EFFECTS OF AN INTERVENTION TO ENHANCE FRONTLINE HEALTH WORKER POWER AND AGENCY

by

DORA ESTELLE WARD CURRY

(Under the Direction of Mahmud Khan)

ABSTRACT

Background

This work assesses the effects of the Skilled Health Entrepreneur (SHE) program in Sylhet District, Bangladesh. The SHE program prepared community-based skilled birth attendants (SBAs), known as SHEs. The SHEs offered safe home-based delivery, and the program incorporated activities designed to increase the power of the SHE in their social context. This work 1) described the elements of the program focused on increasing the SHEs' power and agency; 2) examined whether the SHE program increased the social power of the SHEs, and 3) assessed the increase in autonomy among women in the communities served by the SHEs.

Methods

This dissertation consists of three manuscripts: one describing this novel intervention in detail, a second analyzing the change in power and agency in SHEs, and the third analyzing the change in agency in women in the communities serviced by the SHEs. The first was a summary of relevant literature and an in-depth desk review of project documentation. The

second analyzed short panel data from 252 SHEs at two points in time using a fixed-effects panel analysis. The third analysis tested the increase in decision-making power among respondents to household surveys conducted at baseline and endline in a logistic regression analysis.

Results: The SHE program built SHEs' entrepreneurial skills, professional confidence, and individual decision-making. This approach supported women from the community in becoming recognized, health workers linked to the public system, and securing their livelihood. Monthly earnings, professional engagement, and independent decision-making increased significantly among SHEs. The analysis found a significant increase in women's autonomy in the project area.

Conclusions:

The design of this intervention meaningfully increased agency, income, and professional engagement among the SHEs in a project that also successfully improved maternal health outcomes. Designing SBA interventions that increase their power in their social context shows the potential to expand their economic independence and reinforce positive gender and power norms in the community. Witnessing the introduction of peer or near-peer women with well-respected, well-compensated roles among their neighbors may offer a model for other women in their own lives.

INDEX WORDS: Frontline health workers, human resources for health, social power, autonomy, gender equity, skilled birth attendants, Bangladesh

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Dedication

This work is dedicated to a devoted father, lifelong learner, iconoclast, and committed feminist who taught me moral courage and inspired my intellectual curiosity from the very beginning.

Jerry David Ward

1950 - 2022

Acknowledgments

Most importantly, I am grateful to the many frontline workers I have had the good fortune to work with who inspired this work and who are the true leaders of efforts to reach marginalized communities with basic services: the Skilled Health Entrenpuers of Bangladesh, las Madres Comunitarias de Venezuela, Community Mobilization Coordinators in India, the *activistas* in Angola, the Community-Based Surveillance Focal Points in Ethiopia, Victor Aldama, Duduzile Dlodlo, Gladys Grimaldo, and Celestin Nkwamam to name some of the most outstanding. I also want to thank the many academic, intellectual, and public health practice mentors that prepared me to take this journey: Gordon Mathis, Mary Wagner, John Rakestraw, Benjamin Schwartz, James Setzer, Henry Perry, Roma Solomon, Filimona Bisrat, Ana Pinto, David Newberry, Ellyn Ogden, and Ellen Coates. I thank my committee, Mahmud Khan, Rifat Haider, and Ikthiar Khandaker – a 100% Bangladeshi committee to guide this work celebrating the power and dedication of Bangladesh's health worforce. Finally, I cannot even express my gratitude adequately to my family for their unstinting patience, love and support: my mother, Joy Ward; my father, Jerry Ward; my sister, Bekah Ward; my husband, Mitch Curry; and my children Joy Curry and Thomas Curry.

Contents

Chapter 1: Introduction

This project will focus on the power and agency among frontline health workers (FLHW) and their potential to enhance gender equity and women's agency in the community. The Skilled Health Entrepreneur (SHE) in rural Bangladesh provides an illustrative example of programming to expand access to high-quality frontline health worker services intentionally designed to enhance the power and agency of the SHEs as an element of the program.

The problem this project considers is twofold. Ensuring universal health coverage (UHC) will require expanding the health workforce and developing approaches to ensure health service coverage in marginalized populations. In parallel, gender inequities and imbalanced power dynamics within the health service delivery system inhibit the effectiveness and uptake of health service delivery. This project will describe a potential solution to both issues and assess its impact.

Background

The importance of expanding access to frontline health workers (FLHWs), particularly skilled birth attendants (SBAs), is widely acknowledged and receives significant discussion. (WHO, 2018b, 2021) The role of gender norms and power dynamics in health systems also receives significant discussion. (Gupta, 2019; Hay et al., 2019; Heymann et al., 2019) This ongoing discourse covers the effects of gender inequities and power imbalances on the health workforce and those dynamics within the health workforce on the broader community. This

project will assess the effects of interventions among frontline health workers (FLHWs) among both health workers and women in the communities served.

Many stakeholders advocate for interventions and health system design changes that deliberately address gender and power dynamics. They base their recommendations on the assumption that interventions and system elements can directly affect gender equity, whether that assumption is implicit or stated. Assessment of innovative programming in this area is necessary for policy change and scale-up programming. Many questions must be answered more thoroughly to justify investments in such programming.

Context: Program Description

The SHE approach focused on economic empowerment, skills building, and formal linkage to the health system for self-employed SBAs among women residents of rural Sylhet District, Bangladesh. Part of the uniqueness of the Skilled Health Entrepreneur (SHE) model was that it aimed to shift the view of community-based birth attendants. Previously, the health system understood community-based birthing care as traditional birth attendants constituting a substandard, stopgap force extender. The SHEs and other community-based skilled birthing attendants presented a new community-based option as a unique class of skilled providers. These providers offer distinct advantages; they are drawn from within the community, recognized by the health system, and sustainably financed. The program invested the SHEs with the social power of income, autonomy, and external professional recognition. Those changes enhanced the availability of SBA services and potentially their perceived accessibility and perceived quality.

CARE International in Bangladesh collaborated with Bangladesh's Ministry of Health and local and district-level partners to create the Skilled Health Entrepreneurs (SHE) model.

The model aimed to be a sustainable system to ensure SBA services are available in the remote, underserved, rural Sunamganj District in the northeast region of Sylhet Division of Bangladesh. Skilled workers employed in government facilities were scarce. The cost of staffing a clinic in each remote location was high. In addition, government facilities struggled to retain those health workers they successfully recruited in the few rural facilities they could support. Residents regularly sought delivery care from untrained private birth attendants. (Right Kind, 2020)

The SHE program recruited laywomen from the community to practice as private SBAs certified to attend normal home deliveries and refer complicated cases to government facilities. The program's objectives were to increase the availability of high-quality care and stabilize access to care from SHEs by selecting area residents. They also facilitated negotiations with community leaders on a standardized, sliding scale fee schedule to allow SHEs to charge for their services while ensuring access to low-income women. (Hossain et al., 2020) .

A key distinctive feature of this program is that its goals included increasing the SHE power. (Right Kind, 2020) The program incorporated training and ongoing support for SHEs' entrepreneurial skills, personal agency, and professional engagement. This approach built the SHEs' agency, provided for their livelihoods, and built the respect and support they received as professional health providers.

The context for the intervention influenced the program's design in meaningful ways. Availability of skilled birthing care was a critical issue in Sunamaganj District, Sylhet Division. Gender inequities were widespread, with few women engaged in professional work and most lacking independent decision-making. This background illustrates the importance

of improving the availability and uptake of SBA in the area and the critical importance of gender inequity.

The introduction of FLHWs in this new role may have also affected women's agency in the community. Remuneration of community women for work traditionally regarded as domestic, unpaid care work placed an economic value on women's social reproduction labor. The introduction of SHEs may have directly increased the acceptability of women as entrepreneurs. In addition, SHEs' work required freedom to move around the community alone and interact with local officials as equals, which is also unusual for women in the area. These deviations from prevailing social norms could increase agency among women in the community beyond the CHWs themselves.

Relevance and importance

This project's primary purpose will be to contribute to the body of knowledge related to FLHWs' power and agency and the potential effect on women in their service areas. This project will be a part of the significant effort in the global health community to explore diverse models for transforming the health workforce to promote gender equity in the health system and communities. The global public health community must identify and carefully describe such models. Then it must understand their longer-term implications for individual actors in the system and the larger structures in which they work.

Many initiatives aim to create a cadre of providers with basic clinical skills to increase access to higher care for underserved populations. Some interventions also establish a stable strategy for these FLHWs to earn adequate income and remain in practice. This project will imagine a model that could also provide a way to support providers in their visible roles in

the community and recognize them as legitimate health providers and self-employed entrepreneurs.

This project will strengthen the evidence base that more empowered FLHWs with more agency contribute to gender equity in the health system and the wider community. This project will contribute to the evidence academic audiences, fellow practitioners, and policymakers use to advocate for more significant investment in community health systems, particularly in the professionalization support of FLHWs.

One area of inquiry is a clear depiction of the features of an FLHW-focused intervention that are proposed to enhance FLHW's agency and power. Simply introducing new cadres of predominantly female health workers might increase the availability of skilled birthing care without positively affecting gender inequities. Many possible variations in program design have been proposed to "empower" FLHWs, but more evidence is needed to establish which of these are effective. A detailed description of the interventions designed to address gender inequities and power dynamics is critical in assessing those tactics' effectiveness.

Next, the project will attempt to answer the specific question of whether the elements in the SHE program targeted at gender and power dynamics had the intended effect on SHEs. In other words, this analysis will quantitatively test whether SHEs' agency and power increase over the interventions as predicted. Most of the research in this field assesses health workers' effectiveness in terms of clinical quality, efficiency, or client satisfaction. Since a stated objective of program design is health workers' agency and power, the program effects on those characteristics deserve thorough, direct assessment.

A final question for this project is whether increased social power and agency among FLHW affect their larger context. Despite much discussion of the potential for FLHWs to

serve as models and advocates for the community, particularly for women, the evidence that the program can realize that potential remains incomplete. The final analysis in this project will test whether women's agency in the SHE program area increased between the beginning and the end of the program. This project will add to the topic's quantitative, "real-world" evidence base about whether addressing gender and power dynamics among FLHWs affects the broader community.

Conceptual Framework

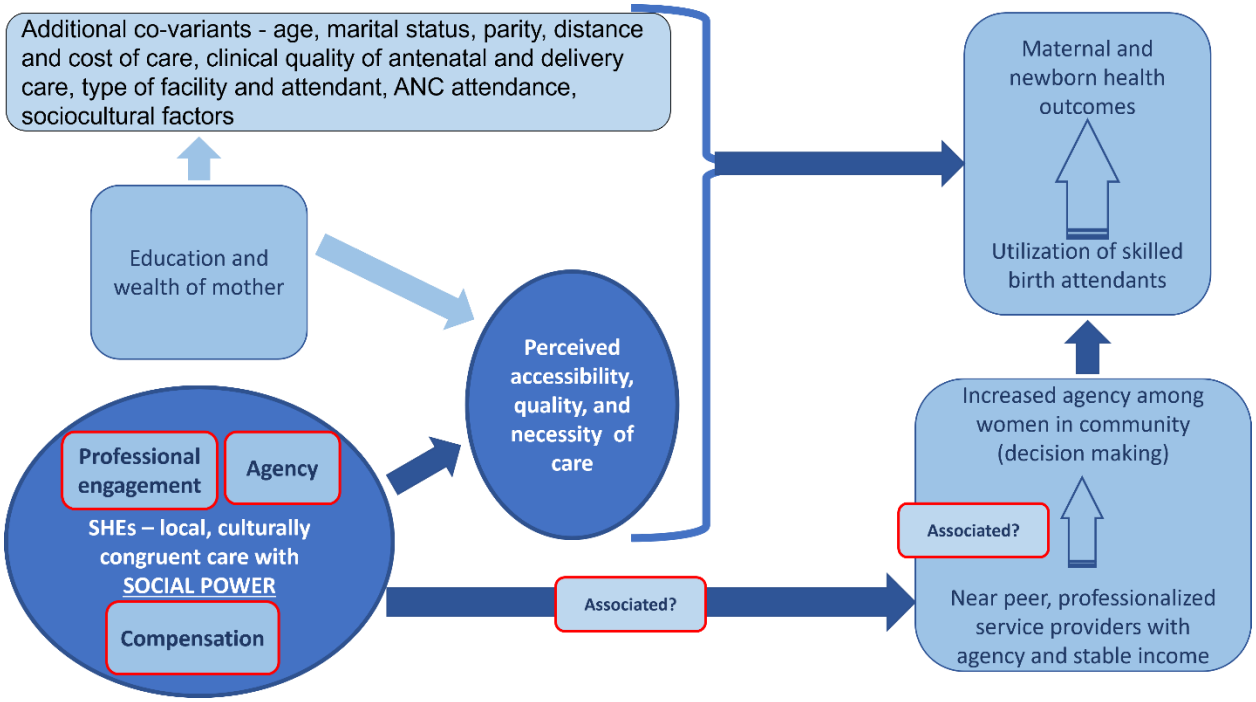

Figure 1: SHEs and the Effect of Increasing their Social Power

This conceptual framework represents the proposed relationships between social power among the SHEs, other influencing factors, and increased utilization of SBAs. The framework depicts two channels for the effects of SHE social power on SBA uptake: increased client perception of quality and accessibility of care and direct enhancement of

women's agency to seek the care they prefer. (The framework will be presented in Manuscript 2 and referred to in Manuscript 3.)

First, SHEs with social power increase women's perception of accessible, high-quality care. The technical capacity-building elements of the intervention increase the availability of qualified SBA objectively. Further attention to enhancing SHEs' social power increases the perception of accessibility and quality. This model proposes that introducing SHEs with demonstrated respect and support from the community and the health system causes clients to perceive SBA care as more accessible and of higher quality in two ways. The SHEs model places clients nearer equal footing with a healthcare provider as social near-peers. In addition, SHEs with enhanced social standing can better negotiate on the clients' behalf and provide culturally congruent care, increasing women's perception of quality of care. (These effects are described in prior publications. (Hossain et al., 2020; Sarker et al., 2019))

In the second mechanism, the SHEs' social power serves as a model for women's agency and affects women's agency in the community. Introduction to the community of a cadre of health professionals from among laywomen already resident in the community creates a powerful model of women more similar to clients than other health professionals. This project proposes that the example of the SHEs strengthens women's ability to exercise decision-making power in the broader community. The three manuscripts in this dissertation will describe and analyze the inputs and effects involved in this second mechanism.

One additional component of the conceptual framework is the conceptualization of social power. This conceptualization draws on various approaches to operationalizing social power. It proposes income, independent decision-making, and professional engagement as three critical elements of social power. The importance of agency, control over resources, and

engagement with a community in a non-domestic capacity are themes across the approaches to measuring social power and "empowerment," They present robust measures that are feasible to capture in a wide range of settings.

Questions and objectives

These stakeholders advocate for concrete interventions and health system design changes that deliberately address gender and power dynamics. They base their recommendations on the assumption that interventions and system elements can directly affect the gender and power dynamics within the health system and the broader community, whether that assumption is implicit or stated. However, several questions must be answered more thoroughly to justify investments in such programming.

Understanding which features of FLHW-focused interventions might enhance FLHW's agency and power is vital for expanding the health workforce. Introducing new cadres of predominantly female health workers might expand economic and professional opportunities for women in the community by perpetuating inequities and reinforcing harmful norms. Careful consideration of the theories of change underlying different approaches is an important exercise.

