



# Burnout at the Frontline: The Effect of a Reproductive Health Voucher Program on Health Workers in Uganda

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## Abstract

**Background:** Low job satisfaction among healthcare workers in developing countries can increase risk of burnout and have a negative effect on the quality of services. Novel financing strategies such as voucher programs, which aim to increase the utilization of services by the poor by offering physical vouchers for subsidized care, may unintentionally exacerbate burnout for health care workers by creating higher workloads.

**Methods:** A semi-structured survey that included both closed and open-ended questions as well as a locally-adapted job satisfaction scale was used to collect information on provider perceptions of changes in job satisfaction, workload, staffing and salaries since the start of a health voucher program at facilities in fifteen districts in western Uganda.

**Results:** Voucher providers reported feeling more rewarded and more motivated than comparison providers. While frontline workers at both sites were less satisfied than their managers overall ( $p<0.0001$ ), satisfaction scores were on average higher at voucher facilities than comparison facilities for both types of providers ( $p<0.0001$ ). The qualitative responses from frontline workers describe a high level of frustration at voucher facilities that was mitigated by additional compensation.

**Conclusions:** Providers at voucher facilities may experience a more enabling work environment but job satisfaction differences between manager and frontline workers may intensify when staffing, workload and incentives are not addressed. Strategies to support staff when implementing new demand creation programs should be prioritized. Incentive strategies for staff and management guidance for facilities managers will be important components of successful voucher programs.

## Key Message

Providers at health facilities that implement voucher programs experienced lower job satisfaction when workloads increased without additional compensation. Frontline workers such as nurses experience this more acutely than clinical officers and head midwives. Voucher programs may have unintentional consequences on health worker burnout unless these issues are considered in the implementation of the program.

## Background

Low job satisfaction among healthcare workers in developing countries can lead to an increased risk of burnout and can have a negative effect on the quality of critical health services [1,2]. Burnout among health workers, which includes exhaustion of physical or emotional strength as a result of prolonged stress or frustration [3], may stymie efforts to address public health priorities such as reducing maternal mortality [4]. The three most important factors in creating a positive working environment include manageable workloads, adequate staffing and appropriate incentives [5]. This is particularly important for frontline healthcare workers such as nurses, lab technicians and nursing assistants who have limited control over their work environment [6,7]. When comparing frontline health workers such as nurses to managers (often physicians or clinical officers), frontline health workers consistently report lower levels of job satisfaction and higher levels of burnout [8-10]. Burnout at the frontline is associated with decreased quality of care and increased costs related to staff turnover, all of which lead to negative consequences in low-resource settings [3].

Many new health systems strengthening programs, such as voucher schemes, aim to increase the utilization of health services by poor populations who in the absence of the subsidy would likely have not sought care through demand-creation incentive [11,12]. Voucher programs also aim to strengthen the supply of healthcare by contracting services from accredited facilities. There is a concern that successful programs may exacerbate the risk of burnout for frontline health care workers as a result of an increased number of patients using services unless workload, staffing and incentives are addressed [4]. This study examines the effects of a reproductive health voucher program in Uganda on perceived job satisfaction of frontline health workers as compared to their managers at facilities contracted to treat voucher-bearing clients as well as non-participant frontline workers and managers at facilities that did not have a contract to see voucher clients.

## Program description

Sexual and reproductive health services are often seen as a

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barometer of quality for the broader health care system. In Uganda, the prevalence of many sexually transmitted infections (STIs) is at epidemic proportions [13]. The prevalence of modern contraceptives remains low at 26% and the total fertility rate remains high at 6.3 children per woman [14]. More than half of women deliver without a skilled birth attendant where they are at higher risk of life threatening complications without access to adequate treatment [15].

In response to both poor health outcomes and concerns about aid inefficiency, the Uganda Ministry of Health, with support from the German Development Bank (KfW), launched an output-based aid (OBA) voucher program for STI treatment in 2006 [16]. The voucher program, managed by Marie Stopes International-Uganda, consisted of targeting women in poor communities through the distribution of a paper voucher and reimbursing accredited and contracted facilities to see voucher-bearing clients for STI diagnosis and treatment. Two years later (2008), maternal and newborn services were added to the voucher program. In 2010, the voucher program had been implemented in 117 health facilities across 22 districts of western and southern Uganda.

