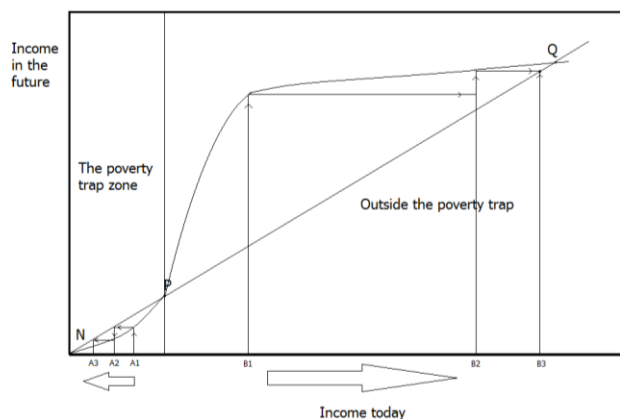


Figure 2: Jeffrey Sachs “Poverty Trap” Model, taken from “Poor Economics” by Abhijit Banerjee and Esther Duflo¹⁸

The “Poverty Trap” model above shows income in an individual’s future, represented by the S-shaped curve, and presents an individual’s current income, represented by the bisecting 45-degree line. In the “poverty trap zone,” it can be observed that individuals maintain a lower future income, as compared to their current income. Point “P” represents a point where individuals escape the poverty trap and are in a position where their future income is higher than their current income. Jeffrey Sachs advocates that aid should aim to push people past this point so that they can begin to attain income growth.

3.3 The “Dead Aid” Approach

The “Dead Aid” approach to aid efficacy has been developed by American economist William Easterly from New York University. Easterly primarily asserts that aid dissipates in many ways, mainly due to government corruption, so international aid to developing countries may be harming individuals living in poverty rather than helping them. Easterly further highlights that aid can cause individuals, communities, and even governments to become reliant on external resources, meaning that these individuals and institutions will not foster self-reliance, which is a critical element of economic development and public health.

3.4 The “Case-By-Case” Approach

In the book “Poor Economics” by Indian economist Dr. Abhijit Banerjee and French Economist Dr. Esther Duflo from MIT, discussion is focused around a “case-by-case” method of evaluating aid efficacy. Dr. Banerjee and Dr. Duflo highlight multiple case studies that they have conducted where they have seen results that match up with the ideas of both Easterly and Sachs, thus they have been led to assert that aid efficacy is so intricate that it is best evaluated in a small-scale approach. Banerjee and Duflo explain this philosophy by highlighting the differences in behaviors of poor individuals living in different countries, and even in different regions of the same state. The authors found there is such a high level of variance in the needs and behaviors of communities and individuals living in poverty, that it may be impossible to come to a consensus about aid efficacy. Thus, the authors advocate for micro-level analysis of

program and aid efficacy, which may help reveal best practices for economic development and public health, hopefully leading to greater efficacy of aid worldwide.

4. Methodology

4.1 Evaluation Methods and Population Description

Data has been provided by the evaluation reports of Himserve, a Christian NGO based in Siliguri, West Bengal. Research was conducted in the village communities of the Kalimpong, Darjeeling, and Dooars regions of Northeastern India. Research included semi-interviews and surveys conducted by the evaluation team of Himserve. Interviews and surveys were developed in English and translated to Nepali, as this is the local language of community members. Research on health was conducted with Community Health Volunteers (CHVs), who have all undergone an eight-month health training module through Himserve. The CHV program is made up entirely of women from each community who, with their knowledge from Himserve's training, provide health awareness, disease treatment, and treatment referral to community members living in remote villages of each region. Based on the specific question, there was a response rate of anywhere from six to eleven (N=6-11) CHVs, as some had either no comments or did not provide answers to questions.

