Enhancing Leadership, Management, And Governance Competencies For Performance Improvements At Primary Health Care Entities In Ethiopia: A Before And After Study

Binyam Fekadu Desta

JSI Research & Training Institute, Inc.,

Sualiha Abdulkader Muktar

JSI Research & Training Institute, Inc.,

Wondwosen Shiferaw Abera

JSI Research & Training Institute, Inc.,

Heran Demissie

JSI Research & Training Institute, Inc.

Mesele Damte Argaw (✉ mdamte5@gmail.com)

Private Health Sector Program <https://orcid.org/0000-0002-9558-6619>

Research note

Keywords: Leadership, Management, and Governance, Performance Improvement, Training Evaluation, Ethiopia.

Posted Date: July 1st, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-646010/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Enhancing leadership, management, and governance competencies for performance improvements at primary health care centers in Ethiopia: a before and after study

Binyam Fekadu Desta¹, Sualiha Abdulkader Muktar¹, Wondwosen Shiferaw Abera¹, Heran Demissie¹, Mesele Damte Argaw^{1,*}

¹USAID Transform: Primary Health Care, JSI Research & Training Institute, Inc., AddisAbaba, Ethiopia

***Corresponding author**

E-mail: mdamte5@gmail.com; mesele_damte@et.jsi.com (MDA)

E-mail address:

BFD: binyam_desta@jsi.com

SAM: sualiha_abdikader@et.jsi.com

WSA: wondwosen_shiferaw@et.jsi.com

HD: heran_demissie@et.jsi.com

MDA: mdamte5@gmail.com

Abstract

Objectives

Leadership, management, and governance (LMG) interventions play a significant role in improving management systems, enhancing work climate, and creating responsive health systems. This study aimed to determine the change that occur in the performance of primary healthcare entities and compare the outputs of block and segmented LMG trainings and the intervention as a whole after implementation for one full year.

Results

Two hundred and ninety-three LMG trained and 333 non-trained health workers participated with a response rate of 100 percent and 87 percent, respectively. Of those who attended the didactics sessions, 235 (80.9%) scored 70% or more on post-test exams. In addition, the assessment on the practical exercises after implementing the leadership projects revealed that the majority, 252 (86%) scored 80% or more on their desired measurable results. As a result of the LMG trainings, management systems, work climate, and responsiveness of the health system to new challenges were significantly improved ($p < 0.001$). Owing to the leadership projects, within the 136 health facilities, an additional 2,290.3 units of health service coverage was gained. A comparison of the trainees revealed that more block (79.1%), than segmented I (65.02%) and segmented II (62.0%) LMG trainings were successfully completed. Therefore, providing block LMG trainings for more health workers and managers working at primary healthcare entities is recommended as it will accelerate the implementation of prioritized health sector interventions.

Keywords: Leadership, Management, and Governance; Performance Improvement; Training Evaluation; Ethiopia.

Introduction

Many countries in the world adopted primary healthcare as a strategy to achieve health for all by the year 2000, as part of the 1978 Alma Alta Declaration [1]. Ethiopia's health system - as with many other low-income countries - lacks adequate infrastructure and resources. A lack of leadership and managerial capacity at all levels of the health system was identified as a major constraint to the scale up proven and affordable services in low- and middle-income countries [2] [3].

The USAID Transform: Primary Health Care Activity provides technical, financial, and other resource support for LMG trainings and interventions [4]. Each primary healthcare entity's core LMG team consists of a health center director, a delivery case process owner, and a health center/health post focal person. The LMG training is designed to build 13 skills and practices in three areas: 1) leading: scan, align/mobilize, focus, inspire; 2) managing: plan, organize, implement, monitor and evaluate; 3) governing: cultivate accountability, engage stakeholders, set shared directions, and steward resources [5]. Therefore, the Activity trained 555 health workers using block and segmented LMG trainings approaches [4]. There have been no studies that examine the effects of LMG trainings and intervention on the performance of primary healthcare entities.