Voucher programs are designed to give patients the economic power to access high-quality healthcare, to allow program planners to target high-risk or low-income patients for critical services that they would likely otherwise under-consume, to augment general population utilization rates, and to contain per-unit costs through set reimbursement guidelines [11,12]. The STI treatment voucher, called Healthy Life, allows the client and their partner to be seen for initial STI diagnosis and up to three follow-up visits. The maternal and newborn voucher, called Health Baby, covers the costs of four antenatal visits and a postnatal visit, in addition to the delivery and obstetric referrals if needed [16].

Two recent reviews of the evidence for the effectiveness of health voucher programs suggest that these programs generally have a positive impact on the demand for and utilization of health services by poor people in low- and middle-income countries [17,18]. In Uganda, early evaluations have shown similar results. The evaluation of the Healthy Life voucher program indicated that the total number of patient visits for STI-related laboratory tests at contracted clinics increased on average 32% in the first year of the program compared to the year prior to the program [19]. In terms of health outcomes, a quasi-experimental study of the Healthy Life vouchers found that syphilis prevalence fell in areas near to contracted facilities and remained unchanged in areas near comparison facilities (a OR=0.62 95% CI=0.44-0.93) [20].

The voucher program does not make any stipulations about how increased revenue should be spent within the health center. Managers at private facilities have the ability to distribute the revenue as they see fit. While this program is currently only available at private facilities, it has the potential to benefit the poor even more by extending to the public health sector [21].

The purpose of this study is to examine how the Healthy Life and Health Baby voucher programs affect both management and frontline health care provider perceptions as they relate to the three most important aspects of job satisfaction (workloads, staffing and incentives). This study is the first to document how the voucher

program impacts management practices and job satisfaction of frontline workers and managers at contracted facilities.

## Methods

### Ethics statement

The research protocol for this study received approval from the University of California, Berkeley Committee for the Protection of Human Subjects (Protocol ID: 2010-02-853, approved June 2010) and the Uganda National Council for Science and Technology (Reference No: SS2385, approved August 2010).

### Sampling

The sample is comprised of healthcare workers at facilities contracted to provide either Healthy Baby or Healthy Life voucher services in ten districts in western Uganda and healthcare workers at comparison facilities in five nearby districts that were eligible for the program but had not yet been recruited. Because the sampling universe was small and researchers wanted to ensure that all types of facilities were included, non-probability sampling was employed. Researchers purposively selected participating facilities from three geographic categories (town centers, town periphery and remote areas) and three types of facilities (private outpatient dispensaries, health centers and referral hospitals). Comparison facilities were selected based on the same criteria in three similar neighboring districts that would have been offered the voucher program if resources had permitted.

The lead investigators conducted confidential semi-structured interviews with managers and frontline healthcare providers at these facilities in August 2010, four years after the STI voucher program was launched and two years after the maternal health voucher program was launched.

### Provider recruitment procedures

Recruitment of providers for semi-structured interviews went as follows. The lead investigator contacted each facility director by phone to get approval to visit the facility. The lead investigator then met with each facility's management to introduce the purpose and methods of the study and to request their permission to conduct interviews with providers. If the management was not available, the researcher spoke with the highest-ranking staff member. If the management agreed to participate, investigators conducted confidential semi-structured interviews with all available and consenting providers, which lasted between 30 minutes to one hour each.

### Provider selection requirements

Medical staff was selected for interviews from the following two staffing categories: managers (proprietors, administrators, clinical officers, midwives, and laboratory technicians) and frontline healthcare workers (nurses, nursing assistants or laboratory assistants). Participants had been working in facilities for an average of 4.6 years (4.3 at voucher facilities and 5.0 at control facilities, ns).