One area of inquiry is a clear depiction of the features of an FLHW-focused intervention that are proposed to enhance FLHW's agency and power. Simply introducing new cadres of predominantly female health workers might increase the availability of skilled birthing care without positively affecting gender inequities. Many possible variations in program design have been proposed to "empower" FLHWs, but more evidence is needed to establish which of these are effective. Carefully describing the elements of interventions designed to address

gender inequities and power dynamics is a critical first step in assessing those tactics' effectiveness.

Next, the project will attempt to answer the specific question of whether the elements in the SHE program targeted at gender and power dynamics had the intended effect on SHEs. In other words, this analysis will quantitatively test whether SHEs' agency and power increase over the interventions as predicted. Most of the research in this field assesses health workers' effectiveness in terms of clinical quality, efficiency, or client satisfaction. Since a stated objective of program design is health workers' agency and power, the program effects on those characteristics deserve thorough, direct assessment.

A final question for this project is whether increased social power and agency among FLHW affect their larger context. Despite much discussion of the potential for FLHWs to serve as models and advocates for the community, particularly for women, the evidence that the program can realize that potential remains incomplete. The final analysis in this project will test whether women's agency in the SHE program area increased between the beginning and the end of the program. This project will add to the topic's quantitative, "real-world" evidence base about whether addressing gender and power dynamics among FLHWs affects the broader community.

This project will represent the next, more rigorous step in a growing body of scholarship, exploring these "big picture" questions. This project will strengthen the evidence base that more empowered FLHWs with more agency contribute to gender equity in the health system and the wider community. This project will contribute to the evidence academic audiences, fellow practitioners, and policymakers to advocate for more significant investment in community health systems, particularly in the professionalization and support for FLHWs.

Specifically, this project will explore these three questions:

A. What were the SHE model elements that affect SHEs' social power and gender and power dynamics in their program area, and what were the proposed mechanisms for those effects?
B. Did the SHE model result in increased social power among SBA's?
C. Did the introduction of SBAs with increased social power increase agency among women in their service area?

Methods

Research Design

The research design of the overall project will 1) describe the program approach in detail, 2) test the increase in the SHE's social power (on the three items mentioned above) from the beginning to the end of the program, and 3) test the increase over time in agency among women in the community from the beginning and end of the program.

The first step in the analysis will be to describe the elements of the program intended to have those effects. The first paper in this series will be a descriptive exercise depicting the intervention in detail. The description will focus on the intervention elements intended to affect the SHEs' economic independence, professional recognition, and agency. The project description will draw an in-depth review from project documentation, including the project proposal, routine project reporting, midline, and endline reports, journal articles previously published on program data, and program monitoring and evaluation data. This paper will also refer to relevant academic literature to inform proposed relationships among intervention elements, the SHE's social power, and agency among women in the program area.

The first quantitative analysis will compare each element in the baseline SHE questionnaire to endline questionnaires. The program team interviewed the SHEs twice over the program's life, once shortly after providing services and once after the program. The assessment covered several elements related to their social power, including their agency as measured by independent decision-making, earnings, and proactive engagement as a cadre of health professionals. The three aspects of social power assessed here (income, agency, and professional engagement) will be combined into a social power score for the final statistical test on this dataset. These analyses will include primary education, age, religion, and other demographic factors as covariates.

The household survey analysis measured respondents' decision-making autonomy at baseline and endline. This quantitative analysis will test the change in the proportion of respondents who reported independent decision-making. First, the analysis will conduct a Pearson's chi-square test. Then a logistic regression analysis will control for covariates including household wealth, household size, and respondent characteristics such as parity, education, age, number of children, and age at marriage.

Statistical Applications

All analyses were conducted using Stata 16.1.

Main Outcome Measures

- SHE income
- SHE agency
- SHE professional engagement
- Women's agency in program areas

Data Collection and Management

The dataset presented here represents the interviews conducted among skilled health entrepreneurs. A total of 319 individuals received the SHE initial training. Program staff conducted the SHE questionnaire with SHEs during routine program operations, targeting all SHEs enrolled at the time. The project conducted the survey of SHEs in two rounds, one after the initial training but early in the project implementation and another later in the project life. During the first-round survey, 281 SHEs completed questionnaires. Of the remaining 37 who initially received the training, 30 dropped out of the program, six were unavailable at the time of the interview, and one SHE declined to conduct the interview. At the second-round interview, 260 SHEs completed the same questionnaire, while an additional 12 had dropped out, 16 were unavailable, and one declined the interview. Due to turnover and availability, 252 SHEs completed round one and round two surveys. The dataset is short panel data with observations of 252 individuals at two points in time.

The project evaluation for the SHE project conducted household surveys at the beginning and end of the project in 2013 and 2018. The household survey data represented cross-sectional surveys of women aged 15 to 49 who had given birth to a living infant within the past 12 months. A sampling of households within the project coverage areas used the WHO 30-cluster sampling approach with a total sample size of 6,396 respondents. Household surveys covered health services received, health behaviors and outcomes, exposure to SHEs and other categories of health workers, and demographic characteristics.

Indicators and Operationalization

- SHE income – Self-reported income for her activities, not including other household income, measured in taka per month. Economic independence is the most

straightforward variable to measure, but the relationship between income and social power is not simple. Increased household income alone is not sufficient to ensure increased social power. This analysis will use the reported income from the woman's independent economic endeavor, a more relevant metric than household wealth or income in this case.

- SHE agency - Independent decision making, i.e., a response that she makes decisions on these four items alone or jointly with a spouse: seeking health care for herself, seeking healthcare for her children, making household purchases, and using contraception.
- Community women's agency - Independent decision making, i.e., a response that she makes decisions on both of two items alone or jointly with a spouse: seeking health care and making household purchases.

Agency represents an individual's power over her actions. This analysis will use individuals' responses to their decision-making power to signal agency. Independent decision making was defined as a response that the respondent alone or she and her husband jointly made decisions on each of two items: seeking health care for herself and making household purchases. In line with the operationalization of decision-making variables used in the most recent Bangladeshi household survey methodology. (NIPORT/ICF, 2020)

SHEs responded to questions about who decides to 1) seek contraceptives for herself, 2) seek other health care for herself, and 3) seek health care for her children. Women in the community responded to questions about who decides to 1) seek health care and 2) make household purchases. In all cases, decision-makers response options included herself alone, herself and her husband jointly, and others in the family, her family, and her in-laws.

The analysis recalculated decision-making into dichotomous variables. The woman making the decision herself or jointly with her husband was categorized as "independent decision-making" and not all other options. This approach applied to all decision-making variables: general healthcare seeking for self, care-seeking for children, household purchases, and contraceptive use. The decision-making component of the total social power score was the average of the responses for the three decision-making topics.

The summary assessment of the SHEs' social power was based on the variables that assess these three domains. Since responses in each domain used different strategies for quantification, the score summarized all measures into a single social score for the full regression analysis model.

- SHE professional engagement – The number of times in the previous three months SHE chose to report her professional activities orally in public in addition to submitting the required written report

The number of times SHEs presented their results at their professional meetings will represent their professional engagement. The SHEs were only required to submit written reports. At the beginning of the program, few chose to present their results individually to the group. Over time, many more chose the more visible option of a solo presentation to a large group in the presence of superiors from the MOH. This change over time marks increasing confidence and professionalization among the SHEs. The SHEs increasing confidence and willingness to speak publicly can be considered a reasonable indication of increased professional engagement. This analysis will assess SHEs' increased social power in economic independence, personal agency, and professional engagement.

In the analysis of the household survey, the calculation of household wealth as a covariate used the Demographic and Health Surveys wealth index calculation approach to calculate household economic status. The analysis created a wealth index using the procedure described in the World Food Program VAM guidance paper on creating a wealth index. (Hjelm et al., 2017) In creating the wealth index, variables were excluded if they showed inadequate variation, i.e., more than 95% or less than 5% of the respondents answered positively. Type of toilet facilities, water source, possession of a music-playing device, cart, bus or landline or motorboat, and roof and floor material were excluded due to inadequate variation. The analysis used Stata 16.1 to generate a wealth score from these items. The subsequent analysis included the wealth component score converted into quintiles as a dependent variable.

Analytic approach

The first analysis of the SHE panel dataset assessed the change in each outcome measure (SHE income, SHE agency, SHE professional engagement) with a simple significance test (chi-square), comparing initial to follow-up assessment.

The complete analysis of the combined social power score used fixed effects regression. Because variables such as age, social conditions, overall economic status of household and community, and availability of other options for care did not change significantly over this study in this setting, those variables were considered time-invariant. They were not included in the final model. Because the number of people living in SHEs' households did differ significantly from initial to final assessment, the full regression model did include that variable. The second analysis of the SHE panel dataset was a fixed effects regression on each

element of the social power score and the complete social power score. Finally, the fixed effects regression results were stored as OLS regression results.

The analysis of the household survey data, the second set of quantitative analyses, compared the respondents' decision-making autonomy at baseline and endline. The analysis compared respondents who reported sole decision-making power at baseline and end line first in a Pearson's chi-square test. Then a logistic regression analysis controlled for covariates including household wealth, household size, and respondent characteristics such as parity, education, age, number of children, and age at marriage.

Ethical Procedures, Approval, Institutional Review Board (IRB)

The research design received a review and approval from the Institutional Review Board at the Bangladeshi research institute, the International Center for Diarrheal Disease Research, Bangladesh (icddr,b).

Logic and Structure of the Dissertation

Logic

This project's primary purpose will be to contribute to the body of knowledge related to FLHWs' power and agency and the potential effect on women in their service areas. This project will be a part of the significant effort in the global health community to explore diverse models for transforming the health workforce to promote gender equity in the health system and communities. The global public health community must identify and carefully describe such models. Then it must understand their longer-term implications for individual actors in the system and the larger structures in which they work.

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C. Did the introduction of SHEs with more social power increase agency among women in their service area?

Structure

Ch 1: Introduction, Background, and Conceptual Framework

Ch 2: Description of the model and systematic review of the literature: Frontline health worker power and its effect on women's agency in the community

Ch 3: A novel approach to frontline health worker support: Increasing social power among birthing attendants in rural Bangladesh

Data – targeted review of peer-reviewed publications and "grey" literature, in-depth desk review of project documentation, including the project proposal, routine project reporting, previously published journal articles on program data, and program monitoring and evaluation data

Method – desk review of program documentation

Ch 4: Increased Social Power Among Community-Based Skilled Birth Attendants

Data – panel data collected from SHEs

Primary dependent variables – SHE agency, income, and professional engagement

Co-variates- maternal age, maternal education, parents' household income

Method – fixed-effects regression of panel data

Ch 5: The Effect of Improved Social Status of Skilled Birth Attendants on Overall Improvements in Social Status of Women

Data – household survey dataset collected from the program area

Primary dependent variables – Women's agency

Co-variates- household wealth, household size, and respondent characteristics such as parity, education, age, number of children, and age at marriage me

Method – logistic regression analysis

Ch 6: Conclusion

Conclusion

This research is compelling and worthwhile for the opportunities it presents. Exploring the effects of the elements of the SHE program focused on specifically increasing SHE social power will contribute to knowledge about concrete, actionable intervention elements. This

approach will contribute to the academic understanding of the effects of gender and power dynamics in FLHW health service delivery. The SHEs are laywomen in the community who earn money 1) independently, 2) as entrepreneurs, 3) in a skilled profession, and 4) with the explicit, concrete support of the community and municipal authorities. These aspects of the SHEs' role counter mainstream gender norms in the social context. Women in similar circumstances to the SHEs' were unusual in their context and potentially disruptive.

Quantitative, empirical evidence of the impact on gender and power dynamics could inform new directions for practice and policy, enabling stakeholders in Bangladesh and beyond to build new health service delivery activities with these considerations in mind. Increasing the number of FLHWs is essential in achieving universal health coverage and an urgent priority of the global health community. Efforts to train and deploy new FLHWs offer an opportunity. Health policymakers can design new programming to contribute positively to gender equity and women's agency instead of perpetuating existing inequities. Attempts to design gender transformative health services system elements must assess their outcomes empirically.

Consider the power to identify FLHWs from women within traditionally underrepresented and marginalized communities and ensure they have networks, social connections, capital, and a desire to continue building a life there. FLHWs' interactions with clients reinforce greater freedom and opportunity for both client and provider rather than work against it. Efforts to expand access to FLHWs can aim higher than simply improving clinical skills. Designing FLHWs interventions to enhance their social power could expand their economic independence and reinforce positive gender and power norms in the

community, addressing longstanding issues of poor remuneration, overburdened workloads, and poor retention.

Could novel approaches grounded in respect and agency of frontline workers and their clients actively contribute to a larger vision of a society committed to expanding the public good in other ways? Could a model that provides additional skills, recognition, and income to women in the community, already trusted and respected by their potential clients, develop a fee-for-service revenue stream to enhance their solidarity through mutual support and shared activity among FLHWs? Could such a model contribute to improved delivery outcomes while expanding this female cadre's economic empowerment and social standing? How do the experiences of care providers and their clients influence norms and personal agency for women in the wider community?

This project can provide some evidence to speak to these questions. These questions are critical to expanding the health workforce to meet SDG targets. Most significantly, these lessons are the ones that can expand the effects of health service delivery efforts to enhance gender equity and women's agency while maximizing health outcomes.

Chapter 2: Literature Review

In 2016, the WHO called for significant investments in frontline health workers (FLHWs) as a critical component of achieving the Sustainable Development Goals. (WHO, 2016a) The SDG Goal 3 target 3 c elevates the expansion of the health workforce and the financial and human resources systems to support it. (WHO, 2016c) That report calls specifically for enhanced women's participation and leadership and the creation of financial support for more fully remunerated, appropriately distributed health providers. From academic journals such as The Lancet series on Gender Equality, Norms, and Health (Hawkes et al., 2020) to civil society stakeholders such as the Frontline Health Worker Coalition (FHWC, 2018) and the WHO Global Health Workforce Network (WHO, 2019), global health actors have led inquiry and position statements on gender equity and the health workforce. There is emerging support for the importance of properly designed and deployed investments in the workforce for gender transformation throughout the global health community. (WHO, 2021)

Some policy dialogue concentrates on observational data supporting an association between gender equity in a context and health service uptake and outcomes. Others focus explicitly on the potential for increasing women's power and agency through features incorporated into the design of FLHW programming. An underlying assumption throughout these dialogues is that improved gender equity in the health workforce, improved gender

equity in the community, and positive health behaviors and outcomes are all mutually reinforcing.

In this context, the Skilled Health Entrepreneur (SHE) program in Bangladesh offers a valuable opportunity to explore the effects of increasing the power and agency of women frontline health workers on gender and power dynamics in their community. The SHE program provided laywomen with clinical training, social entrepreneurship skills, and recognition as legitimate health workers by local authorities and the health ministry. The women became certified private provider FLHWs, specifically skilled birth attendants (SBAs) known as SHEs. (Hossain, 2015; Hossain et al., 2020)

The SHE program included significant investment in elements designed to improve the SHEs' income, agency, and professional engagement. These quantifiable aspects comprise a reasonable measure of social power among the SHEs. This project will examine how this distinctive approach may interact with women's autonomy and power among the SHEs and the larger community.