The objectives of this study were to investigate the observed changes in performance of primary healthcare entities and compare the outputs of block and segmented LMG trainings. Furthermore, the study aimed to determine the value for money of the intervention in increasing health service coverage. The results of this study will provide information for policy makers, researchers, program managers and implementers to further evaluate the need to redesign the approach and contents of the training in future similar interventions.

Main text

Materials and methods

Study area and period

The areas of this study are the four largest agrarian regions, (i.e. Amhara, Oromia, Tigray, and Southern Nations, Nationalities, and Peoples) of Ethiopia [4]. In 2017, 24 (8.0%) districts were targeted for LMG trainings and interventions. Core LMG teams from 136 primary healthcare entities, were recruited and participated in basic didactic classroom trainings [4]. This study used an interventional, and nonexperimental before and after study design. It was conducted from August 28, 2017, to September 30, 2018.

Data collection and analysis

A prospective data collection was conducted from health workers with a history of participation in basic LMG trainings. The first round of primary data were collected from 293 LMG trained health workers. The data were used to measure self-efficacy, cognitive learning, and performances of participants. Similarly, the baseline and end-line scores of leadership project achievements were rated by trained LMG coaches. The second round of primary data were collected from 333 non-trained health workers and managers who were working within the intervention facilities. The data were analyzed using SPSS IBM version 20 [6]. Descriptive statistics were employed using frequencies, tables, and graphs. In addition, a linear regression was used to test the relationship between each dependent, and independent variable. Paired sample t-test was conducted to check whether there were significant differences in mean values[7].

Results

Table 1 presents the statistical summary of the socio-demographic data collected from LMG trainees. One-hundred and three trainees, (35.2%) were recruited from the SNNP region; 62.5% of study participants, (183) are between 26 and 35 years of age, and the mean age with standard deviation (SD) was 29.9 $\pm$ 6.9 years. The majority, (222/75.8%) of the study participants were male. Seventy, (58.0%) were nurses who had worked in the profession for an average of 7.6 years. In addition, the socio-demographic characteristics of non-LMG trained staff in selected health facilities was as follows. The majority, (75.1) were male, and 78.7% of participants fall under the age category of 26 - 35 years.

Cognitive and performances cores

The mean LMG pretest score with SD was 44.97% $\pm$ 15.50%. In this study, 80.9% (237) of trainees scored greater or equal to 70% on post-tests. The mean LMG post-test score with SD was 78.11% $\pm$ 14.22%, which showed a significant gain in knowledge at post-test with $t=-35.99$, $df=292$, $p<0.001$. Figure 1 depicts the baseline and end-line performances of LMG trainees in 136 primary healthcare facilities. Fifty-three (38.9%) of the performance improvement projects were developed on delivery services. The average performance improvement project baseline score with SD was 38.35 $\pm$ 24.79 units and the end-line score with SD was 52.22 $\pm$ 26.23 units. As a result of these projects, 2,290.6 units of health service coverages were gained. The averagenet gain by each entity was 16.55 (95% CI: 12.26, 20.84) units.

Basic LMG trainees scored 84.3%, 81.9% and 67.5% in written posttest exam among participants of block, segmented I and segmented II categories, respectively. Similarly, the leadership project assessment score was 93.0%, 80.4% and 85.0% among trainees of block, segmented I and Segmented II categories, respectively. The national certification criteria of basic LMG trainees is a composite score of >70% in written post-tests and >80% in leadership projects. Basic LMG trainees scored 79.1%, 65.2% and 62.5% among participants of block, segmented I and segmented II categories, respectively. The results of the theory showed that trainees from block LMG trainings had higher scores, with a borderline significant difference at $X^2 = 5.61$. $P= 0.06$. Similarly, the results of the leadership project evaluation showed that trainees of the block LMG courses had higher scores, with a statistical difference at $X^2 = 8.32$. $P= 0.01$. Certification showed that more block LMG trainees successfully completed the LMG trainings and intervention than did segmented trainees, with a significant difference at $X^2 = 7.16$. $P= 0.02$.