### Informed consent

Written informed consent was obtained at the start of all data collection activities. Prospective study participants were provided with information about the study before any consent to participate was sought. Participants were informed about the requirements for

Table 1: Job satisfaction scale

Job Satisfaction Scale			
For this section, ask yourself: How satisfied am I with this aspect of my job? (1) Very satisfied (2) Satisfied, (3) Neutral, (4) Dissatisfied or (5) Very Dissatisfied?			
1	The chance to do things for other people	(1) (2) (3) (4) (5)	Don't Know (9)
3	The way my job offers me steady employment	(1) (2) (3) (4) (5)	Don't Know (9)
4	The pay for the amount of work I do	(1) (2) (3) (4) (5)	Don't Know (9)
5	The chances for advancement in my job	(1) (2) (3) (4) (5)	Don't Know (9)
6	The way my co-workers get along with each other	(1) (2) (3) (4) (5)	Don't Know (9)
8	The working conditions	(1) (2) (3) (4) (5)	Don't Know (9)
9	The way this health facility is organized	(1) (2) (3) (4) (5)	Don't Know (9)
10	The chance to make use of my abilities	(1) (2) (3) (4) (5)	Don't Know (9)

participating in the study. Information was read to participants in addition to being given a form to read themselves and providers both verbally agreed and signed the informed consent document before they were interviewed. Providers retained a copy of the consent form that contained contact information.

## Measurement and analysis

A semi-structured survey that included both closed and open-ended questions was used to collect information on changes in workload, staffing and incentives in the past year (for controls) or since the voucher program started (for voucher program participants). All participants were asked about their current job satisfaction using the same scale (Table 1).

The validated Minnesota Job Satisfaction Scale [21] was adapted by two of the researchers and used to quantitatively measure individual job satisfaction. The scale was adapted to the local context through expert review and pilot testing. Expert review involved getting question-by-question feedback from local providers on the relevance of each item for their job. Any irrelevant questions were either deleted or altered to ask about the item in a more locally relevant way. Pilot testing was conducted with three providers at participating facilities, two frontline workers and one manager. Feedback on wording and phrasing of the items informed a final revision.

The adapted 8-item scale had a maximum score of 5 for each question for a total overall score of 40 points (Table 1). The scale asked providers to rate their satisfaction with items such as the way their job offered steady employment, the working conditions, the chances to make use of their abilities and the pay for the amount of work they do.

The adapted job satisfaction scale was found to have internal consistency using a Cronbach's Alpha (coefficient=0.75). In addition, qualitative responses to general job satisfaction questions were crosschecked with job satisfaction scores to test the sensitivity of the scale. For example, providers who reported feeling overworked had statistically significantly lower job satisfaction scores than providers who did not report feeling overworked (18, SD=0.4, n=22 vs. 24, SD=1.8, n=47; p<0.0001).

The survey was pre-tested with both a voucher and comparison provider as well as with program staff to assess how well providers understood the informed consent process. Using the teach-back method to assess comprehension, providers felt that the consent form was understandable and written at the appropriate reading level.

Responses to close-ended questions were analyzed quantitatively using frequencies, risk differences for dichotomous outcomes and t-tests for continuous outcomes.

Responses to open-ended questions were analyzed using simple open coding from the detailed notes that were taken during interviews. Themes and trends were developed through iterative reading and coding by two authors. Responses from providers of similar response subgroups were examined together and used to corroborate or contradict the quantitative results. Representative quotations were selected and are presented in this article.

## Results

In August 2010, investigators surveyed 16 managers and 33 frontline workers from voucher facilities and 6 managers and 14 frontline workers from comparison facilities. All voucher facilities approached agreed to participate. All but two comparison facilities that were approached agreed to participate. The voucher and comparison sites were similar based on general characteristics (Table 2). Staff had worked at their respective facilities for an average of 51 months at voucher facilities and 60 months at comparison facilities (ns). At voucher facilities, the voucher program had been in place for a minimum of one year and a maximum of three years.

In terms of health worker experiences, providers' individual perceptions bear significant importance on their job satisfaction and

risk of burnout. As such, these results report individual provider perceptions and not average changes clustered at the health facility level.

## Effect of voucher program on perceived job satisfaction: Survey results

**Workload changes:** All voucher managers and no comparison managers reported an increase in patient load in the past year (risk difference, 1; 95% CI 1-1, p<.001). All voucher frontline workers and 6 out of 14 (43%) comparison frontline workers reported an increase in patient load (risk difference, .57; 95% CI .31-.83, p<.001) (Table 3).