This literature review will cover the three major areas of inquiry. First, the review will summarize FLHWs' scope, composition, and effectiveness, paying particular attention to the claims and assumptions related to gender, power, and FLHWs. This section will cover the body of evidence related to the effectiveness of FLHWs, especially community-based health workers, as a crucial context for the design of FLHW support structures. Considering the current approaches can offer insight into opportunities for improvement in future efforts. In addition, this section will examine analyses of gender and power dynamics in current FLHW programming.

The second major topic covered here will be the concepts related to empowerment, gender, power dynamics, and social power. The concept of "empowerment" has been used widely to describe increases in agency and other forms of power. The review will cover the definition of empowerment and critical elements of the research conducted on the "empowerment" of FLHWs and women in the community. This section will also introduce the concept of social power, though, and provide the theoretical background needed to draw on research conducted using the "empowerment" framework while using a social power framework for the analysis in this project. The concept of social power is more suitable for this work than "empowerment" for at least two reasons. Empowerment implies a characteristic conferred upon those with little power. Social power is an alternative that measures a neutral attribute that can increase or decrease for many reasons. The concept of empowerment is also widely used with so many different permutations, variations, and adaptations that a single definition is impossible. Operationalization of empowerment is even more challenging, and no single approach to measurement exists. This project will present social power as a more straightforward concept to describe similar social phenomena with a more direct approach to operationalization.

The final area of inquiry covered in this review will be the effects of FLHW-focused interventions on FLHWs' power and agency. This section will concentrate on interventions related to social power and gender dynamics shifts. This review will cover the arguments supporting investments in FLHWs using claims of positive effects on gender and power dynamics. It will also examine the effects of interventions specifically designed to directly affect those areas among FLHWs or the community more broadly through them.

The research linking improvements in power dynamics and gender equity to FLHW interventions deliberately incorporating that impact as an objective is not extensive. However, such linkages are often used to justify investments in FLHW power and agency. This research project aims to strengthen the general argument that investments in FLHW support can advance gender transformation while also offering new insight into what design elements best serve that objective.

In addition to these three significant lines of inquiry, the review will include a brief overview of the context covering gender and power dynamics and maternal health outcomes in rural Bangladesh. This additional information will provide valuable context for understanding the larger project's research questions and conclusions.

Methods for Literature Review

This literature review included peer-reviewed literature from global health, human resources for health, and social psychology. Journal articles, including original research, commentaries, reviews, and metanalyses, were solicited from PubMed, Cochrane, and Google Scholar databases, with additional searches for works cited in and works citing identified articles. The review considered only resources published in English. In addition, the review included grey literature from key stakeholders and influencers in human resources for health globally: World Health Organization, UNICEF, the Frontline Health Worker Coalition, the Global Health Workforce Alliance, and NGOs.

Search terms related to health workers included *frontline health workers, effectiveness,* community health workers, and *empowerment.* Search terms related to social power and empowerment included *social power, empowerment,* and *women's empowerment.*

Frontline health worker definition, composition, role, and effectiveness

The extensive discourse on frontline health workers is relevant, although the term includes more than skilled birth attendants alone (SBAs - the primary function of the SHEs). Before exploring the scholarship on performance, effectiveness, and power dynamics among health worker cadres, it is crucial to clarify the scope and definition of these various categories - FLHWs, SBAs, and community health workers (CHWs).

FLHW definition and composition

Frontline health workers "are comprised of all types of health workers—including nurses, midwives, community health workers, doctors, pharmacists, and more—who provide care directly to their communities." (FHWC, 2017) They work in settings where the public can access their service directly, and they provide health services, sometimes in addition to non-clinical activities like health education. Many terms refer to workers in the general FLHW category. Health workers in this category include SBAs, CHWs, health promoters, health extension workers, community health extension workers, health aides, midwives, nurse assistants, nurses, and more. (FHWC, 2017) Note that SBAs are usually but not exclusively FLHWs. Most SBAs directly provide services to the community at large, by definition. However, a minority of SBAs may practice in referral facilities and therefore be considered specialist care instead of frontline workers.

One sub-categorization within FLHWs comes from the site of the workers' practice: community-based or facility-based. This distinction is especially relevant to this project because the SBAs in the SHE program were community-based. Many FLHWs are community-based, and much of the literature on FLHWs focuses specifically on CHWs. (Perry et al., 2014; Scott et al., 2018; WHO, 2018a)

A significant majority of FLHWs are female, approximately 70%. (WHO, 2016a) More powerful roles in the health system are predominantly male; only approximately one-third of health ministers are women. (Hay et al., 2019; Javadi et al., 2016) Women are overrepresented in low-pay, low-status roles in the health system. At the same time, they are underrepresented in high-status decision-making roles. (Hay et al., 2019) These macro-level dynamics provide essential context when considering health workers' roles in the health system at the frontlines. Women health workers are viewed as less skilled and experience social backlash from co-workers and superiors for assertive behavior. (Hay et al., 2019) With reliance on FLHWs growing because of efforts to achieve universal health coverage goals and approximately half of all FLHWs being nurses and midwives, the effects of gender and power dynamics on the effectiveness of FLHW programming is becoming even more critical.

Frontline health workers' role and effectiveness

A common approach to improving FLHW quality is increased support through training and supervision interventions. (Bailey et al., 2016) In general, the effect of techno-managerial interventions to improve FLHW performance, such as training and supervision, can be challenging to assess (Kallander et al., 2015) and must be carefully designed and implemented to justify the investment. A systematic review of community health worker effectiveness found that neither training alone nor supervision is strongly linked to improved CHW effectiveness. (Scott et al., 2018)

Another common finding is that FLHW's satisfaction and retention are strongly affected by factors beyond techno-managerial interventions, such as working conditions and regular pay. (Bailey et al., 2016) Scott et al. (2018) came to a similar conclusion that predictable remuneration affects health worker effectiveness substantially. The Lancet Global Health

Commission found that while most health provider-focused interventions concentrate on changing provider behavior, system-level factors and reliable, adequate pay have a more significant influence on health system effectiveness. (Kruk, Gage, Arsenault, Jordan, Leslie, Roder-DeWan, Adeyi, Barker, Daelmans, Doubova, English, García-Elorrio, et al., 2018) A long-term solution to ensuring the availability of high-quality FLHWs such as SBAs must address various issues. Relevant issues include training and supervision, reliable and adequate income, working conditions, motivation, and job satisfaction. (Liu et al., 2011) The considerable body of evidence on FLHWs demonstrates that fundamental issues like adequate, regular pay, and safe working conditions are essential prerequisites to maintaining a successful frontline cadre of health workers. (Dugani et al., 2018) workers from other geographic areas with financial incentives through hardship pay or bonuses. (Kok et al., 2017) These approaches are often expensive and may not effectively retain FLHWs from other areas in undesirable locations in the long term. However, the effect of financial incentives on recruitment does illustrate the importance of ensuring adequate income to health workers as an element of a robust solution to ensuring the availability of services in underserved areas.

The role of FLHWs receives considerable discussion and study in the academic literature on health service delivery. Alex Rowe and colleagues' work, most notably the 2018 review of the effectiveness of performance improvement strategies among healthcare providers, illustrate the framing of FLHWs as instruments of health service interventions. (Kruk, Gage, Arsenault, Jordan, Leslie, Roder-DeWan, Adeyi, Barker, Daelmans, Doubova, English, García-Elorrio, et al., 2018) Examination of FLHWs as the subject of study is less common,

and research in the area has been identified as a priority. (Kruk, Gage, Arsenault, Jordan, Leslie, Roder-DeWan, Adeyi, Barker, Daelmans, Doubova, English, Elorrio, et al., 2018)

The interaction between FLHWs and their client community is essential for their role. The Scott et al. (2018) review found a strong connection between "community embeddedness" and CHW effectiveness. FLHW caregiving roles align with gender normative roles for women. (Closser et al., 2019; Hay et al., 2019; Maes et al., 2014) Women's roles as healthcare providers are more often focused on caregiving, while men's are more often focused on specialist care. The lower value of those caregiving services is attributed to that discrepancy. (Gupta et al., 2019)

Relative power dynamics significantly impact health workers' power and status. Even as community-based health workers like CHWs and community-based midwives may be low in status relative to other health workers, their role as legitimate health workers confers high status relative to other women in the community. (Rafiq et al., 2019; Schaaf et al., 2020) Based on a review of the relevant literature and an analysis of the population-level data from Ghana, Afulani and Moyer present a practical conceptual framework to consider the influence FLHWs may have on client perception and uptake of services in the context of maternal health services. (Afulani & Moyer, 2016) The framework views maternal education and wealth as primary determinants of SBA use and includes perceived need, accessibility, and quality as three elements of client perception mediating uptake of services. This framework can illuminate the critical role of the provider in improving the patient's perception of care and increasing the uptake of services.

A systematic review in 2016 considering the effects of a range of human resources for health among SBAs called for more research into these kinds of interactions among multiple

interventions supporting SBAs and issues of gender equity and women's gender and power roles. (Lassi et al., 2016)

Social Power and Empowerment

Empowerment is an often-used, ill-defined concept, measured in many different forms from psychological to organizational and levels from individual to the community. (Cyril et al., 2015) Empowerment can present internal contradictions, as it is often conceptualized as top-down, a characteristic conferred on those with less power by those with more power. (Closser et al., 2020) Further, empowerment can be co-opted to obscure the reality of power relations among community-based health workers, their clients, and municipal and health authorities. (Closser et al., 2019) The term "empowerment" also connotes a passive process performed on the powerless by the powerful. (Kane et al., 2016)

A concept emerging primarily from social psychology, social power refers to the individuals' power over decisions in their social relationships. (Gülgöz & Gelman, 2017; Keltner et al., 2008; Rucker & Galinsky, 2017; Scholl et al., 2018) Social power has been proposed as a valuable way to understand how group status can influence individual members' behavior within a group. (Scheepers et al., 2013) The approach to conceptualizing social power varies among these works. Gulgoz and Gelman propose five dimensions: resource control, goal achievement, permission, giving orders, and setting norms. (Gülgöz & Gelman, 2017) Keltner et al. conceptualize social power as essentially dynamic, centering mainly on individuals' ability to influence the actions of others and social engagement. (Keltner et al., 2008) Rucker and Galinsky link the concept primarily to the control of resources. (Rucker & Galinsky, 2017)

These wide-ranging uses of the concept have some commonalities. They all conceive social power as describing an individual's influence of control rather than a group-level phenomenon. Key common elements in constructing measurable elements of social power are the control over resources and the ability to exercise one's will. In the context of the variety of ways to conceptualize social power, this work will operationalize the concept in the global health and development context. The project will measure social power through control over resources, the exercise of will, and social engagement. This operationalization of the concept can contribute to a new way to approach assessing changing power dynamics. In contrast to existing approaches to measuring empowerment, this critical strategy is grounded in theory and feasible in operational settings.

A common theme across both social power and empowerment is agency. Klugman et al. described agency as the ability to "make effective choices and to transform those choices into desired outcomes." (Klugman et al., 2014) An advantage to more fully developing the concept of social power is its commonality with many measurement approaches to empowerment, especially the widely collected survey items on independent decision-making. In addition, other measures needed to assess a more comprehensive picture of social power are also feasible to collect in an operational setting, like income data and social engagement.

Measurement of Social Power and Empowerment

Many approaches to measuring the concept of empowerment exist, and they lack a single, commonly accepted approach to conceptualization or measurement. (Cyril et al., 2015; Kok et al., 2015; McClair et al., 2021; Richardson, 2018) Approaches to measuring increasing social power, or "empowerment," vary widely and do not show a consensus on a single scale or metric as the best measurement. For example, a 2014 review of women's empowerment

found 60 eligible studies reporting women's empowerment as a measure and 19 domains identified as elements of empowerment. (Upadhyay et al., 2014) An overview in 2021 offers a historical perspective and documents an increasing focus on the concept but still offers no consensus on a single strategy. (Priya et al., 2021)

The Survey-Based Women's Empowerment Index (SWPER) proposed in 2017 attempted to define empowerment quantitatively using items captured in the Demographic and Health Surveys. (Ewerling et al., 2017) The same authors reviewed and revalidated the SWPERand it has been used with increasing frequency in analyses of large datasets such as national health surveys. (Anik et al., 2021; Coll et al., 2020; Ewerling et al., 2020; Ewerling et al., 2021) Other indices have been proposed using the general consolidation strategy of multiple items in extensive national health surveys. (Jones et al., 2020; Yount et al., 2018) Critiques of this strategy include limited applicability since national health surveys often cover only married women and potential for bias and poor transferability to varied contexts. (Richardson, 2018; Yount et al., 2018) In addition, the data collection requirements for such methods are extensive, making the approach difficult to use in program evaluation settings.

Approaches to measuring social power also vary. (Keltner et al., 2008; Rucker & Galinsky, 2017) Rucker and Galinsky summarize the theoretical construct, describing measurement approaches as eclectic and citing a need for future emphasis on empirical research. (Rucker & Galinsky, 2017) Psychological experiments and scale-based questionnaires predominate the methods used to measure social power in studies explicitly focused on that concept. (Keltner et al., 2008; Rucker & Galinsky, 2017; Scholl et al., 2018)

Frontline health worker interventions to increase social power and women's agency

Wallerstein found that effective strategies to enhance social power "build on and reinforce authentic participation, ensuring autonomy in decision-making, and foster a sense of community and local bonding." (Wallerstein, 2006) Evidence is emerging to support an association between increased respect and support for FLHWs and FLHW performance and health outcomes in the population served. (Almost & Spence Laschinger, 2002; Hay et al., 2019; Manongi et al., 2006)

Kok et al. (2017), for example, emphasize that both "hardware" and "software" elements of a system influence FLHW level characteristics associated with performance. These authors used "software" to refer to FLHW outcomes like agency, self-efficacy, and motivation and found that they require feelings of connectedness and recognition. These findings illustrate that techno-managerial inputs (aimed at improving technical skills, conditions of supplies and equipment, etc.) and supportive social structures (social norms, working conditions, and policies engendering FLHW empowerment and feelings of connectedness) are interrelated. They must be coordinated to sustain a high-performance FLHW cadre.

The evidence links FLHW motivation and fundamental elements such as regular adequate pay. (Dugani et al., 2018) Some studies have also demonstrated a relationship between FLHWs' empowerment and agency in work settings and their commitment. For example, a randomized controlled trial in India found that FLHWs who set their performance targets and determined their own (non-monetary) incentives for achieving those targets were more motivated. (Grant et al., 2018)

Enhancing the social power of the SHEs may enhance their ability to gain their clients' trust and link them to services and the clients' perception of the SHE's skills. The framework advanced by Afulani et al. discussed earlier linked client perceptions to increasing uptake of skilled birthing care. (Afulani et al., 2017) Increasing status and influence may contribute to the observed increase in uptake of skilled care to some extent. (Hossain et al., 2020)

The potential for increased respect and support for frontline health workers to improve women's status more widely in their communities has received substantial discussion. (WHO, 2016b) Observational evidence shows that an increase in respect and support for frontline health workers can increase women's participation in the formal economy, expand their opportunities for women's leadership and voice in their communities, and improve the experiences and health outcomes among women in their communities. (FHWC, 2018; Hay et al., 2019; Lawn et al., 2016; WHO, 2018b) Systematic analyses of the ways interventions explicitly designed for this purpose can increase women's power are promising but remain scarce, especially in low- and middle-income country settings. (Hay et al., 2019)

Potential for effect on broader gender norms

Increasingly health systems research and policy are viewing reducing gender inequities in the health workforce as a mechanism to improve gender equity or increase the social power of women. (Hay et al., 2019) Hay et al. argue that deliberate disruption of existing gender-based inequities could be an essential part of transforming health systems in this respect. (Hay et al., 2019) Research on the effectiveness of this approach and the mechanisms by which it works is still scarce but needed. (Gupta et al., 2019) Evaluating the effects of deliberately increasing elements of social power among female FLHWs, as done in the SHE

program, can contribute to understanding how gender-transformative interventions can positively disrupt health systems.