Health system improvements

Table 2 below presents the health system improvements observed as result of basic LMG trainings in 136 primary healthcare entities. Both trained and non-trained participants were asked to rate their health system performance using a tool comprising 18 questions. According to the trainees' perceptions, the mean pre- and post-training scores on strengthening management system with SD were 5.75 $\pm$ 2.33 and 8.03 $\pm$ 1.44, respectively. This perceived assessment revealed a significant improvement in management systems at post-training, with $t= -18.54$, $df=292$, $P<0.001$. The overall LMG trainees perceived health system before and after intervention scores with SD of 5.69 $\pm$ 1.730 and 7.93 $\pm$ 1.433, respectively. These scores showed a statistically significant health system improvement after training, with $t= -26.09$, $df=292$, $P<0.001$. Similarly, 333 non-trained staff were asked to express their perception about health system performance in their health facilities before and after LMG training and interventions. The overall non-trained staffs' health system scores before and after LMG trainings were 6.24 $\pm$ 1.76 and 7.51 $\pm$ 1.74, respectively. The scores showed a statistically significant health system improvement with $t= -17.09$, $df=332$, $P<0.001$.

Discussion

This before and after, non-experimental, and interventional study assessed USAID Transform: Primary Health Care Activity supported basic LMG training and interventions in four regional states of Ethiopia. The LMG trainings included didactic, theoretical-based classroom trainings, implemented either as a block or sequential courses, combined with subsequent implementation of performance improvement projects for six to nine months at the trainees' places of employment [5]. The results revealed that the LMG related knowledge and skills of trainees were significantly improved as was the health service performance of primary health care entities. The results demonstrate the need to enhance the LMG competencies among

health workers at all levels. This finding was consistent with a report by Uneke et al. (2012) in Nigeria, where LMG training significantly enhanced policy makers' understanding of leadership and governance and improved human resource development, collaboration, system design, and accountability [8]. Similarly, this finding corresponds with the Mutale et al. (2017) report on the catalyzing effects of leadership and management trainings on health system strengthening in Zambia [3].

Both trained and non-trained staff of primary healthcare entities perceived the positive impact of the knowledge and skills acquired by trainees on improving the management systems, work climate, and health system responsiveness to new challenges in their workplaces. This finding was consistent with Packard et al. (2015) who reported that after leadership development interventions, the on-job performance of participants and their supervisors were improved, and levels of self-efficacy significantly increased over time [9]. Similarly, Arinez et al. (2002), La Rue et al. (2012), and Rowe et al. (2018) confer that good leadership and management practices improve the work climate, staff satisfaction, motivation, and performances [10-11].

The performance of the primary healthcare entities was significantly improved as a result of enhanced knowledge and skills through LMG trainings and interventions. Therefore, the basic LMG training and interventions were effective in enhancing the knowledge and skills of health workers. Providing LMG trainings for more health workers and managers working at primary healthcare entities is therefore recommended as it will accelerate the implementation of prioritized health sector interventions and is helpful in achieving the Sustainable Development Goals as a global target. An evaluation of the efficiency of the basic LMG training package is also recommended.

Limitations of the study

The major limitation of this study is related to the employed before and after non-experimental study design. Unlike a randomized study design, it is difficult to conclude the causal association between the LMG trainings and interventions with the resulting performance improvements. Despite this limitation, the investigators tried to ensure the relationship through collecting data from follow-up visits and developed agreed action plans. The study only targeted LMG training intervention sites, hence, before generalizing, the results should be interpreted based on the context.

Abbreviations

ANC: Antenatal Care; LMG: Leadership, Management and Governance; PNC: Postnatal Care; SD: Standard Deviation; SNNP: southern Nations, Nationalities and Peoples; USAID: United States Agency for International Development; WHO: World Health Organization

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from four regional institutional review boards. Ethical clearances were granted by the Amhara Public Health Institute (Ref No. HRTT02/137/2018), the Oromia Regional State Health Bureau (Ref No. BEFO/HBTPH/1-8/476), the SNNP Regional State Health Bureau (Ref No. PLMG-19/8407), and the Tigray Regional State Health Bureaus (Ref No. 453/1418/10) institution review boards and research ethics committees. Data were collected after getting full informed written consent from each participant and facility manager. Privacy, anonymity, and confidentiality were maintained throughout the data collection, analysis, and report writing activities. The study had no known risk and no payment was made to participants.