**Salary changes:** Eleven out of 16 (69%) voucher managers and no comparison managers reported any increase in salary in the last year (risk difference, .68; 95% CI .46-.91, p=.004). Eleven out of 33 (33%) voucher and 2 out of 14 (14%) of comparison frontline workers reported an increase in their salary in the past year (risk difference, .19; 95% CI -.05-.43, p=.18) (Table 3).

**Staffing changes:** Twelve of 16 (75%) voucher managers and 3 of 6 (50%) of comparison managers reported an increase in staff members in the past year (risk difference, .25; 95% CI -.20-.70, p=.26). Twenty-six of 33 (79%) voucher and 5 of 14 (36%) comparison frontline workers reported an increase in staff members in the past year (risk difference, .43; 95% CI .14-.72, p=.004) (Table 3).

**Job satisfaction:** The job satisfaction scale included 8 items that each had a maximum score of 5 points for a maximum total score of 40 points.

## Average satisfaction scores

Voucher managers had an average satisfaction score of 27 (SD=0.9, n=22) and comparison managers had an average score of 25 (SD=0.5, n=7) (p<0.0001). Voucher frontline workers had an average score of 20 (SD=1.3, n=20) while comparison frontline workers had an average score of 21 (SD=0.8, n=11) (ns). Differences in overall satisfaction between both voucher and comparison staffing

**Table 2:** Voucher and Comparison Facility Characteristics

Respondent Characteristics	Voucher (N=49)	Comparison (N=20)
Type of Provider		
Managers	33%, n=16	30%, n=6
Frontline Workers	67%, n=33	70%, n=14
Facility Characteristics	Voucher (N=22)	Comparison (N=13)
Type of Facility		
Clinic	55%, n=12	62%, n=8
Health Facility	41%, n=9	31%, n=4
Hospital	<1%, n=2	<1%, n=1

**Table 3:** Summary of Risk Differences between Voucher and Comparison Sites

	Voucher N=49	Comparison N=20	Risk Difference (CI)	p-value
Providers who perceived a significant increase in patient load - % (n)				
Managers	100% (16/16)	0% (0/6)	1 (1.1)	<0.001
Frontline	100% (32/32)	43% (6/14)	.57 (.31, .83)	<0.001
Providers who reported a salary increase in last year - % (n)				
Managers	69% (11/16)	0% (0/6)	.68 (.46, .91)	0.004
Frontline	33% (11/33)	14% (2/14)	.19 (-.05, .43)	0.182
Providers who perceived an increase in staffing - % (n)				
Managers	75% (12/16)	50% (3/6)	.25 (-.20, .70)	0.262
Frontline	79% (26/33)	36% (5/14)	.43 (.14, .72)	0.004

**Note:** The risk difference reported in this table is measuring the absolute difference in risk between the two groups.

**Table 4:** Summary of mean Satisfaction Scores among providers participating and not participating in voucher programs

	Voucher, N=49	Comparison, N=20	p-value
	Average Satisfaction Scores - Mean (SD)		
Managers	27 (0.9), n=16	25 (0.5), n=6	< 0.0001
Frontline	20 (1.3), n=33	21 (0.8), n=14	0.03
p-value	<0.0001	<0.0001	

groups (managers and frontline workers) were statistically significant ( $p<0.001$ ) (Table 4).

### Effect of voucher program on perceived job satisfaction: Qualitative results

**Voucher managers:** Managers at facilities where the voucher program has been implemented reported experiencing an increase in their salary and staffing. Most of these managers expressed confidence in the overall performance of their health facility.

“Once we started the voucher program, the clinic stabilized financially. I have hired new staff, a comprehensive nurse, to assist in caring for the increased patient load we are seeing.”

-Proprietor, Clinic

“I have been able to buy drugs, supplies and new equipment such as a baby weighing scale. I have also improved the structure of the facility by tiling the roof and providing new benches in the waiting room. I have hired a new staff member, a comprehensive nurse, to assist in caring for all the increased patient load we see.”

-Proprietor, Health Center

“Before the voucher program, women would come in so late and we would see many neonatal deaths. Now, they come early and we are able to identify risks early and save many babies and mothers.”