Some research on community-based FLHWs as agents of social change suggests that their potential to influence norms in their communities may be limited. In particular, Schaaf et al. (2020) find that community-based health workers have a limited effect on broad social change in their communities and cite the lack of institutional support. This analysis fails to consider the effect on individual women's agency resulting from the deviations from prevalent gender norms that create a group of women with more access to financial resources, more mobility, and more recognition as legitimate professionals.

Other researchers have argued that such workers do shift norms in their communities. Nandi and Schneider (2014) found that community health workers (CHWs) in a rural South Asian setting (Tamil Nadu, India) revitalized women's engagement and social action in their communities, for example. They identified these female CHWs' confidence in speaking publicly, the institutional support to women workers from community authorities, and success in mobilizing community action as notably distinct from the health services the CHWs provided. They propose that those elements contributed directly to increasing women's agency in the community. Others have also argued that increased agency among community-based health workers directly predicts increased, more gender-equitable community action. (Ingram et al., 2016)

Hay et al. (2019) consider how health systems reflect and reinforce gender and power imbalances and how those dynamics can be disrupted. These authors find that disruption of the existing power dynamics is possible and can address existing inequities. Hay and her colleagues contribute the significant insight that deliberate intervention to shift power

dynamics for FLHWs can result in a shift in behavior and attitudes in the community. Their results found linkages between FLHW satisfaction and productivity and family and community support for their domestic work to enable them to work outside the home. They also find that the FLHWs being viewed with respect by men in their village, as among an all-female, community-based FLHW cadre, played a vital role in that increased support. (Hay et al., 2019) This work was conducted in the context of a more extensive series of analyses using multiple sources of qualitative and quantitative data and policy analysis that supported the potential for transformation of gender and power dynamics through health system interventions.

Remuneration of community women for work traditionally regarded as domestic, unpaid care work is vital to the perception of community-based health workers. Closser et al. argue that volunteer health worker schemes actively reinforce gender norms that devalue caregiving. (Closser et al., 2019) In contrast, remuneration for such activities is a powerful statement that the community places an economic value on women's social reproduction labor. Remuneration for FLHWs that is transparently determined and publicly communicated has an especially significant effect. On the other hand, placing an economic value on care activities could powerfully communicate the importance and status of women's caregiving labor. These effects on norms and attitudes related to women's roles and scope for activity could increase agency among women in the community beyond the CHWs themselves.

Exposure to a peer or near-peer health provider represents a departure from normative behavior in the context. That departure could contribute to shifting attitudes and behaviors related to women's agency by offering a model of socially desirable behavior that deviates from previous norms. For example, the introduction of SHEs may have directly increased the

acceptability of women as entrepreneurs. These effects could be independent of the SHEs' role as providers of health services, linked instead to the visibility in the community of women who were self-employed, free to move around the community alone, and interact with local officials as equals.

The context in rural Bangladesh

The context for the intervention influenced the program's design in meaningful ways. Availability of skilled birthing care was a critical issue in Sunamaganj District, Sylhet Division, where there are only four skilled healthcare providers per 10,000 population, compared to the WHO standard of 23. Only 38% of births received skilled birthing care in Sylhet compared to 57% in Bangladesh. (NIPORT/ICF, 2020) Women's agency was markedly more constrained in Sylhet than in Bangladesh. In Sylhet, 48.2 % of women participated in each of three critical decisions compared to 59.4% in Bangladesh. (NIPORT/ICF, 2020) For example, In Sylhet Division, only 5.8% of ever-married women were employed, and only 5.7% worked in professional or business occupations. (NIPORT/ICF, 2020) This background illustrates the importance of improving the availability and uptake of SBA in the area and the critical gender inequity there.

Other studies illustrate the complexity of the relationships between household power dynamics and the utilization of maternal health services in the Bangladeshi context. For example, Ghose et al. (2017) found that in nearby regions of Bangladesh, maternal health care-seeking varied unpredictably among women by whether they decided on their healthcare alone or with their partners. Furthermore, the effect of residing in an urban or rural area on who contributed to decision-making was a significant factor explaining that variability. Story and Burgard also found that associations among decision making and maternal health care-

seeking were unpredictable in this context and affected by men's involvement in decision making, couple concordance on how decision making happened, and other demographic factors. (Story & Burgard, 2012)

Summary of the Literature Review

The importance of FLHWs' role is evident in SDGs calls for health workforce expansion and support. This review of the relevant literature demonstrates that addressing underlying issues affecting FLHWs is a necessary element of human resources for health planning to meet those global goals. The evidence on FLHW support and effectiveness is replete with technical and managerial interventions targeting FLHWs' behavior change. This review has revealed broad support for the idea that techno-managerial solutions alone are insufficient to build a stable, sustainable frontline health workforce to achieve these global goals. The need for system design and direct interventions that enhance the respect and support for FLHWs and specifically address gender-related constraints is widely accepted among academics and global health policymakers.

Even more significantly, a growing body of evidence demonstrates the potential for FLHWs to contribute to gender equity in their communities. In expanding and strengthening the health workforce, the global health community has the opportunity to align with and reinforce efforts to contribute to gender equity goals as well. First, since a significant portion of women's contribution to the workforce, designing health systems with gender equity in the health workforce has an intrinsic impact. Second, emerging research has begun to establish the potential for well-designed support to health workers, especially predominantly female FLHWs, to positively influence gender and power dynamics on the broader community.

Significant issues remain for further investigation in this area. It is critical to describe which system design elements can influence gender and power dynamics and demonstrate their effectiveness. In addition, the mechanisms through which changes in FLHW power affect women's agency in the community need additional research.

Chapter 3

A novel approach to frontline health worker support: Increasing social power among birthing attendants in rural Bangladesh[1]

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Introduction and background

The Sustainable Development Goals (SDG) for 2030 target reducing the Maternal Mortality Ratio (MMR) by 70%. Increased availability of skilled birth attendants (SBAs) is well established as one essential ingredient in reducing maternal mortality and is a primary indicator for documenting progress. (Girum & Wasie, 2017; Jolivet et al., 2018; Lassi et al., 2016) Within a system-wide approach to improving maternal health outcomes, universal availability of basic skilled birthing care is one critical element of achieving progress on this critical SDG. (Bohren et al., 2014; Hossain et al., 2020; Renfrew et al., 2014)

Expanding the health workforce to increase the availability of SBAs presents an opportunity. The role of the SBA holds enormous potential to transform the relationship between women, birthing caregivers, and the broader health care delivery system. This paper will focus on the community-based skilled birth attendant (SBA) role and its transformative potential, using a novel approach to SBAs, implemented in rural Sylhet District, Bangladesh, as an illustrative example.

The Skilled Health Entrepreneur (SHE) model developed a public-private approach to developing and training a cadre of SBAs. The program focused on economic empowerment, skills building, and formal linkage to the health system for self-employed SBAs among women residents. This model shifts the view of community-based birth attendants from one of a substandard, stopgap force extender to one of a unique class of skilled providers. The program invests the SHEs with income, autonomy, and external professional recognition. Creating a cadre of providers from a similar socioeconomic status and culture similar to clients enhances the value of the SBA and her services in her clients' eyes.

This paper will first present an overview of factors influencing the uptake of skilled birthing care and then describe the SHE model and its transformational potential. The SHE model comprises a cadre of frontline health workers in remote, underserved areas with a stable strategy to earn adequate income and are likely to remain in practice. They can provide high-quality basic clinical skills and access to higher care. The community and the health system recognize them as legitimate. In addition, they are female, come from the same geographic, and cultural background as their clients, and are closer to their clients' socioeconomic peers than most other health workers.

These features of the SHE model can increase clients' uptake of skilled birthing services and contribute positively to social and gender dynamics. Selecting SBAs from among women within traditionally underrepresented and marginalized communities ensures that they have networks, social connections, capital, and a desire to continue building a life there. Designing SBA interventions that increase their power in their social context could expand their economic independence and reinforce positive gender and power norms in the community, addressing longstanding issues of poor remuneration, overburdened workloads, and poor retention.

These shifts could also enhance the perception of quality and accessibility among clients and more widely contribute to women's autonomy. This model amplifies and gives greater weight to client perception and builds on the agency of frontline providers and their clients, making it more robust in challenging settings, more acceptable to clients, and more sustainable than other options.

Methods

This paper is a descriptive exercise depicting a novel intervention in detail. A selective review of relevant literature provides an overview of maternal health strategies to improve skilled birth attendant availability and skill. The literature review included both peer-reviewed publications and "grey" literature. The project description draws on an in-depth desk review of project documentation, including the project proposal, routine project reporting, midline, and endline reports, journal articles previously published on program data, and program monitoring and evaluation data.

Transformative power of a new role for skilled birth attendants

International calls for more significant investment in skilled birthing care underestimate the complexity of women's needs and preferences and providers' needs and preferences. (Gibson et al., 2021) Health worker support interventions must offer a specific pathway to address the unique challenges of a range of women's preferences to maximize the impact of such investments. (Stanton et al., 2018) Women's preference for birthing care that is convenient, respectful, or culturally congruent may overshadow clinical quality, as defined by technical experts, in their care-seeking.

Afulani and Moyer proposed a framework that includes perceived need, accessibility, and quality as three factors affecting the uptake of skilled birthing care. (Afulani & Moyer, 2016) The critical insight their analysis contributes model is the influence of client perception on their decisions about seeking services. Distinguishing between perceived quality and accessibility, on the one hand, and clinical quality and distance to care, on the other, highlights the connection between client experience and whether a woman chooses skilled birthing care or not. This discussion will use the concepts of perceived accessibility and

quality as a framework to consider how the social meaning of the SHE role could influence women's uptake of services and gender and power dynamics.

Perceived accessibility

In Bangladesh and globally, rural areas face a more limited supply of providers and more significant challenges to ensuring high-quality, respectful care among providers. (Bohren et al., 2014) The difficulty in improving provider coverage in underserved areas and the prevalence of disrespectful care is well-documented and persistent. (Pitchforth et al., 2006; Stanton et al., 2018; WRA, 2017)

The considerable body of evidence on frontline health workers (FLHWs) demonstrates that fundamental issues like adequate, regular pay and safe working conditions are essential prerequisites to maintaining a successful frontline cadre of health workers. (Dugani et al., 2018) (The term frontline health worker encompasses community-skilled birth attendants, as well as midwives, nurses, and physicians.) (Olaniran et al., 2017) Recruitment and retention of midwives, nurses, and physicians through financial incentives and other added compensation are common strategies for a geographic redistribution of skilled providers. (Lassi et al., 2016; Miyake et al., 2017) Unfortunately, these efforts have failed to identify a stable solution to the adequate supply of providers in underserved areas. (Miyake et al., 2017)

While additional factors undoubtedly influence the difficulty of attracting providers in remote areas, the inability to earn an adequate, stable income is critical. (Adegoke et al., 2015; Honda & Vio, 2015; Ngilangwa & Mgomella, 2018) Solutions that rely on unpaid or underpaid lay health workers in the community are not viable (Renfrew et al., 2014) and are not sure to improve *perceived* accessibility.

Perceived quality

The second mediating pathway considered here – perceived quality – is even more complex in its relationship to the uptake of services. The WHO acknowledged in 2014 guidelines on preventing pregnancy-related morbidity and mortality that respectful care still defies definition. (WHO, 2014) Researchers have identified involving women in their care and preparing a supportive environment that supports the woman's choice of companionship as a crucial element of respect. (Moridi et al., 2020) In addition to being a fundamental right, respectful care significantly affects whether and where women seek care. (Kruk, Gage, Arsenault, Jordan, Leslie, Roder-DeWan, Adeyi, Barker, Daelmans, Doubova, English, García-Elorrio, et al., 2018)

Many factors like distance, lack of ancillary services, and desire for a cesarian section affect women's choice to give birth outside a facility. Avoidance of care that does not meet the standards for respectful care is also a significant driver for opting for non-facility births. (Bohren et al., 2015; Shakibazadeh et al., 2018) In response to disrespectful care, women frequently seek care from traditional birth attendants and deliver at home. (Sarker et al., 2016)

Simply ensuring an adequate number of providers practicing in underserved areas will not adequately address the challenge of ensuring equitable access to maternity care that is both skilled and respectful. (Stanton et al., 2018) Underlying factors increasing the likelihood of receiving disrespectful maternity care include caste, class, race discrimination, harmful gender norms, and social status. Strategies that incentivize providers from elsewhere to practice in underserved areas may increase the availability of providers. However, they may not increase perceived accessibility or respectfulness of care if newly recruited providers are

more urban, of higher social status, or of different ethnic or language groups than their clients, which is likely.

Approaches to improving perceived quality and accessibility

Approaches to improving quality in ways valued by women are a critical need. For example, an intervention in Afghanistan that prioritized cultural compatibility in underserved areas by working with regional midwifery training centers found high satisfaction among midwives and their clients. (Turkmani et al., 2013) They may enhance the attractiveness of the service to individual clients by marrying clinically high-quality care with respectful, culturally congruent care.

An alternative approach must also establish a mechanism to ensure sustainable financing to ensure adequate provider income in underserved areas and facilitate a respectful relationship between providers and clients. One widely employed strategy to address the need to pay FLHW is to rely on a cadre of "volunteer" community-based providers. A risk in designing programming to extend access to health services is that the FLHW/CHW role may shift responsibility, work burden, and even financial contributions onto FLHWs/CHWs as individuals. For example, Schaaf et al. (Schaaf et al., 2020) observed that targeted vertical programs relied heavily on volunteer or minimally compensated community health workers to extend the program's reach. Closser and Maes discuss the "appropriation" of the role of the CHW. In these situations, the scope of duties and time commitment demanded of "volunteer" CHWs far exceed the typical expectations of a volunteer role. (Closser et al., 2019) Overreliance on these predominantly female, lower-status cadres can decrease their effectiveness and undermine their impact among their social peers in the community as models of women respected and compensated for critical health services.

Skilled health entrepreneurs: a new approach

The Skilled Health Entrepreneurs[2] (SHE) model emerged from a collaboration between CARE International in Bangladesh, Bangladesh's Ministry of Health, and other partners. This coalition proposed creating a sustainable system to ensure SBA services are available in the remote, underserved rural Sunamganj District in the Sylhet Division, the northeast region of Bangladesh. Skilled providers were scarce in government facilities for at least two significant reasons. The cost of staffing many small clinics in remote locations can pose a significant obstacle to the health system because of the high per-beneficiary cost for staffing in sparsely populated areas. (Hossain, 2015) The government facilities struggled to retain those health workers they successfully recruited in the few rural facilities they could support. (Hossain, 2015) Residents were accustomed to seeking delivery care from untrained private birth attendants. (Right Kind, 2020) The robust market for traditional private birthing care signals a gap in publicly provided services, quality, quantity, or both. While the care provided by traditional birth attendants might not have met clinical quality standards, it was providing value to clients, potentially through convenience and culturally appropriate, respectful care. The SHE model proposed increasing the availability of high-quality care and stabilizing access to care from SHEs by selecting residents of the area. As community members, they were less likely to leave the area and more motivated to improve health outcomes for those giving birth in their areas. With support from program staff, they also negotiated a standardized, sliding scale fee schedule that allows them to continue to generate revenue independently while also ensuring low-income women can access their services. (Hossain et al., 2020)

[2] In the first phase of the project the SHEs were known as Private Community Skilled Birth Attendants (PCSBAs) and are mentioned in the cited project documentation interchangeably as SHEs and PCSBAs.