4.2 Limitations to Evaluation

Data from Himserve was very limited due to the capacity of evaluation staff to interview large amounts of respondents. Ideally, each evaluated field would have at least thirty respondents, who have been randomly selected for interviews and surveys. However, limitations within the NGO have prevented this, meaning that there is a probability of selection bias due to convenient sampling, as well as concerns regarding the external validity of the research. An additional caveat of the research methods, which is applicable to all cases of interview and survey, is the "Hawthorne Effect." The "Hawthorne Effect" asserts that individuals may act in ways that are not representative of their natural behavior when they know that they are being observed. Despite these caveats, the research in this paper has potential to be extremely useful as an indicator of economic development and public health outcomes in each region, while also serving as a source of reference for further evaluation of health outcomes of rural communities in North Bengal.

4.3 Evaluation Documents and Terminology

Limitations exist in the availability of statistical analysis procedures due to the sample size of Himserve's data, thus descriptive statistics and confidence intervals have been generated for this research to act as quantitative tools of analysis. There are three documents that Himserve utilized for their evaluation project, all of which were collected during evaluations from January 2017 to March 2017. The first of these documents is the "Himserve Evaluation Questionnaire,"¹⁹ (Appendix B) which holds data from interviews in each program area that the organization focuses on, ranging from health and education to ministry programs carried out by the organization. The second source of data for this project is the "Himserve CHV Questionnaire,"²⁰ (Appendix A), which includes questions about disease prevalence, access to health services, treatment preferences, and healthcare consumption trends of community members. The final document utilized is the "Himserve CHV Survey."²¹ The results of the CHV survey were utilized to act as a proxy for reduction of physical disease burden, as the survey gauged CHV confidence in disease recognition and treatment options, based on the logic that the knowledge of CHVs regarding recognition and treatment options for health issues affects their capability to provide services to community members, which in turn can be utilized to gauge the quality of services community members receive from CHVs. A term utilized in this paper is "Critical Diseases," which are diseases where the 95% confidence intervals for either disease recognition or treatment knowledge had an upper bound of approximately "moderate confidence (3)". For "Critical Diseases," the upper bound of the confidence interval signifies that there is 95% confidence that CHVs, on average, maintain, at most, a moderate level of confidence in either disease recognition or treatment knowledge. These have been marked "critical diseases", as they are areas where improvement should arguably be made, and highlight services provided by CHVs that may not have been adequate in alleviating the physical burdens of disease for community members. Responses were recorded at the following levels: "Not at all confident," "Slightly Confident," "Moderately Confident," "Highly

Confident,” and “Extremely Confident.” These five values were then translated to a numerical scale (1-5) for purposes of quantitative analysis.

5. Results

5.1 Survey Analysis

In this section of the paper, descriptive statistics and confidence intervals have been generated for CHV confidence in recognizing and either treating or providing referral for treatment of each respective health subtopic. CHV knowledge is utilized as a proxy for alleviation of medical burdens of disease, as their knowledge directly affects their capacity to serve community members, which in turn dictates the quality of care that patients of CHVs are receiving. Two subsections will follow in this section, the first outlining “critical diseases” and the second evaluating health issues that have confidence intervals that indicate high levels of health issue recognition and treatment knowledge. Equation 1, listed below, has been used to construct confidence intervals for CHV competency in recognizing health issues and knowledge of treatment for these issues.

$$\text{Confidence Interval for Sample Population: } \bar{X} \pm t * (s/\sqrt{n}) \quad (1)$$

In equation 1, \bar{X} is the sample mean, t is the t -value for a sample with degrees of freedom equal to n minus 1, s is the standard deviation of the sample, and n is the sample size.