-Manager, Antenatal Clinic

Voucher managers reported recognizing the benefits of the program to their personal careers and the overall facility. They spoke of having more recognition in the community and more overall impact on the catchment population:

“One benefit is that [the voucher program] has improved my profile in the district as a midwife and it has resulted in increased recognition of this facility as a place of high quality care.”

-Manager, Clinic

“The program has helped in the retention of service delivery personnel in the rural areas.”

-Manager, Health Center

But a few voucher providers reported that the lack of compensation for them personally and for their staff may be a downside to the intervention because their workload had increased:

“I have not been compensated for the increased workload as a result of the program. Some allowances need to be given to maintain provider motivation. The program needs to ensure that providers benefit from the program.”

-Manager, Clinic

### Voucher Frontline Workers

Some frontline workers at voucher facilities perceived salary and staffing improvements and expressed a greater sense of achievement in their work.

“I am seeing more patients which allow me to get more experience and to improve my skills. Now, I am more confident in my abilities.”

-Nurse, clinic

“The voucher programs increased the number of patients that we meet and are able to educate about health issues. When they are here, clients can be referred for other services as well.”

-Nurse, Health Center

Some frontline workers at voucher facilities reported salary increases but no staff increases. They expressed feeling overwhelmed by the heavier patient load.

“We are overworked – we are seeing double and triple the amount of women in the antenatal clinic. New staff needs to be hired to manage the increased workload.”

### Nursing Assistant, Clinic

“The one disadvantage of the voucher program to providers is that we are overworked. The small allowances we are given are helpful, but we are seeing so many more clients because women are coming earlier for care.”

-Midwife, Hospital

Many frontline workers at voucher facilities expressed frustration with management because of the lack of compensation for the additional workload and felt that staffing changes were not happening quickly enough.

“They have hired new people but they have not yet been trained. I would like to be compensated for the increased work. Client load goes up but my salary doesn’t. I have not received the agreed upon payments even though the client load keeps increasing.”

-Lab technician, Clinic

“The management has hired new staff, a midwife and two nurses. But we are still overworked without an increase in pay.”

-Midwife, Hospital

Some workers expressed the opinion that the voucher program increased opportunities for employment.

“This program has offered me employment. I was hired 5 months ago to help with all the new clients.”

-Nurse, Clinic

Voucher frontline workers who experienced neither an increase in salary nor in staff were much more disgruntled about their work situations, particularly at smaller health centers. They did not remark on the positive attributes of the program. Many were aware that new revenue had come into the facility but felt that it was not being used to support them to do their jobs.

“The only thing that the voucher money has been spent on is maternity equipment. I am seeing more patients and improving my skills but I am over worked.”

-Nurse, Health Center

“I am working alone-I need an assistant but cannot ask for support. I have not received additional payments even though the clients are increasing. My motivation is low because of my low salary.”

-Lab Assistant, Health Center

At Comparison Facilities

### Comparison managers

At comparison clinics, many managers expressed concern that there is not enough work to go around which had a negative effect on their job satisfaction.

“We hired a new midwife but we are not busy enough and are not getting enough experience here. We also lack resources.”

-Manager, Clinic

Managers at comparison facilities attributed their low job satisfaction to the lack of patients and to external factors such as a generally depressed economy.

“We have not seen an increase in patients in the last year. People are poor and supplies are expensive. I want to provide high quality services, but we do not have the resources to buy all the necessary supplies.”

-Proprietor, Clinic

### Comparison frontline workers

Many comparison frontline workers reported neither a salary nor a staff increase. But, they did not express the same frustration as voucher frontline workers since their patient load had not increased;

they exhibited some hope that patient utilization would increase if they provided better quality services.

"I am most satisfied when I have the chance to help others but sometime there are no patients even though we can provide specialized services."

-Nurse Midwife, Clinic

## Discussion

The voucher program appeared to affect provider perceptions about service utilization and improved opportunities for provider incentives at some contracted facilities while intensifying the differences in job satisfaction between manager and frontline workers at other contacted facilities. Managers seem generally more satisfied than frontline workers and voucher managers seem more satisfied than comparison managers while there was no apparent difference in satisfaction between voucher and comparison frontline workers.