The program design included measures to increase the capacities of the SHEs in ways beyond the traditional techno-managerial training and supervision in technical skills, such as increasing and controlling their earnings and expanding their professional skills. The program intended to support women from the community, as social peers of clients and long-term residents, in becoming recognized, respected health workers linked to the public system while protecting their livelihood and improving quality and access to maternal health services. (Right Kind, 2020) This paper will describe the SHE program's design elements to enhance SHE empowerment in the academic literature on social power and FLHWs.

Hossain et al. (2020) described the Skilled Health Entrepreneur program. The project's purpose was to provide clients with the option of a maternal health service provider that meets clients' needs and preferences. Women in the community preferred traditional birth attendants because they were available outside of business hours, accepted non-monetary payments, and shared social norms and beliefs. (Hossain et al., 2020) The SHE program provided training to fellow community members so that women could receive services from their trusted, culturally congruent providers while ensuring that services offered were safe, of high quality, and linked to referrals for complications.

The project included five central interventions: selection and training of private birth attendants, social entrepreneurship capacity building, community engagement to establish the new cadre in the community, linkages to quality monitoring and referral facilities, and mechanisms to bolster the community's financial support for the program's activities. The program selected participants by inviting applications and conducting interviews and written exams. Women in the age group 25 to 40 years with at least ten years of schooling were eligible to apply. Over the five-year life of the project, 319 completed the training.

The project delivered three months of training in health service and promotion. The clinical and health promotion training prepared SHEs to support a comprehensive maternal and child package, including antenatal care, assistance in uncomplicated deliveries, postnatal and newborn care, referral for complications, family planning counseling, and short-term family planning method provision and referral. The program also linked SHEs with community support groups, health workers, government health facilities, and supervisors. See Hossain et al. (2020) for more details on the program in general. Once SHEs were prepared to offer services, the program provided ongoing supervision and professional development, including mobile skill labs and advancement opportunities to serve as trainers for incoming new SHEs.

The program also coordinated an alignment between municipal authorities, the health department, and the SHES. As a result of CARE's coordination, the Health Department provided SHEs with an ongoing supply of health commodities, such as iron folate tablets, soap, and misoprostol, and refresher training. The SHEs charged clients on a sliding scale negotiated by the local government and community representatives. Prices paid were independently monitored periodically. Program staff collaborated with local leaders to explore mechanisms to extend care to the lowest wealth quintile care free of charge.

Over the project's life, SHEs accomplished 47,123 skilled deliveries and dispensed 2.7 million folic acid tablets. As of the end of the program, the median monthly earnings of the SHEs was 5000 BDT (67 USD), compared to 1500 BDT (20 USD) at the beginning of the program. SHEs had a formal linkage with 136 community clinics and 29 union councils on health and family welfare. (Islam, 2109) A mid-term analysis found that women in the coverage area were more than twice as likely to have delivered with a skilled birth attendant

present at their most recent childbirth than at the beginning of the program. (Hossain et al., 2020) The endline assessment conducted in 2018 demonstrated significant achievements. The percentage of women using a skilled attendant during birth increased from 13.4% to 37.4% in the intervention area compared to 21.4% to 35.8% in a comparison district. Neonatal, infant, and under-five mortality rates all showed similar improvement. (Sarker et al., 2019) (See table 1.)

Compensation: Financial and marketing skills building

One of the intervention arms most directly related to an increase in SHEs' social power focused on building their capacity to earn an adequate income. SHEs developed two potential sources of revenue: direct fee-for-service charges for maternal health services and the sale of health-related products. SHE revenue was not the sole source of household income, however. Most SHEs have some additional household income from another adult earner, and some may have had other sources of revenue as individuals unrelated to SHE duties. In addition, SHEs may compete with other providers of similar goods and services. Including income as an element of SHE empowerment should not be considered a comprehensive economic analysis but rather one of the multiple components influencing SHEs' social power.

The program facilitated a market analysis process with the SHEs. The intervention included a two-day social entrepreneurship capacity-building workshop drawing on a market analysis of the local market and developing business plans. The workshop covered how to target their service offerings and minimize conflict with untrained traditional birth attendants. The SHEs received coaching from facilitators skilled in entrepreneurship to determine their potential clients' market size and characteristics. They developed individual business plans targeted to their communities, including outreach to potential clients. The project also

conducted promotional and marketing activities ranging from health awareness days to stakeholder meetings to print, video, and media outreach. Another program element connected the SHEs to a supply chain of saleable commodities, such as non-prescription medicine, nutritional supplements, and baby care articles at wholesale prices. The SHEs then resold these items at a small profit. (Hossain, 2015)

Professional engagement and community recognition

Other project elements contributed to SHEs' agency and external recognition by enhancing their recognition as valuable contributors to the community by authorities outside their homes. CARE's training provided to the SHEs earned them accreditation by the Bangladesh Nursing Council as a community skilled birth attendant, a professionally recognized designation in Bangladesh (Hossain, 2015). The professional development and skills-building component included coaching by nurses and physicians and organized rotations for the SHEs in health care facilities. These inputs conferred legitimacy and status on previously marginalized traditional providers.

Also, the project facilitated negotiation among the SHEs, the local municipal authorities, and the closest primary health care facility to establish a formally recognized role for the SHEs. This process established the sliding scale fee structure discussed above. These negotiations afforded the SHEs recognition as accredited community midwives and secured support from local and neighborhood leaders to provide safe, clean space to perform services and accompaniment on travel to remote locations for home deliveries. The program developed a Memorandum of Understandings between the SHEs and the UPs and negotiated specific budget line items in UP budgets to supervise the SHEs. (These line items did not cover SHE remuneration.)

The formal recognition of their authority and value afforded them greater personal power in negotiating with family and community members about their mobility and control over resources. The provisions for their security removed the threat of violence, stigma, and harassment that could otherwise have accompanied their professional activities.

Agency: Personal power to act

A third pillar of the program's approach to empowering SHEs was to build their sense of agency on an individual level. Program activities included group planning sessions among SHEs for the SHEs to engage with each other. (As each SHE worked in a different neighborhood geographically, the risk of competition among SHEs was minimal.) Also, program facilitators worked one-on-one with SHEs, identifying what changes could further develop their businesses (TRK, 2018). For example, when a regular review revealed that one SHE was not earning as much revenue as targeted, program facilitators examined the factors that might be affecting her ability to earn through her work. They found those factors to include a lack of family support and insecurity when visiting clients in remote locations. The action plan included family support for childcare, introductions to community members, and expanding the products she could sell to generate revenue. In the end, her revenue well exceeded her target (Samuels & Ancker, 2015).

Limitations

The primary limitation of this discussion is that it is a purely descriptive exercise. A deeper examination of the SHE program provides insight into where and how the SHE approach may be broadly relevant. However, the merit of the approach cannot be demonstrated without empirical data analysis. Further research should cover both the causal pathway and the ultimate outcomes of the model.

Also, context presents a dilemma in this approach. One of the keys to success for the SHE model was its careful observation of the factors driving women's choices in obtaining birthing care in this setting. The participatory design process allowed for significant tailoring to the market forces and client preferences unique to Sylhet District in rural Bangladesh. Notably, a significant out-of-pocket for birthing care from traditional birth attendants existed before the SHE program and was an essential prerequisite. This demand for birthing care may be necessary for this model to be helpful.

Conclusion

According to Renfrew et al., any comprehensive solution to introducing and supporting an influential health worker cadre must include minimum educational requirements and processes to ensure training, licensure, and regulation and be systematically integrated into the health system (Renfrew et al., 2014). The SHE program met those criteria and improved birth outcomes. The SHE successfully established a private SBA cadre that enhanced their social power and technical skills in settings challenging to access through the mainstream health system. The SHE model stands out from many adopted globally for this purpose, such as Ethiopia's Women's Development Army and Nepal's Female Community Health Volunteers (Closser et al., 2019; Kane et al., 2016). The SHE model dedicates a concerted effort to enhance women's decision-making authority, status in their work lives, and economic independence.

Witter et al. (2017) cite concrete measures to address gender barriers as an essential element of building a stable health workforce suited to meet the needs of vulnerable populations. In the SHE program, recognizing the SHEs as sanctioned health services providers legitimizes their status in the community. As community members before receiving

SHE training, the SHEs are more rural, less educated, marginalized ethnic or social status, and lower status than most mainstream service providers. Witnessing the introduction of peer or near-peer women with well-respected, well-compensated roles among their neighbors may have a powerful effect on other women and offer a model for their own lives in other fields.

The focus on enhancing the agency, voice, and well-being of the SHES is necessary for this transformative potential. Asking a traditional birth attendant to assume more work for little or no money may increase the burden of unpaid labor on her and reinforce existing harmful power relations (Closser et al., 2019). Calling on CHWs to provide services with no guarantee of compensation and refer to facility-based care providers reinforces the notion that it is her feminine duty to care for her neighbors and is more naturally caring and motivated. The SHE model structurally counters those harmful notions. Instead, the SHE model reinforces the perception that the caretaking work, often performed unpaid, usually by women, is worthy of the respect and economic investment of the community.

The importance of class, caste, and race in these power relations also influences the SHE's role. SHEs are more likely to be of lower status on several criteria such as wealth and education level than female FLHWs with more training and authority, such as nurses and female physicians. Part of the transformative power of a model like the SHEs is that they are women from the same community and background and have less elite status otherwise. Services offered at the site preferred by the client by a social near-peer coach in prioritizing client-centered care communicate a high value placed on the client's preferences.

An assessment of the SHEs' experience and assessing health outcomes and social relations in the broader community can provide insights into the social role she fills. Assessing the agency among SHEs and the women in the communities they serve is essential

for further research. Policy implications include a robust investment in financing mechanisms and meaningful commitment to a community-based FLHW cadre in decision-making and planning within the health system.

Chapter 4

Increased Social Power Among Community-Based Skilled Birth Attendants[3]

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Introduction

This paper will assess the effects of the Skilled Health Entrepreneur (SHE) program in Sylhet District, Bangladesh, on the SHE's power in their social context. This program developed a cadre of community-based skilled birth attendants (SBAs). The SHEs offered home delivery services that met minimum clinical standards for safe delivery and received formal recognition from the health system, allowing them to refer to health facilities. (Hossain et al., 2020) This approach created a reliable source of Skilled Birth Attendants (SBAs) care in geographically remote, underserved areas.

Notably, the newly introduced frontline health workers in this intervention are closer to social peers of clients than nurses and doctors in mainstream health facilities. The Skilled Health Entrepreneurs (SHEs) were women already residing in the communities served. The SHE model incorporated activities deliberately designed to increase the power of the SHE in their social context. The inclusion of those elements in the project design grew from the assumption that increased independence and importance could help the SHEs be more effective in serving their clients and potentially support positive norms change about women's role in the community. This analysis will examine whether the SHE program did increase the social power of the community women who became SBAs.

Background

The SHE model deliberately incorporated elements targeted explicitly at "empowering" the SHEs, in addition to skills-building and performance-focused supervision. This work seeks to clarify the understanding of the "empowerment" of the SHEs. This paper will develop the concept of social power as a framework to understand relevant power dynamics,

elaborate a measurement strategy to quantify it, and assess the change in social power from the beginning to the end of the project.

Because empowerment as a concept is fraught with contradictions and ambiguities, this analysis will develop the concept of social power as an alternative. Social power refers to the individuals' power over decisions in their social relationships, drawing on the concept's use in psychology and other fields related to global health. (Gülgöz & Gelman, 2017; Keltner et al., 2008; Rucker & Galinsky, 2017; Scholl et al., 2018) Social power has been proposed as a valuable way to understand how group status can influence individual member behavior within a group. (Scheepers et al., 2013) While no consensus exists on the precise measurement, this work can specify the concept in the global health context.

Social Power and the Elements of Social Power

The concept of social power serves as an alternative to "empowerment." Constructions of empowerment abound and lack a single, commonly accepted approach to conceptualization or measurement. (Kok et al., 2015; Richardson, 2018) Furthermore, the term "empowerment" connotes a passive process performed on the powerless by the powerful. (Kane et al., 2016) We choose to offer social power as an alternative. This analysis defines social power as the state of exercising one's own will autonomously in one's social context.

These elements contribute to an increase in SHEs' power, a change this paper will conceptualize as increasing social power instead of using the concept of empowerment. Empowerment is an often-used, ill-defined concept, measured in many different forms from psychological to organizational and levels from individual to the community. (Cyril et al., 2015) Empowerment can present internal contradictions, as it is often conceptualized as top-down, a characteristic conferred on those with less power by those with more power. (Closser

et al., 2020) Further, empowerment can be co-opted to obscure the reality of power relations among community-based health workers, their clients, and municipal and health authorities. (Closser et al., 2019)

This work will construe social power more narrowly than most characterizations of empowerment. Social power will be constructed to refer to individuals, not communities or social systems. Agency, a central concept in empowerment and one of the most straightforward to measure directly, is central to social power. A second key element is their compensation, which increases the SHEs' independence and provides concrete evidence of the value of their service. A third element is her professional engagement, marking a transition from a less socially powerful homemaker to a certified health professional. (See figure 1.) Social power does not attempt to encompass and measure the broader enabling structures or a comprehensive assessment of the SHEs' interpersonal or psychological conditions.

Increasing the social power of the SHEs may enhance their ability to gain their clients' trust and link them to services and the clients' perception of the SHE's skills. According to a framework advanced by Afulani et al., client perceptions of need, quality, and accessibility of birthing care are critical pathways to increasing uptake of skilled birthing care. (Afulani et al., 2017) For this paper, the authors assume that increasing the social power of SHEs also increases clients' perception of accessibility and quality while ensuring high-quality care and appropriate referral. By providing a quantitative analysis of the change in SHE social power, this analysis will partially explain the mechanisms for elevating the status and influence of FLHWs SBAs in this case). The increased status and influence may contribute to the observed increase in uptake of skilled care to some extent. (Hossain et al., 2020)

The analysis will assess the increase in the social power of the SHEs. Implemented in the Sylhet District in Bangladesh, a rural area with low coverage of SBAs and high maternal mortality relative to the rest of Bangladesh, the SHE program developed a cadre of birth attendants among women residents of rural communities. Hossain et al. (Hossain et al., 2020) the program; the SHEs received certification as SBAs, were recognized as legitimate referral sources for complications to government facilities, and received training and supervision from government health personnel but were not government employees. SHEs charged clients on a fee-for-service basis, in a context where many women choose to pay unskilled private traditional birth attendants.

This analysis will assess the three significant elements of the social power of the SHEs: compensation, agency, and professional engagement. SHEs reported their income from SHE activities, allowing for the direct measurement of compensation. The SHE's decision-making power will represent the SHEs' agency. The frequency with which they attend and present at professional meetings will represent their recognized importance in the community as legitimate allied health workers.