5.1.1. critical health issues

Diabetes Recognition		Stroke and Heart Disease Recognition		Cancer Recognition		Epilepsy Recognition	
Mean	2	Mean	2.222222	Mean	1.8	Mean	2.333333
Standard Error	0.372678	Standard Error	0.433903	Standard Error	0.290593	Standard Error	0.408248
Median	2	Median	2	Median	1.5	Median	2
Mode	1	Mode	1	Mode	1	Mode	1
Standard Deviation	1.118034	Standard Deviation	1.301708	Standard Deviation	0.918937	Standard Deviation	1.224745
Sample Variance	1.25	Sample Variance	1.694444	Sample Variance	0.844444	Sample Variance	1.5
Kurtosis	-0.8	Kurtosis	-1.80643	Kurtosis	-1.80748	Kurtosis	-1.55556
Skewness	0.689987	Skewness	0.354425	Skewness	0.472514	Skewness	0.233285
Range	3	Range	3	Range	2	Range	3
Minimum	1	Minimum	1	Minimum	1	Minimum	1
Maximum	4	Maximum	4	Maximum	3	Maximum	4
Sum	18	Sum	20	Sum	18	Sum	21
Count	9	Count	9	Count	10	Count	9
Confidence Level(95.0%)	0.86	Confidence Level(95.0%)	1	Confidence Level(95.0%)	0.66	Confidence Level(95.0%)	0.94
Diabetes Treatment		Stroke & Heart Disease Treatment		Cancer Treatment		Epilepsy Treatment	
Mean	2.111111	Mean	2.375	Mean	2.222222	Mean	2.555556
Standard Error	0.423099	Standard Error	0.460493	Standard Error	0.464811	Standard Error	0.503077
Median	2	Median	2.5	Median	2	Median	2
Mode	1	Mode	1	Mode	1	Mode	1
Standard Deviation	1.269296	Standard Deviation	1.30247	Standard Deviation	1.394433	Standard Deviation	1.509231
Sample Variance	1.611111	Sample Variance	1.696429	Sample Variance	1.944444	Sample Variance	2.277778
Kurtosis	-1.25055	Kurtosis	-1.9223	Kurtosis	0.356851	Kurtosis	-1.3599
Skewness	0.683052	Skewness	0.105064	Skewness	0.92057	Skewness	0.424796
Range	3	Range	3	Range	4	Range	4
Minimum	1	Minimum	1	Minimum	1	Minimum	1
Maximum	4	Maximum	4	Maximum	5	Maximum	5
Sum	19	Sum	19	Sum	20	Sum	23
Count	9	Count	8	Count	9	Count	9
Confidence Level(95.0%)	0.98	Confidence Level(95.0%)	1.09	Confidence Level(95.0%)	1.07	Confidence Level(95.0%)	1.16

Figure 3: CHV “Critical Health Issue” Recognition and Treatment Descriptive Statistics, taken from “Himservice CHV Survey”

From figure 3, the following confidence intervals have been created: a 95% confidence interval of 1.14 – 2.86 for diabetes recognition, a 95% confidence interval of 1.22 – 3.22 for stroke and heart disease recognition, a 95% confidence interval of 1.14 – 2.46 for cancer recognition, a 95% confidence interval of 1.39 – 3.27 for epilepsy recognition, a 95% confidence interval of 1.13 – 3.09 for diabetes treatment, a 95% confidence interval of 1.29 – 3.47 of stroke and heart disease treatment, a 95% confidence interval of 1.15 – 3.29 for cancer treatment, and a 95% confidence interval of 1.4 – 3.72 for epilepsy treatment. Each of these confidence intervals hold the following interpretation: There is 95% confidence that the true population mean (in this case, the capacity for CHVs to recognize diseases or provide treatment consultancy) lies within the bounds of the 95% confidence interval. The upper bounds of the 95% confidence intervals for each of these four health issues reaches only a numerical grade of approximately 2 or 3 (slight and moderate confidence, respectively), and the lower bounds of these confidence intervals reach approximately numerical grade 1 (no confidence). These results are indicative of shortfalls in CHV capacity to alleviate the medical burdens associated with these diseases.