Availability of data materials

The datasets used and/or analyzed during this study are available from the corresponding author upon reasonable request.

Funding

This study was fully funded by USAID under cooperative agreement AID-663-A-17-00002a part of the USAID Transform: Primary Health Care Activity in Ethiopia. The funding body had no role in the design, data collection, analysis, interpretation and writing stages of the study undertaking.

Acknowledgements

The investigators are indebted to all participants for their cooperation during data collection.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Authors contributions

Conceived and designed the experiments: BFD, SAM, WSA, HD, MDA.

Performed the experiments: BFD, SAM, WSA, HD, MDA.

Analyzed the data: BFD, MDA.

Contributed reagents/materials/analysis tools: BFD, SAM, WSA, HD, MDA.

Wrote the paper: BFD, MDA, SAM, HD.

All authors read and approved the final manuscript.

Author details

¹USAID Transform: Primary Health Care, JSI Research & Training Institute, Inc., Addis Ababa, Ethiopia

References

[1] World Health Organization, UNICEF. Primary health care: report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978.

[2] Egger D, Travis P, Dovlo D, Hawken L, World Health Organization. Strengthening management in low-income countries. World Health Organization; 2005.

[3] Mutale W, Vardoy-Mutale AT, Kachemba A, Mukendi R, Clarke K, Mulenga D. Leadership and management training as a catalyst to health system strengthening in low-income settings: Evidence from implementation of the Zambia Management and Leadership course for district health managers in Zambia. PLoS One. 2017 Jul 25;12(7):e0174536.

[4] USAID Transform: Primary Health Care Project. Theory of change in practice 2017. USAID TPHC: Addis Ababa. 2017.

- [5] Federal Ministry of Health (FMOH). Leadership, Management and Governance In-Service Training Manual for Health Managers at Hospitals and Health Centers. FMOH: Addis Ababa. 2017.
- [6] SPSS I.I BMSPSS statistic sbase 20. Chicago, IL: SPSS Inc. 2011;15.
- [7] Pagano M and Gauvereau K. Principles of Biostatistics. 2nd Edition, Duxbury, Pacific Grove. 2000.
- [8] Uneke CJ, Ezeoha AE, Ndukwe CD, Oyibo PG, Onwe FD. Enhancing leadership and governance competencies to strengthen health systems in Nigeria: assessment of organizational human resources development. Healthcare Policy. 2012 Feb;7(3):73.
- [9] Packard T, Jones L. (2015) An outcomes evaluation of a leadership development initiative. Journal of Management Development 2;34(2):153-68.
- [10] Arinez A, Bouzidi M, Koo B, Sayeed A, Serenata C, Suarez E, Sulaiman AB. (2002). Creating a Work Climate That Motivates Staff and Improves Performance. The Manager Journal 11(3).
- [11] La Rue KS, Alegre JC, Murei L, Bragar J, (2012) Thatte N, Kibunga P, Cheburet S. Strengthening management and leadership practices to increase health-service delivery in Kenya: an evidence-based approach. Human resources for health 10(1):25.
- [12] Rowe AK, Rowe SY, Peters DH, Holloway KA, Chalker J, Ross-Degnan D. (2018). Effectiveness of strategies to improve health-care provider practices in low-income and middle-income countries: a systematic review. The Lancet GlobalHealth 1;6(11):e 1163-75.

Legend

Figure1: Proportion of health service coverage improve dbby program c ategories, September 2018

Figure two shows the health service coverages improved as a result of the leadership projects implemented in 136 primary health care entities.

Table 1: Socio-demographiccharacteristic sof basic LM G trainees (n=292), and non-trainees (n₂= 333), September 2018

The table presents the socio demographic characteristics of both LMG trainees and non- trainees participated in this study.