Methods

Setting and population

The program team interviewed the SHEs twice over the program's life, once shortly after providing services and once after the program. The assessment covered several elements related to their empowerment, including household decision-making, earnings, and control over their earnings.

This paper will assess the change over time in three aspects of social power among SHEs as the primary dependent variables. The analysis will compare each element in the Round 1

survey to those in the Round 2 surveys. The three aspects of social power assessed here are income, autonomy, and solidarity. The analysis will include primary education, age, religion, and other demographic factors as covariates.

Data collection and management

The dataset presented here represents the interviews conducted among skilled health entrepreneurs. A total of 319 individuals received the SHE initial training. Program staff delivered the SHE questionnaire to SHEs during routine program operations, targeting all SHEs enrolled at the time. The project conducted the survey of SHEs in two rounds, one after the initial training but early in the project implementation and another later in the project life.

During the first-round survey, 281 SHEs completed questionnaires. Of the remaining 37 who initially received the training, 30 dropped out of the program, six were unavailable at the time of the interview, and one SHE declined to conduct the interview. At the second-round interview, 260 SHEs completed the same questionnaire, while an additional 12 had dropped out, 16 were unavailable, and one declined the interview. Due to turnover and availability, 252 SHEs completed round one and round two surveys. The quantitative questionnaires covered SHE background socio-demographic characteristics, professional activities, income, decision-making in the home, some health-related behaviors, and exposure to gender-based violence. The data represent short panel data with observations of 252 individuals at two points in time.

Indicators and operationalization

Measuring increasing social power, or "empowerment," varies widely. For example, a 2014 review of women's empowerment found 60 eligible studies reporting women's empowerment as a measure and 19 domains identified as elements of empowerment. (Upadhyay et al., 2014) Especially in the context of frontline health and social services

workers, a wide array of approaches to measuring this concept exist with no consensus on a single scale or metric as the best measurement. (Cyril et al., 2015; McClair et al., 2021) This analysis will assess SHEs' increased social power in economic independence, personal autonomy, and professional engagement.

Economic independence is the most straightforward variable to measure, but the relationship between income and social power is not simple. Increased household income alone is not sufficient to ensure increased social power. This analysis has access to the reported income from the woman's independent, professional endeavor (not her household wealth), a more relevant metric than household wealth.

Autonomy represents an individual's power over her actions. This analysis will use individuals' responses to questions on their decision-making power to signal autonomy. SHEs responded to questions about who decides to 1) seek reproductive health care for herself, 2) seek other health care for her, 3) seek health care for her children, with herself, her husband, herself and her husband jointly, and others as possible responses, and 4) seek contraception.

The number of times SHEs presented their results at their professional meetings will represent their professional engagement. The SHEs were required only to submit written reports. At the beginning of the program, few chose to present their results individually to the group. Over time, many more chose the more visible option of a solo presentation to a large group in the presence of superiors from the MOH. This change over time marks increasing confidence and professionalization among the SHEs. The SHEs increasing confidence and willingness to speak publicly can be considered a reasonable indication of increased professional engagement.

The summary assessment of the SHEs' social power was based on the variables that assess these three domains. Since responses in each domain used different strategies for quantification, the score summarized all measures into a single social score for the full regression analysis model.

The analysis recalculated decision-making into dichotomous variables. The woman herself making the decision was one response category, and all other options were the other category. This approach applied to all three decision-making variables: general healthcare seeking for self, care-seeking for children, and contraceptive use. The decision-making component of the total social power score was the average of the responses for the three decision-making topics. The analysis included a factor analysis on the social power score variables to test for multicollinearity; the eigenvalues were -0.21, -0.00, and 0.41. It was determined multicollinearity was not a significant issue.

Analytic approach

This panel dataset allows the opportunity to measure the effects of variables that may have changed while other background characteristics remain constant among the same individuals being assessed at multiple episodes over time. This analysis first assessed the change in a simple significance test (t-test/chi-square) comparing initial to follow-up assessment for each element of the final social power score. The complete analysis of the combined social power score used fixed effects regression. Because variables such as age, social conditions, overall economic status of household and community, and availability of other options for care did not change significantly over this study in this setting, those variables were considered time-invariant. They were not included in the final model. Because the number of people living in SHEs' households did differ significantly from initial to final

assessment, the full regression model did include that variable. The analyses comprised a chi-square for statistically significant differences between initial and final assessments on background characteristics and a fixed effects regression on each element of the social power score and the complete social power score. Finally, the fixed effects regression results were stored as OLS regression results.

All analyses used Stata 16.1

Results

The demographic profile of the SHEs did not change significantly throughout the program. The percentage of SHEs 24 years or younger decreased slightly from 33.33% in Round 1 to 27.62% in Round 2. Accordingly, the percentage of SHEs older (35 years or older) increased slightly from 17.92% in Round 1 to 23.85% in Round 2. The median SHE age was 28 in Round 1 and 30 in Round 2. Most SHEs were married, with virtually no change from initial to final at 90.87% and 92.46%, respectively.

Similarly, most SHEs lived in a single-family household (rather than a joint household with multiple generations), increasing slightly from 90.87 % to 92.46%. SHEs were predominantly Islam, and the remainder were Hindu; religion remained similar from round to round at 68.65% and 31.35%, respectively, both rounds. Educational attainment remained unchanged, with approximately 59% of SHEs (at both rounds) having completed primary or middle school and 31% have completed secondary school or beyond. None of these differences were statistically significant.

The number of people living in SHEs' households changed slightly. While the median number of household members remained five, the percentage of households with exactly five

members increased from 18.65% to 62.30%, with a decreasing percentage of households with seven or more members.

Statistical significance tests on background characteristics determined which variables could be considered time-invariant. Only the number of people in the SHE's household changed significantly over this program. That was the only variable included as a covariant as a result.

Table 1: Change in elements of social power among SHEs

	Summary statistics n(%) / mean (95% CI)		**OLS B (SE)** ***Initial to follow-up***
	Initial N=252	Final N=252	
Monthly income+	1901.63 (1616.26 2187.00)	7989.84 (7280.82 - 8698.85)	3053.001*** (707.1888)
Professional engagement (number of presentations)	10.41 (9.33 – 11.39)	16.10 (15.36 – 16.90)	13.48 * (0.2006)
Decision maker for women's health~			
Herself	64 (25.40)	87 (34.52)	2.36*** (0.2281)
Others (includes husband, both, in-laws, etc.)	188 (74.60)	165 (65.48)	
Decision maker for children's health~			
Herself	64 (25.40)	100 (39.68)	2.34*** (0.2254)
Others (include husband, both, in-laws, etc.)	188 (4.60)	152 (60.32)	
Decision maker for contraception			
Herself	188	197	1.40*** (0.2065)
Husband, both or N/A	58	49	
Social power score	**6.12**	**8.18**	**8.30*** ** (0.3179)

Statistical significance - * p<0.05; ** p<0.01; *** p<0.001

Table 1 presents the fixed effects regression analysis results for each element of the social power score independently and for the composite social power score. SHEs earned 7659.78

takas (or roughly 90 USD) more per month at the endline than at the baseline. For reference, the average annual household income in Bangladesh as of 2016 was estimated at approximately 600 USD. (CECI, 2016) SHEs' professional engagement increased from an average of 10.41 presentations given to one of 16.10. The decision-making variables all ranged from 0 to 4. The regression coefficient for health decision making was 2.36, that for children's health decision making was 2.34, and that for contraceptive decision making was 1.40. All results were statistically significant.

The endline combined social power score coefficient was 8.65, ranging from 3 to 12, which was statically significant. These results support the argument that SHEs experienced a meaningful change in social power between the beginning of the SHE program and the end.

Limitations

This analysis used the concept of social power to describe the status of the SHEs in terms of economic, personal, and professional agency and independence. As discussed, empowerment is poorly defined, however. In addition, many concepts discussed above that are used in constructing both qualitative and quantitative measures of empowerment could be independently related to positive outcomes in either performance or stability of the workforce cadre. For example, self-efficacy and motivation are often construed as components of empowerment (Krishnaratne et al., 2021). Also, they have demonstrated associations with performance and such measures as retention and job satisfaction.

Another limitation is the inability to assess SHEs who left the program. All data reflect SHEs who remained in the program, and there were 67 SHEs who received the initial training and orientation but did not remain in the program. The use of panel data allows for direct assessment of changes resulting from participation in the SHE program while

minimizing variability in the background characteristics. However, SHEs who left the program may have had characteristics in common that set them apart from those who remained. This gap may limit how widely these findings can be applied among groups with variations in background characteristics.

Finally, this study is less generalizable because it lacks a counterfactual. Many elements of the program approach essential for directly improving perceived availability and quality of services may also contribute to empowerment, so conducting an experimental design that eliminates the influence of increasing social power among SHEs might not be conceptually possible. However, further analysis of the available data on the domains of empowerment relevant to this setting may be helpful in further analyses. In addition, the use of panel data minimizes the effect of individual variation on the findings.

Discussion and conclusion

These results illustrate that supporting a community-based midwife cadre can simultaneously expand accessibility and uptake of skilled birthing care and substantively change the role of these pivotal, predominantly female frontline health workers. The design of this intervention meaningfully increased agency, economic power, and professional engagement among the SHEs. These changes occurred in the context of a project that also successfully improved birth preparedness, coverage of antenatal care, skilled attendance at birth, and complications. (Hossain et al., 2020; Sarker et al., 2019)

This analysis offers quantitative support for the many generalized calls to support frontline health worker "empowerment." (FHWC, 2018; WHO, 2018b) Many of the more narrowly defined strategies to increase uptake of maternal health services involve increasing related phenomena: authentic participation, autonomy in decision-making, sense of

community, and psychological power of women. Those solutions focused on technical and managerial solutions to improve FLHW performance on specific clinical or programmatic metrics to improve outcomes in the short term, leading to improved health outcomes, perhaps partly because of improved social power dynamics.

The overall approach of the SHE program attempted to combine traditional technical training and managerial support with efforts to enhance autonomy, economic independence, and solidarity among the SHEs. The absolute magnitude and high probability of statistical significance of the change between the SHEs' social power score between the initial and final assessments provide strong evidence that the intervention design effectively increased the SHEs' social power, not only their technical skills. Other analyses support the approach's effectiveness in improving maternal and newborn health coverage and outcomes. (Sarker et al., 2019) This evidence supports continued attempts to scale and replicate FLHW models that include components explicitly focused on increasing the social power of the FLHWs.

Instead of viewing performance management as a mechanical, linear intervention, the SHE model grounded a client-centered care model in the SHEs' agency and capacity and communal support. The SHE model improved performance and health outcomes by blending more technical standards with elements increasing the social power of these predominantly female community-based providers by increasing their autonomy in decision-making, independent control of economic resources, and engagement in the community as professionals.

The effect of education on the social dynamics in this situation deserves comment. Fixed effects regression eliminates the need to control for a differential effect of education on social power within SHEs by comparing only those with similar education levels. All SHEs were

required to have completed ten years of education. However, this level of education is higher than that of the average client, which could affect the SHEs' connection with their clients. There is an educational gap between SHEs and their clients, as 10.0% of women aged 25 – 29 in Sylhet district have attained the secondary school completion required of SHEs. (NIPORT/ICF, 2020)

Similarly, the income-generating aspect of the SHE program may create a gap in income between the SHEs and their clients, even if there had not been one before. These gaps may have influenced the relationship between SHEs and their clients in some inevitable ways. Still, the SHEs remain far more similar to their clients than nurses or physicians.

That relationship between SBA and client powerfully affects their decision to seek care. (Afulani et al., 2019; Bohren et al., 2015; Shakibazadeh et al., 2018) A woman's choice to seek services from an SBA is a function of an interaction of many factors: her wealth and education, the clinical quality and geographic distance of skilled care, and her care experience. (Jewkes et al., 1998; Sheferaw et al., 2016; Stanton et al., 2018) Afulani et al. (2017) conceptualize these relationships by describing *perceived* quality, need, and accessibility as meditating processes alongside wealth and education as proximal determinants. Thinking of the influence of women's perception of quality and accessibility as mediating pathways is offers a valuable framework to understand the effect of this intervention. The increase in social power may have been the mechanism for women's perception of increased quality, need, and accessibility of care. In addition to explaining additional variation in women's choices, these mediating pathways may be especially susceptible to short to mid-term interventions that improve perceived quality, geographic access, and trust between SBAs and clients.

Extending skilled birthing care to a setting outside a facility is critical only in settings where geographic distance, cultural incongruence, or both make a focus on achieving higher levels of facility birth unrealistic. In the long term, ideally, women's increasing wealth and educational level will create a drive for improved perceived quality (both meeting clinical quality standards and culturally acceptable) among private and public care and greater availability in geographically remote areas.

The great strength of the SHE model is that it contributes in the near- to mid-term and has benefits in the longer term, addressing underlying causes of poor health. A model like the SHEs provides acceptable, accessible care in remote areas that can reduce maternal and infant mortality. In addition, these results suggest that approaches like the SHE model may also contribute to shifting gendered power dynamics in the community by investing this cadre of resident women with increased agency, recognition, and wealth.

As these authors argued in a previous paper (Curry et al., 2021), innovative approaches to FLHW staffing may offer the potential for even more transformative change. The SHEs may potentially influence social norms by being models of women from the community who are recognized health providers, and successful self-employed entrepreneurs. Combining more immediate improvements in coverage with maternal care and related health outcomes with the demonstrated enhancement in the social power of this critical group of women in the community, the SHE model can simultaneously improve health outcomes and contribute to a pathway to more meaningful change

Chapter 5: The Effect of Improved Social Status of Skilled Birth Attendants on Overall Improvements in Social Status of Women[4]

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Introduction

Increased respect and support for frontline female health workers can potentially improve health worker performance, women's health outcomes, and women's social status more widely in their communities. Enhancing respect and professionalism among women frontline health workers improves patient experiences with the healthcare provider and health outcomes of women in the communities (FHWC, 2018; Hay et al., 2019; Lawn et al., 2016; WHO, 2018b). The effect of respect and support for FLHWs on women's social status in the community is still under debate.

The Skilled Health Entrepreneur (SHE) program in Sumanganj District in Bangladesh offers a valuable opportunity to explore the effects of increasing the social status of women frontline health workers on the status of health workers themselves and the women in the community in general. The SHE program provided laywomen with clinical training, social entrepreneurship skills, and recognition as legitimate health workers by local authorities and the Ministry of Health of the country. The women became certified private skilled birth attendants (SBAs), known as SHEs. The program introduced a new cadre of healthcare workers with independence in decision-making, autonomy, and the ability to earn a decent living in the community. The program focused on the professionalization of women frontline workers. The fact that they were selected from among women who had no experience and knowledge in the healthcare field has the potential to improve gender roles in society and enhance the power and voice of women in general. This study explores the effect of the adoption and implementation of the SHE program on women's social and economic status in the community.

Some research studies examining the community-based FLHWs as agents of social change suggest that their potential to influence societal norms may be limited. In particular, Schaaf et al. (2020) found that community-based health workers had a limited effect on broad social change. They considered the lack of institutional support one of the crucial reasons for this. Their study, however, did not consider the effect of creating a cadre of women health workers who deviate from the traditional gender norms. However, community-based women health workers who participate in income-earning activities and have higher mobility and recognition as legitimate professionals by design may affect their communities differently.