5.1.2. “high confidence” health issues

Malnutrition Recognition		Hypertension Recognition		Kidney Stones Recognition		Pre & Post-natal Recognition	
Mean	4	Mean	4	Mean	4.1	Mean	4.3
Standard Error	0.440959	Standard Error	0.333333	Standard Error	0.233333	Standard Error	0.152753
Median	5	Median	4	Median	4	Median	4
Mode	5	Mode	5	Mode	4	Mode	4
Standard Deviation	1.322876	Standard Deviation	1.054093	Standard Deviation	0.737865	Standard Deviation	0.483046
Sample Variance	1.75	Sample Variance	1.111111	Sample Variance	0.544444	Sample Variance	0.233333
Kurtosis	-1.24781	Kurtosis	-0.45	Kurtosis	-0.73362	Kurtosis	-1.22449
Skewness	-0.83306	Skewness	-0.71151	Skewness	-0.16595	Skewness	1.035098
Range	3	Range	3	Range	2	Range	1
Minimum	2	Minimum	2	Minimum	3	Minimum	4
Maximum	5	Maximum	5	Maximum	5	Maximum	5
Sum	36	Sum	40	Sum	41	Sum	43
Count	9	Count	10	Count	10	Count	10
Confidence Level(95.0%)	0.95	Confidence Level(95.0%)	0.75	Confidence Level(95.0%)	0.53	Confidence Level(95.0%)	0.35

Malnutrition Treatment		Hypertension Treatment		Kidney Stones Treatment		Pre & Post-natal Treatment	
Mean	3.444444	Mean	4.1	Mean	4.2	Mean	4.2
Standard Error	0.376796	Standard Error	0.34801	Standard Error	0.2	Standard Error	0.249444
Median	3	Median	4.5	Median	4	Median	4
Mode	3	Mode	5	Mode	4	Mode	4
Standard Deviation	1.130388	Standard Deviation	1.100505	Standard Deviation	0.632456	Standard Deviation	0.788811
Sample Variance	1.277778	Sample Variance	1.211111	Sample Variance	0.4	Sample Variance	0.622222
Kurtosis	-1.17148	Kurtosis	-0.5216	Kurtosis	0.178571	Kurtosis	-1.07416
Skewness	0.175831	Skewness	-0.86282	Skewness	-0.13176	Skewness	-0.40749
Range	3	Range	3	Range	2	Range	2
Minimum	2	Minimum	2	Minimum	3	Minimum	3
Maximum	5	Maximum	5	Maximum	5	Maximum	5
Sum	31	Sum	41	Sum	42	Sum	42
Count	9	Count	10	Count	10	Count	10
Confidence Level(95.0%)	0.87	Confidence Level(95.0%)	0.79	Confidence Level(95.0%)	0.45	Confidence Level(95.0%)	0.56

Figure 4: CHV “High Confidence Health Issue” Recognition and Treatment Descriptive Statistics, taken from “Himserv CHV Survey”

From figure 4, the following confidence intervals have been created: a 95% confidence interval of 3.05 – 4.95 for malnutrition recognition, a 95% confidence interval of 3.25 – 4.75 for hypertension recognition, a 95% confidence interval of 3.57 – 4.63 for Kidney Stone recognition, a 95% confidence interval of 3.95 – 4.65 for pre & post-natal recognition (interpreted as recognition of pre & post-natal health issues), a 95% confidence interval of 2.58 – 4.30 for malnourishment treatment, a 95% confidence interval of 3.31 – 4.89 for hypertension treatment, a 95% confidence interval of 3.75 – 4.65 for Kidney Stone treatment, and a 95% confidence interval of 3.64 – 4.76 for pre & post-natal treatment. The upper bounds of the 95% confidence intervals for each of these four health issues reaches a numerical grade of approximately 4 or 5 (high and extreme confidence, respectively), and the lower bounds of these confidence intervals reach approximately numerical grade 3 (moderate confidence). These results

are indicative of advanced knowledge in both the recognition of these diseases and available treatment options (whether provided by the CHV or sought out through referral), indicating that services being provided for these health issues may have a positive impact on the reduction of medical and economic burdens of disease for patients of CHVs, as their knowledge in recognition and treatment directly affect their capacity to offer support to patients with these health issues.