Table 2: Perception of improvements in health system performances by trained and non-trained staff at pre- and post-training measurements, September 2018

The table depicts the mean perceived score and paired t-test result of health systems performance as evaluated by trained and non-trained staff

Table 1: Socio-demographic characteristics of basic LMG trainees (n=292), and non-trainees (n₂=333), September 2018

Variable	Characteristics	LMG trainees (n1= 293)		Non- trainees (n2= 333)	
		Frequency	Percent	Frequency	Percent
Region	Tigray	31	10.6	39	11.7
	Amhara	77	26.3	100	30.0
	Oromia	82	28.0	83	24.9
	SNNP	103	35.2	111	33.3
Sex	Male	222	75.8	250	75.1
	Female	71	24.2	83	24.9
Age	<25 years	65	22.2	12	3.6
	26–35 years	183	62.5	262	78.7
	36–45 years	28	9.6	37	11.1
	46+ years	17	5.8	22	6.6
	Mean ± SD	29.9±6.9 years		31.74±6.63 years	
Professions	Nurse	170	58.0	201	60.0
	Health officer	65	22.2	75	23.0
	Midwife nurse	30	10.2	30	9.0
	Health services management	14	4.7	12	4.0
	Other (laboratory, pharmacy, environmental health)	14	4.7	15	5.0
Training type	Segmented I course	138	47.2	NA	NA
	Segmented II course	40	13.6	NA	NA
	Block course	115	39.2	NA	NA

Table 2: Perception of improvements in health system performances by trained and non-trained staff at pre- and post-training measurements, September 2018

Indicators of health system performance	Number of trainees	Pre-training		Post-training		t-test	P-value	Number of non-trainees	Pre-training		Post-training		t-test	P-value
		Mean	SD	Mean	SD				Mean	SD	Mean	SD		
	N1=293							N2=333						
Strengthened management systems	293	5.75	2.339	8.03	1.442	-18.54	0.001	333	6.34	1.872	7.35	2.015	-11.99	0.001
Block 6-day trainees	115	5.54	2.163	8.03	1.294	-13.42	0.001	141	6.18	1.857	7.34	1.923	-9.45	0.001
Segmented I trainees	138	5.96	2.374	7.94	1.543	-11.9	0.001	148	6.38	1.883	7.45	1.885	-10.25	0.001
Segmented II trainees	40	5.6	2.677	8.33	1.48	-6.271	0.001	44	6.73	1.858	7	2.644	-0.821	0.416
Enhanced work climate	293	5.75	1.851	7.88	1.642	-23.97	0.001	333	6.12	1.962	7.38	1.822	-16.49	0.001
Block 6-day trainees	115	5.7	1.854	7.98	1.58	-15.8	0.001	141	5.95	1.877	7.49	1.74	-11.93	0.001
Segmented I trainees	138	5.93	1.799	7.76	1.641	-17.58	0.001	148	6.27	2.052	7.22	1.938	-9.61	0.001
Segmented II trainees	40	5.6	2.677	8.01	1.821	-8.27	0.001	44	6.16	1.918	7.55	1.66	-6.92	0.001
Capacity to respond to challenges (responsiveness)	293	5.64	1.926	7.81	1.629	-22.83	0.001	333	6.19	1.954	7.61	1.901	-17.58	0.001
Block 6-day trainees	115	5.54	1.887	7.84	1.501	-15.49	0.001	141	5.98	1.816	7.75	1.711	-13.74	0.001
Segmented I trainees	138	5.94	1.840	7.71	1.659	-15.89	0.001	148	6.41	2.079	7.44	2.039	-9.06	0.001
Segmented II trainees	40	5.16	2.193	8.05	1.879	-8.62	0.001	44	6.10	1.917	7.77	1.989	-8.19	0.001
Overall health system improvements	293	5.69	1.73	7.93	1.433	-26.09	0.001	333	6.24	1.764	7.41	1.742	-17.09	0.001

Fig 1