Other researchers have argued that the treatment of community-based health workers does affect the social norms in their communities. Closser et al. argue that volunteer health worker schemes actively reinforce gender norms that devalue caregiving, especially the healthcare provided by women, for example. In contrast, requiring payment for health services provided by FLHWs improves the perceived value of the services offered and improves the economic value of women's work. Nandi and Schneider (2014) found that community health workers (CHWs) in a rural South Asian setting (Tamil Nadu, India) revitalized women's engagement and social action. In addition to providing health services, these female CHWs' demonstrated confidence in speaking publicly and the ability to mobilize community actions. These elements contributed directly to increasing women's role and power in the community. The increased scope of the social role of community-based health workers also increases gender-equitable community actions (Ingram et al., 2016).

The conceptual model below proposes relationships among health outcomes, FLHW social status and respect, and women's social status in the community. (See Figure 1)

According to a framework advanced by Afulani et al., client perceptions of need, quality, and accessibility of birthing care are critical pathways to increasing uptake of skilled birthing care. (Afulani et al., 2017) This framework draws on Afulani et al.'s work to illustrate how increasing the social status of FLHWs could increase the uptake of maternal health services through interactions between the social status of FLHWs and women in the community. Improved social status is proposed to contribute to an observed increase in uptake of skilled care and improved social status among women in the community. While demographic characteristics, especially the education and wealth of the mother, have a significant effect on social status and health outcomes, professional opportunities and social dynamics play a critical role.

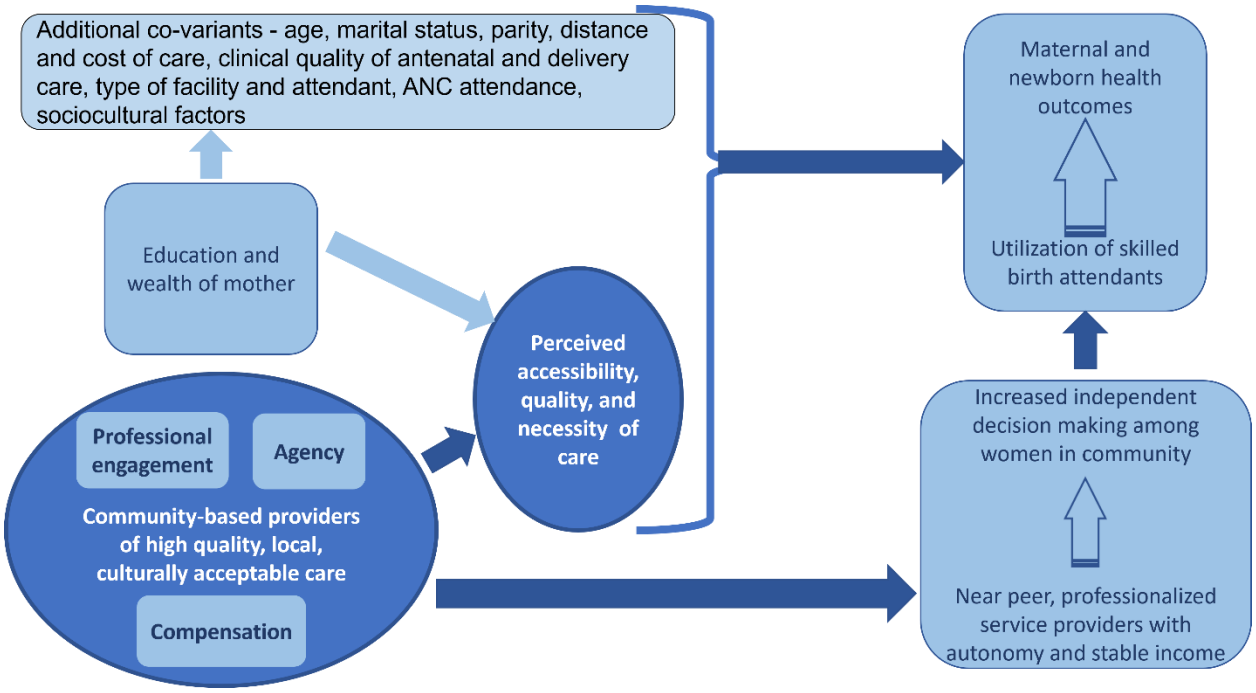

Figure 1: Conceptual model of effects of the improved social status of FLHWs

The success of the SHE model or similar approaches to improve birth outcomes in the community has been documented (Hossain et al., 2020; Miyake et al., 2017; Rao et al.,

2019). The SHEs offered privately provided home delivery services that met minimum clinical standards for safe delivery (Hossain et al., 2020). SHEs were established and linked with the formal health system at 136 community clinics and 29 union councils on health and family welfare. (Islam, 2109) The percentage of women using a skilled attendant during birth increased from 13.4% to 37.4% in the intervention area compared to 21.4% to 35.8% in a comparison district. (Sarker et al., 2019) .

The SHE program not only focused on technical skills and managerial support of FLHWs but also on approaches to improve SHEs' social power. The program included entrepreneurship training, professional engagement opportunities, formal recognition from the government health system, and explicit support from the community for the SHEs. The program participants were selected from among the laywomen in the community, ensuring that the new cadre of health workers are culturally and socially congruent with their clients.

The critical question is to address whether the social and entrepreneurship skill development among FLHWs through the SHE program helped improve the social status of the workers and women in the community. Considering the SHEs as independent entrepreneurs increased the acceptability of women becoming self-employed, free to move around the community alone, and interacting with local officials as peers. The ability to earn income, move freely outside the home, and work professionally with autonomy also improved the social status of women FLHWs. The improved social status of women FLHWs may also have had positive spillover effects on the social status of women in the community.

Methods

Household surveys were carried out at the beginning of the project in 2013 and later in 2018 to evaluate the SHE project's activities. The surveys collected data from women aged

15 to 49 who gave birth to a living infant within the previous 12 months. The sampling method used a multi-stage cluster approach. In the first stage, ten Upazilas were randomly selected in each district; then, unions were randomly selected among Upazilas. Finally, villages were randomly selected from selected unions. Respondents were randomly selected in each village using Probability Proportional to Size method. Interviewers obtained their written consent before administering the questionnaire. If an eligible woman in a selected household was reported to be absent, data collectors returned at least two more times to obtain an interview with the initially selected respondent. The surveys collected information on health services received, health behaviors and outcomes, exposure to SHEs and other categories of health workers, and demographic characteristics of households (Sarker et al., 2019).

Variables Used in Analysis

The primary dependent outcome measure used in this analysis was independent decision-making. Independent decision-making was the dependent variable in the bivariate and multivariate statistical analyses. In the surveys, women were asked questions about their decision-making autonomy. Independent decision making was defined as a response that the respondent alone or she and her husband jointly made decisions on each of two items: seeking health care for herself and making household purchases.

A range of demographic and social status variables affect both health-seeking behaviors for maternal health services and independent decision making, as noted in the conceptual framework presented above. Household economic status, respondent education, religion, respondent age, respondent early age at first marriage, respondent current marital status, and respondent reproductive history variables (parity and number of living children) were

initially considered for inclusion in the multivariate model described below. Because the proposed model focuses on respondents' choices related to delivery care as a critical component of the observed effects, respondents' use of skilled attendants at birth was also included in the full regression.

A correlation matrix revealed a high correlation (greater +/-0.5) between parity and age, the number of living children and parity, and education and parity, so parity was removed from the model. Some additional moderate correlations (greater than +/-0.2 but less than +/-0.5) were observed among other variables: education and SBA use, age and number of living children, and wealth. Because these correlations were only moderate, these independent variables remained in the model.

The analysis used the Demographic and Health Surveys wealth index calculation approach to control for differences in household economic status. The analysis created a wealth index using the World Food Program VAM guidance paper (Hjelm et al., 2017). In creating the wealth index, the variables that showed low inter-household variability, i.e., when responses on ownership of specific items were higher than 95% or less than 5%, were excluded. Type of toilet facilities, water source, possession of a music-playing device, cart, landline telephone, motorboat, roof, and floor material was excluded due to inadequate variation. Households were categorized into quintiles using the wealth scores calculated. The wealth quintile was included in the regression analysis as a categorical variable, with the highest wealth quintile as the reference category.

Years of education, age, parity, gravity, and the number of living children were included as interval variables. Religion, currently married status, and early age at first marriage were

included as dichotomous variables with Muslim, married, at least 18 years at first marriage as the reference categories.

Analysis approach

Descriptive analyses were used to compare the differences in reporting women's decision-making autonomy. Then the analysis compared the difference between the project area and the comparison district at the endline. Since the autonomy in decision-making can be affected by several other variables, the analysis should control potential covariates to understand the program's effect on decision-making. Logistic regression analysis using decision-making as the dependent variable was estimated after controlling for household wealth, household size, and respondent characteristics such as parity, education, age, number of children, and age at marriage. Analyses were conducted using Stata 16.1.

Results

In the project area, most women of reproductive age were married at baseline and endline, 98.7% and 99.0%, respectively. The mean number of people in the households surveyed remained relatively stable at 6.5 and 6.3, respectively. Median years of education among women of reproductive age increased from 2 to 5 over the five years. The use of skilled birth attendants increased from 37.7% in 2013 to 52.0% in 2018. Table 1 reports these results.

Table 1: Change in demographic and social variables and outcome measures in the project area

	Baseline (2013)	**Endline (2018)**
Median years of education	2	5
Currently married (%)	98.7	99.0
Mean number in HH	6.5	6.6
Used SBA at last delivery	37.7%	52.0%
Independent decision making	52.0%	57.0%

One of the critical research questions of this study is to test the hypothesis that the proportion of women reporting independent decision-making ability improved in the project area after implementing the SHE program. As indicated in table 1, 52% of women reported their ability to make decisions independently at baseline, increasing to 57% at the endline. Over the five years, independent decision-making increased by five percentage points. A χ–square test was done to test the hypothesis that this increase in decision-making is statistically significant. The χ–square value indicates that the difference was statistically significant, i.e., the project area saw statistically significant improvements in the percent of women able to make decisions independently (see table 2).

Table 2: Increased Independent Decision-Making Among Respondents in SHE Program Area

			N = 6395
	Not independent # (%/N)	Independent # (N/%)	Pearson chi2 (probability)
Baseline	469 (47%)	527 (52**%**)	949.5202 (0.000)
Endline	2,314 (43%)	3,086 (**57%**)	

Another critical research question is to understand the factors affecting the independent decision-making of women. Logistic regression was estimated with the ability of independent decision-making as the dependent variable to identify potential factors. The baseline and endline survey observations were combined into a larger file to estimate the

regression model. The literature reviewed allowed the identification of some independent variables and informed the proposed conceptual framework. Those variables were incorporated into the model. Since the main research question is to identify the project's effect, a dummy time variable was introduced (with 2018 as 1 and 2013 as zero). The estimated coefficient of time dummy implies that the respondents at the endline were 1.94 times more likely to report independent decision-making than baseline after controlling for other relevant variables. (See Table 3.)

Table 3: Logistic Regression model to explain Independent Decision Making among respondents in SHE program area between baseline and endline

			Number of obs = 6,395 LR chi2(12) = 214.66, Prob>chi2 = 0.000 Pseudo R2 = 0.0459
	Odds Ratio	P>|z|	[95% Conf. Interval]
Endline	**1.938012**	**0.000****	1.506425 2.493247
Age (years)	**1.037401**	**0.000****	1.015625 1.059645
Number members in household	**.8506194**	**0.000****	.8170797 .8855358
Number of living children	**1.202751**	**0.000****	1.106699 1.307139
Married	**4.862727**	**0.000****	2.831151 8.352122
Used skilled birth attendant	1.160943	0.068	.9887818 1.363079
Adult marriage (18 or over)	1.07945	0.373	.9124126 1.277066
Wealth (lowest quintile = ref)			
2 (second lowest)	1.093039	0.451	.8671334 1.377798
3	1.025133	0.840	.8061437 1.303611
4	1.103549	0.447	.8562867 1.422211
5 (second highest)	1.271544	0.090	.9631741 1.678642
Education (years)	.9973253	0.761	.980251 1.014697
Constant	.0070593	0.000	.0030947 .0161027

Lower parity, respondent age, having a higher number of living children, and smaller household size were significantly associated with independent decision making. As expected, increasing age and education predicted independent decision-making. While the use of a skilled attendant at birth and marriage at age 18 years or older were not statistically significant in this model, the direction of their effect is expected. Age at first marriage of 10 or older and use of a skilled birth attendant were positively related to decision making, albeit not significantly.

The number of members in the household was negatively associated with the dependent variable; possibly, women with more autonomy had more influence over how many people resided in the household. While a higher number of living children was associated with decision making, higher parity was negatively associated with decision making. Women with greater autonomy in making decisions had more control over becoming pregnant, resulting in lower parity but high control over the care of their living children, resulting in reduced child mortality. Independent decision making and education or wealth showed no significant association with the independent decision, unexpectedly. Low variability in these characteristics may explain the lack of a significant relationship.

Limitations

A comparison group would have allowed for direct observation of differences in women not exposed to the SHEs. Data were collected from a neighboring district, but unfortunately, the areas were not adequately similar to be a comparison group. The most significant weakness of this study was the inability to assess change in a similar population with access to skilled birthing care but without SHEs invested with greater social power.

The primary outcome of the SHE program was to increase the uptake of skilled birthing care and improve maternal and newborn health outcomes. The project evaluation documented significant improvements in related health outcomes as referenced above. However, the assessment of power dynamics and their effects on the independent decision-making of women in the area was not the program's explicit objective. The intervention was not designed to differentiate between the effects of traditional skills building from the effects of social power.

Social desirability bias may have influenced the respondent's answers. As norms and attitudes began to shift (whether because of the SHEs activities or secular trends) in the community, women may have perceived pressure to report more independent decision-making regardless of changes in their lives. This social pressure could have exaggerated the changes noted here.

However, a study design that isolates the effects of the intervention intended to increase the SHEs' social power would be difficult to construct. The fact that laywomen from the community received training and recognition from the health system should elevate their social power even without explicit measures targeting their social status. The additional support for SHE's entrepreneurship and recognition from the community further enhances their power.

Discussion

This analysis attempted to examine whether the introduction of SHEs resulted in improved independent decision-making among women in the community. The results found a significant increase in women's autonomy in the project area over five years. This increase

in independent decision-making was significant even after controlling for other potential factors affecting the likelihood of independent decision-making.

Determining a causal relationship between the increase in independent decision making and the presence of the SHEs will require a more rigorously defined design with intervention and control areas. These results suggest an association between the introduction of SHEs and women's autonomy but the demonstration of a causal link will require longitudinal data. These results are consistent with the hypothesis that the change in women's autonomy in the SHE program area affects the program. Still, inter-temporal improvements in women's autonomy could have been caused by other factors.

The increased use of the services the SHEs provided and promoted could suggest that the community had begun to place a more excellent value on safe, respectful care as a result of exposure to the SHEs. Alternatively, an increase in women's social status resulting from the introduction of the SHEs could have increased women's ability to seek the care they preferred. Multiple factors could have been involved in causing the trends observed. The SHEs are laywomen in the community who earn money 1) independently, 2) as entrepreneurs, 3) in a skilled profession, and 4) with the explicit, concrete support of the community and municipal authorities. Each of these SHEs' working model elements counters mainstream gender norms in the social context. For example, in Sylhet District, where Sunamganj is located, only 5.8% of ever-married women were employed, and only 5.7% worked in professional or business occupations. Women in similar circumstances to the SHEs' were unusual in their context and potentially disruptive.