5.2 Questionnaire Analysis

6 out of 7 CHV respondents stated that there has been an overall increase in the financial burden of disease.²² When asked to explain why there has been an increase in the financial burden of disease, respondent D1 from the Dooars region stated on January 28th, 2017 that “many people are out of jobs, and do not have enough income to pay for disease treatment.”²³ Respondent K1 from the Kalimpong region stated on January 17th, 2017 that there is “a heart patient [who] has to visit Siliguri every 3 months for testing, and we have noticed that this disease has had a large impact on her finances... We have also had a case where somebody did not mention their tumor because they feared the financial burden of treatment.”²⁴ Even from these two responses one can see that the barriers to healthcare access in communities, although culturally and geographically similar, are vastly different, which harkens back to the advice of Dr. Duflo and Dr. Banerjee of setting a small-scale scope of analysis. When asked what caused families to face financial burden associated with disease, the following causes were most commonly reported: The “breadwinner” in the family falling ill (4 out of 6 respondents) and patients having a disease that requires hospitalization or prolonged treatment (3 out of 6 respondents).²⁵ When commenting on the impact of “breadwinners” falling ill, respondent D4 from the Dooars region stated on February 15th, 2017 that “many people have trouble paying for things like food when the primary earner in the household falls ill.”²⁶ Although this is an isolated remark, if this is a widespread concern among the community, then there are severe implications for economic burden on households contributable to disease, as the presence of disease can lead to foregone consumption opportunities for market goods as critical as food.

Regarding the effectiveness of their health services to community members, CHVs have highlighted success stories in maintaining low prevalence of malnutrition and pre & post-natal care.²⁷ 10 out of 12 CHV respondents have stated that they have seen no malnourished children since the completion of their training, with only two respondents citing cases of malnutrition: respondent K4 from the Kalimpong region noted on January 19th, 2017 that they have seen 2 instances of malnourishment, and respondent D6 from the Dooars region noted on February 24th, 2017 noted that they have seen 1 case of malnourishment after completion of their training.²⁸ Respondent D6 from the Dooars region stated on February 17th, 2017 that they “tell [pregnant women]... to eat for both themselves and the baby, and tell them to maintain a time table of food intake.”²⁹ In similar sentiment, respondent D2 from the Dooars region stated on February 24th, 2017 that they “suggest to pregnant women that they eat healthy foods so that both them and their child will be healthy after delivery. In this way malnutrition is prevented.”³⁰ Respondents K4, D6, and DAR1 (from the Darjeeling region – interviewed on February 10th, 2017) all stated that the Government of India’s Integrated Child Development Services (ICDS) of the Ministry of Women and Child Development have been present in the areas and have worked to address malnutrition, thus it is possible that the reduction in malnutrition may be attributable to ICDS.³¹ With this said, the responses from CHVs seem to indicate that they have been carrying out significant work to ensure that they discuss issues of malnutrition and pre & post-natal care at the same time when visiting with pregnant mothers, which, in consideration of the confidence intervals for malnutrition and pre & post-natal disease recognition and treatment, may be indicative of the alleviation of the physical burden of these health issues due to their services.

6. Conclusion

While the NGO seems to have had some success in filling gaps left by market and government failures regarding non-chronic and non-acute illnesses, specifically pre & post-natal care, there seems to be a lack of feasibility for the NGO to reduce the financial and physical burdens of disease for individuals with chronic and acute illnesses. The capacity of small NGOs to alleviate problems caused by overarching systematic failures seems low, however these organizations can continue to provide a stronger political voice to communities that live on the margins of society by providing representation through further research and data collection. Further research that aims to create a “treatment” and “control” group for Himserve’s programs may provide better insight into the true comparative impact and effectiveness of programs like the CHV program, and special focus should be given to study of the economic impact of chronic diseases that require prolonged treatment or acute illnesses which require hospitalization, as these are the diseases that CHVs noted as the heaviest contributors to the economic burden of disease. Evaluation results would

also gain accuracy if interviews and surveys were conducted with patients of CHVs, as well as other community members, possibly from villages where Himserve has not implemented programs. Limitations on the quantitative analysis of this research provide certain barriers to a wholistic assessment of medical and economic disease burden alleviation, however this research provides a platform for further public health and economics research in the Darjeeling, Kalimpong, and Dooars regions of North Bengal.