Voucher providers were more likely to report an increase in patient load, an increase in the number of staff at their facility, and an increase in their salary in the past year than comparison providers. However, if workers at contracted facilities were not compensated, through increased staffing or salaries, the differences in job satisfaction scores between workers and managers were statistically significant and voucher workers were less satisfied than even their non-participant counterparts.

The qualitative data underscores the level of frustration felt by frontline workers at voucher facilities. Providers who received an increase in salary but not in staff were unsatisfied because they felt overwhelmed by the workload and expressed that any small salary increases or stipends were not enough to compensate for the additional work. Hiring new workers to more evenly distribute the workload appeared to have more of a positive impact on frontline satisfaction than salary increases or stipends. While there was still frustration with the workload, there was a sense that the management was making adjustments and that the program was beneficial because it was providing employment opportunities and giving workers a chance to use their skills. But experiencing neither salary nor staff increases left frontline workers angry and frustrated with both the health facility management and the voucher program, which was not the case at comparison facilities in the same situation.

The trend in satisfaction scores for frontline comparison providers in response to compensation was in the opposite direction as voucher workers. From the qualitative data, we see that comparison providers were not experiencing the extra workload that the voucher program produced and as a result had to compete for the little work there was and were concerned that they were not getting opportunities to use their skills or gain the experience they need to progress in their jobs. Still, both managers and frontline comparison providers, who experienced neither staff nor a salary increase, were not as unsatisfied as those voucher frontline workers who were not compensated.

These results echo findings from other studies on health worker job conditions in sub-Saharan Africa [21,22]. Inadequate staffing and low pay have been shown to be key drivers of burnout. While many workers retain a strong sense of accomplishment in their work despite poor working conditions, incentives are a vital component of employee satisfaction.

Limitations of this study include the small sample size, which resulted in findings that were suggestive of trends but were not always powered to show statistical significance. Triangulation with qualitative data helped to support non-significant statistical trends. Another limitation was that the job satisfaction scale was adapted and therefore not validated. Despite this, the scale proved to be internally consistent during analysis. Finally, the comparison group used in this study was of unknown equivalence to the voucher group. Although the comparison facilities would have been invited to join had the program expanded to their district, facility behavior in voucher districts elsewhere suggests that not all would have joined. According

to program managers, approximately 30% of facilities invited to join the voucher program drop out due to lack of interest or delays in decision-making by proprietors. In future research, comparison facilities could be asked their level of interest in joining the program to help determine potential dropouts. While this limitation opens questions about the comparability of the groups, there was no sufficient way to determine which facility would be more or less likely to drop out. Results may be affected by recall bias since programs under review were launched at different times and only current job satisfaction was assessed.

While this study presents some new and suggestive data about the effect of voucher programs on clinical staff, further studies that examine the effect of length of time a facility has been participating in a program with job satisfaction, the difference between types of facilities (public, private, faith-based) and types of services (STIs vs. reproductive services) and the impact of satisfaction on service quality would be useful for policymakers and program planners. Care should also be taken considering the generalizability of these findings. The implications for management for instance may be best suited for private sector facilities where there is greater autonomy in adjusting the work environment to optimize worker performance.

## Conclusion

These results indicate that while the voucher program may be increasing the utilization of services, the quality of those services as measured by provider job satisfaction may be tempered by a facility's ability to provide a rewarding working environment for their staff at every level. The owner of a health facility may be able to decide the number of staff and their salary. When owners do not feel confident enough in long-term cash flow to hire new staff or increase salaries, or decide that they can work with current staff levels at the same salary despite workload increases, our findings suggest that frontline workers may face an increased risk of burnout when a voucher program is initiated.

Frontline health workers are critical to improving the reproductive health of a population. The providers who participated in this study appeared to respond positively to the opportunity to use their skills, gain clinical experience and serve their communities as a result of the program but indicated a need for extrinsic motivation from monetary compensation or additional staff support in order to sustainably manage the extra work. In regions such as sub-Saharan Africa where the shortage of frontline health workers is over 50%, we cannot afford to diminish the importance of job satisfaction and should prioritize the development of strategies to support frontline health workers when implementing new programs. Incentive strategies for staff and administration guidance for managers will be important components of any successful voucher program.

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