This observation of increased women's social power in the SHE program areas merits further investigation. While the data available were not adequate to constitute significant

evidence for a causal connection, these findings probably imply that enhancing respect and support for female FLHWs contribute to improved autonomy of women in the community. A qualitative investigation of women's perceptions of the SHEs will be helpful to design a more effective female FLHW model for highly conservative traditional societies. Such qualitative research could explore what influenced women's decision to seek skilled birthing care and other factors contributing to their increased decision-making.

The SHE model of community-based health care provision has demonstrated significant improvements in service delivery and health outcomes. (Hossain et al., 2020; Sarker et al., 2019) Our analysis suggests that such interventions may be interrelated with other social outcomes, including the role of women in society and women’s autonomy.

Chapter 6: Conclusion

This study explored the power and agency among frontline health workers (FLHW) and their potential effect on women's autonomy in the community. Using a three manuscript format, it described the Skilled Health Entrepreneur (SHE) program in rural Bangladesh and analyzed its effects. The SHE project provided an illustrative example of programming aiming to increase access to high-quality frontline health worker services and designed intentionally to enhance the power and agency of FLHWs as an element of the program.

One aim was to provide a clear depiction of the features of an FLHW-focused intervention that are proposed to enhance FLHW's agency and power. Introducing new cadres of predominantly female health workers alone could increase the availability of skilled birthing care but not decrease gender inequity directly. Many possible variations in program design have been proposed to "empower" FLHWs. Still, program design elements specifically intended to affect FLHWs power and agency are rarely well distinguished from other elements of such interventions, like skills building and supportive supervision. The first manuscript in this project provided a detailed description of the elements of interventions designed to address gender inequities and power dynamics as a critical first step in assessing those program components' effectiveness.

Another important and relevant question of the study is to explore whether the elements in the SHE program intended to shift gender and power dynamics had the intended effect on

SHEs. This analysis quantitatively tested whether SHEs' agency and power increased due to the interventions. Much of the research in this field assesses health workers' effectiveness in terms of clinical quality, efficiency, or client satisfaction. Since a stated objective of program design is often health workers' agency and power, the program's effects on those characteristics deserve thorough, direct assessment.

A final question for this study was whether increased social power and agency among FLHW affected their larger context. Despite much discussion of the potential for FLHWs to serve as models and advocates for the community, particularly for women, the evidence that the program can realize that potential remains incomplete. The final analysis of this study tested whether women's social status in the SHE program area increased between the beginning and the end of the program.

The academic literature documents many technical and managerial interventions targeting FLHWs' behavior change. Recent work demonstrates that such solutions alone are not adequate to sustain a stable, motivated, effective workforce capable of providing responsive services in the long term. (Källander et al., 2015; Kruk, Gage, Arsenault, Jordan, Leslie, Roder-DeWan, Adeyi, Barker, Daelmans, Doubova, English, Elorrio, et al., 2018; Scott et al., 2018) Academics and global health policymakers widely acknowledge a need for more respect and support for FLHW, including specific measures to increase gender equity in the health workforce. (WHO, 2021)

To date, cross-sectional analyses of these relationships exist from various perspectives and data sources. Strong evidence from large national datasets across countries demonstrates the relationship between gender inequity in the workforce, gender inequity in the broader society, and poorer health outcomes. (Gupta et al., 2019; Hay et al., 2019) The work of

Closser and Maes is an example of the work revealing potentially harmful dynamics related to undervalued female community health workers, for example. (Closser et al., 2019; Closser et al., 2017; Maes et al., 2019; Maes et al., 2015) Afulani and Moyer use national survey data in a single country to argue for strong and complex relationships between gender dynamics, perceived quality and accessibility of care, and uptake of maternal health services. (Afulani & Moyer, 2016)

Existing research lacks evidence to analyze which factors contribute to gender equity, power dynamics, and human resources for health. Few evaluations assess the effects of interventions targeting these issues. Several evaluations suggest that specific intervention design elements can affect gender norms and power dynamics in the health workforce. For example, Hay et al. (2019) found that female frontline health worker cadre in settings using supervision and management designed to demonstrate respect and provide support for them resulted in higher job satisfaction, productivity, and health impact.

Even more significantly, some evidence suggests that positive roles for FLHWs may contribute to gender equity in their communities. FLHWs with more voice and agency can provide more respectful, responsive care to their clients and address gaps in health service delivery that arise from gender norms and power dynamics. (Hay et al., 2019; Maes et al., 2014) They serve as models of a predominantly female category of workers who receive fair remuneration and respect and with the agency to move freely in the community for work. As health systems worldwide expand their health workforce to meet critical and growing shortages, the global health community can also introduce measures to advance gender equity goals.

The literature review also illustrated the complexity of measuring power and gender inequity concepts. Empowerment is a concept often used to capture the agency and other aspects of the power of health workers. Empowerment is a broad, ill-defined concept, and rigorous measurement relies on complex, time-consuming approaches. (Cyril et al., 2015; Priya et al., 2021; Richardson, 2018) The existing options for measuring power-related concepts among health workers present constraints in routine practice to assess ongoing programming. The review also examined social power as a concept drawn from social psychology that might be useful in this setting. (Rucker & Galinsky, 2017; Scholl et al., 2018)

The study found that specific design elements in the SHE model may have contributed to increased social power among SHEs. They also supported an increase in autonomy among the community women. These findings support the idea that health systems can successfully increase respect, agency, and economic independence for frontline health workers and that FLHWs with increasing agency and social power enhance gender equity more widely in the community.

The SHE program design included elements beyond the traditional techno-managerial training and supervision of technical skills, such as increasing and controlling their earnings and expanding their professional skills. The program intended to support women from the community, as social peers of clients and long-term residents, in becoming recognized, respected health workers linked to the public system while protecting their livelihood and improving quality and access to maternal health services. (Right Kind, 2020)

Specifically, the SHE program provided laywomen with social entrepreneurship skills, recognition as legitimate health workers by local authorities and the health ministry, and

opportunities to engage more prominently and visibly within the group over time. The women became certified private providers FLHWs, specifically skilled birth attendants (SBAs) known as SHEs. (Hossain, 2015; Hossain et al., 2020) The program also provided opportunities to connect to discuss strategy and problem-solving and one-on-one support from mentors. The SHE program included significant investment in these elements to improve the SHEs' income, agency, and professional engagement.

Did the program result in increased social power among SHEs?

This study assessed three significant elements of social power: compensation, agency, and professional engagement. SHEs directly reported their income from SHE activities. Decision-making power provided an indicator of the SHEs' agency. The frequency of their presentations at professional meetings represented their recognized importance in the community as legitimate allied health workers.

The analysis found that all three elements of the SHEs' social power increased significantly from the beginning to the end of the program. These results illustrated that supporting a community-based midwife cadre can simultaneously expand accessibility and uptake of skilled birthing care and substantively change the role of these pivotal, predominantly female frontline health workers. The design of this intervention meaningfully increased agency, economic power, and professional engagement among the SHEs. Furthermore, these changes occurred in the context of a project that also successfully improved birth preparedness, coverage of antenatal care, skilled attendance at birth, and managing complications. (Hossain et al., 2020; Sarker et al., 2019)

Did the introduction of SHEs increase autonomy among women in their service area?

This study also examined whether the introduction of SHEs affected the independent decision-making ability of women in the community. The results suggest that women's autonomy in the project area improved significantly. This increase in independent decision-making was significant even after controlling for the effect of covariates. These results support the claim that the change in women's autonomy, at least in part, in the SHE program area, can be explained by the SHE program itself. We also found that women's decision-making in the program area was higher at the endline than in the rest of the Sylhet district. In the program area, 58.19 percent of women made decisions independently, while in Sylhet District, only 48.2 percent of women did so, according to the 2017 Bangladesh Health Survey. (NIPORT/ICF, 2020)

This study provided empirical evidence on specific design elements of FLHW interventions that helped increase power and agency among health workers. These elements can be used to counter gender inequity and power imbalances in the health workforce

Overarching themes across three manuscripts

The role of gender and power dynamics in the frontline health workforce

A central theme uniting all three research questions is the critical role of gender and power dynamics. According to the WHO, the number of health workers is 26 million globally, and WHO estimates suggest that another 18 million will be needed by 2030 to meet the health workforce shortages. Since health workers represent a large proportion of the workforce globally, ensuring equity and dignified working conditions is intrinsically valuable as an element of women's economic engagement and gender equity goals.

Enhancing conditions for health workers offers value in other ways as well. The health workforce represents an important sector for enhancing women's participation in the formal economy. Understanding gender and power dynamics in the workforce creates opportunities for women's meaningful engagement in economic and public life. The analysis of the SHE model identified specific elements of workforce participation that can enhance women's health workers' agency and professional engagement. Enhancing women's health workers' agency and professional engagement positively affects gender dynamics in the broader community.

Components of program design

The study identified how the work environment design affects health worker agency and power. This research highlighted the elements in the work environment beyond training and supervision that can affect the health workers' experience. Critical elements included establishing respect from community leaders, securing community investment in safe working conditions, and providing professional development opportunities that build workers' skills and confidence as professionals rather than only performing clinical services.

Introduction of a valuable approach for large-scale, routine assessment

One of the study's significant contributions is that a relatively straightforward approach could provide a meaningful assessment of improving gender and power dynamics in the workplace. Academic research often uses precise but complex scales that are difficult to measure. Taking income, professional engagement, and autonomy to comprise social power provides a robust, actionable approach to conduct the measurement needed for policy and practice-related decision-making.

Reliance on predominantly female frontline cadres of health workers to extend the health system's reach has been used widely across different countries and societies. The critical importance of these cadres is poised to grow as health systems worldwide attempt to expand the health workforce because of strategies like task shifting and the introduction or expansion of community-based health workers. Those trends will interact with gender and power dynamics, whether positively or negatively. This work described an applied setting where FLHW expansion was deliberately designed to affect those dynamics positively. The project also applied metrics suitable for ongoing, regular monitoring and assessment at scale. Along with similar studies, this evidence can inform expansions and enhancements to frontline health worker cadres.

The study set out to partially address some broader questions. Could novel approaches to FLHW support grounded in respect and agency of frontline workers and their clients actively contribute to a larger vision of a society committed to expanding the public good in other ways? Could a model that provides additional skills, recognition, and income to women in the community, already trusted and respected by their potential clients, develop a fee-for-service revenue stream to enhance their solidarity through mutual support and shared activity among SBAs? Could such a model also improve health outcomes while expanding this female cadre's economic empowerment and social standing? How do the experiences of care providers and their clients influence community norms, economic self-determination, and personal autonomy?

The SHE project and its analyses create a chance to imagine a cadre of providers in an underserved, marginalized community area with a stable strategy to earn adequate income and are likely to remain in practice in the area. Imagine that these providers have basic

clinical skills and access to higher care. These features strengthen women's confidence in their health systems. Imagine a model that could also provide a way to support and recognize a legitimate health provider as a self-employed entrepreneur.

Consider the power of identifying SBAs from women within traditionally underrepresented and marginalized communities and ensuring they have networks, social connections, capital, and a desire to continue working and living in that community. SBA's interactions with clients reinforce greater freedom and opportunity for both client and provider rather than work against it. Efforts to expand access to SBAs can aim higher than simply improving clinical skills. Designing SBA interventions to enhance their social power could expand their economic independence and reinforce positive gender and power norms in the community, addressing longstanding issues of poor remuneration, overburdened workloads, and poor retention.

Limitations

One fundamental limitation of this study is the context in which the program was implemented. Several factors set these communities apart from others. The rural area poses significant geographic challenges to accessing government-provided birthing care. Poverty was high, but there was a robust cash economy, unlike many settings where geography is a barrier to accessing public services. These circumstances led to significant demand for birthing care from traditional birth attendants. By design, the project prioritized significant tailoring to the market forces and client preferences unique to Sylhet District in rural Bangladesh. The distinctive elements in this setting restrict the models' replicability in other contexts.

Another limitation was the inability to assess SHEs who left the program. All data reflected SHEs who remained in the program, and there were 67 SHEs who received the initial training and orientation but did not remain in the program. The use of panel data allowed for direct assessment of changes resulting from participation in the SHE program while minimizing variability in the background characteristics. However, SHEs who left the program may have had characteristics in common that set them apart from those who remained. Since a significant number of SHEs did not continue, the observed changes in the social power of SHEs may be biased unless the likelihood of not continuing in the program is purely a random event.

A study design that isolates the effects of the intervention intended to increase the SHEs' social power would be difficult to construct. The fact that laywomen from the community receive training and recognition from the health system elevates their social power. The additional support for SHE's entrepreneurship and recognition from the community further enhances their power, but the training and certification alone impart some additional social power. For future studies, replication of this model in various settings could provide more insight into the causal pathways at work.

The measurement of exposure to the SHEs posed a challenge, as well. The survey assessed whether the respondents were satisfied with SHE services and who provided several of the services SHEs provided, including birth planning, antenatal care, and delivery care. Respondents did not indicate whether they knew of the SHEs, attended education or discussion sessions, or any other indications of exposure to SHE. While less critical for assessing the direct effect of the SHEs on the uptake of maternal health services, these

potential mechanisms for the program's effects might be crucial for assessing their influence on social norms and power dynamics.

This analysis used the concept of social power to describe the status of the SHEs in terms of economic, personal, and professional agency and independence. As discussed, empowerment is poorly defined, however. In addition, many concepts discussed above that are used in constructing qualitative and quantitative measures of empowerment could be independently related to positive outcomes in either performance or stability of the workforce cadre. For example, self-efficacy and motivation are often construed as components of empowerment (Krishnaratne et al., 2021). Also, they have demonstrated associations with performance and such measures as retention and job satisfaction.

Recommendations and Implications

These results reinforce the importance of exploring the effects of gender and power dynamics in the health workforce and the effectiveness of measures to improve gender equity and health worker agency. Several specific recommendations emerge from these results.

- Develop a new cadre of community-based female workforce who can effectively address the needs of women in settings meeting specific conditions
    - A high percentage of births occurring at home is a significant issue, and elevating the facility birth rate is not the sole goal.
    - The local context sustains at least a minimal level of a cash economy.
    - Mechanisms for government certification and oversight of such a cadre exist or can be created.

The new health care providers should be from the local area with knowledge of the local community and their needs. One essential element of the approach is negotiating concrete

support from the community and municipal leaders, like protected space for service provision in remote locations and designating budget support to ensure care availability to low-income households.

- To create economic opportunities for women, introduce community-based health worker cadres that are publicly certified, quality-assured, and practice independently on a fee-for-service basis. This recommendation may be relevant in many settings if health workers offer safe and effective services to marginalized populations.
- Thoroughly evaluate the implementation of such programming in more settings and at a larger scale to verify replicability.
- Adopt features found to be effective in improving health worker agency and gender equity at the system level.
- Prioritize cultural congruence and links community as a strategy to increase care seeking for preventive and other primary care and improve health worker retention with FLHWs of all types.
- Collaboratively design strategies for health service delivery among payers, providers, and users to adapt interventions to localized market forces and client preferences.
- Include elements to support professional growth and business/management skills in training and supervision of FLHWs, including allied health professionals

- Incorporate FLHWs in designing, conducting, and interpreting related research. As the central feature of the research is the experience of the FLHWs, they are uniquely qualified to frame the questions and inform the utilization of results. Further research and programmatic assessments should include FLHW leadership and participatory and qualitative methods.

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