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8. Appendix

8.1 “Himserve CHV Questionnaire” Example Questions (Appendix A)

1. What health issues are most common in your community? Are these issues new or have they been present for an extended amount of time? If new, why do you believe these issues have begun? If old/continuing, why do you believe these diseases are still so prevalent in your community?
2. Have you noticed the financial burden of disease decreasing/increasing for families in your community? (Have you noticed families needing to spend less of their income on health services and treatment?) If decreasing, do you believe that this is due to your services and education? If increasing, why do you believe families are spending more money on treatment?
4. What do you believe is the primary reason for the impact of disease on a family or individual’s financial well-being? (one member is unable to work, treatment expenses, etc...) How severe is this impact?
5. Do you believe that families find it easy/difficult to provide finances for treatment of illnesses? If difficult, why do you believe they find this to be difficult? If easy, why do you believe they find this to be easy?
6. Have you noticed a decrease/increase in the prevalence of disease within your community? If decreasing, do you believe that this is due to your services and education? If increasing, why do you believe that there has been a higher rate of disease? What steps do you think can be taken to reduce the prevalence of disease?
7. Do you believe that community members have become healthier in the past two years? If not, why do you believe there has been no change? If yes, what do you believe has led to this change?
8. Have you seen or heard community members sharing health education that you have provided to them with others? If yes, do you believe that this has had a ripple effect on their neighbors? If no, why do you think community members you have taught have not shared this knowledge with others?
9. What percentage of your community has access to clean drinking water? Has access to drinking water increased or decreased in your community? If increasing, why? If decreasing why and what steps can be taken to improve access to clean drinking water?
10. Do you feel that you have the appropriate tools to attend to the needs of patients? If not, what tools do you believe are missing, and which needs do you feel are underserved? If yes, have you seen improvement in health as a benefit from these tools?
11. Do you feel that you have difficulty/ easiness in accessing medication to provide to patients? If difficult, what is it about trying to get medication for your patients that has caused difficulty? If easy, why has it been easy to access medication for patients?
12. Are you satisfied with your knowledge of healthcare? If yes, how has Himserve been most successful in their training? If no, why are you not satisfied? To both responses, is there anything that you are more interested in learning about?

8.2 Himserve Evaluation Questionnaire - Health Questions (Appendix B)

1. Who or what motivated you to attend CHV training?
2. What was your purpose of attending this training?
3. Were the subjects taught in the training relevant and implementable to you and for your community?
4. Was the subject too difficult/easy to understand for you?
5. Was the subject difficult/easy to explain to others?
6. Was refresher classes given by Himserve is helping you or not (if yes how and if no why)?
7. How many deliveries have you assisted since the training and how has the training helped you (Total home delivery and total mother send to hospital).
8. What obstacles have you faced during assisted deliveries and pre & post-natal care?
9. How has pre & post-natal care of pregnant mothers in your community improved since you have started working?
10. How many health awareness teachings have you done, for whom and what were the main topics?
11. In what other ways has this training helped you serve your community?
12. Is any NGO or government project helping you? If yes, in what way?
13. What changes have you seen in your village in the area of health since your training?
14. Have community members practiced what you have taught them?
15. What are your suggestions to improve teaching and practice?
16. Are there any subjects that you would like us to add to the training?
17. How many malnourished children have you seen in your community after the training?
18. How have you addressed the problem of malnourishment?
19. Are there any other groups addressing the problem of malnutrition and are you working with them?
20. What recommendations do you make to parents to prevent malnutrition?

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