BMJ open

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2012-001557
Article Type:	Research
Date Submitted by the Author:	24-May-2012
Complete List of Authors:	Gopalan, Saji Mohanty, Satya; D-COR Consulting, Das, Ashis; The World Bank,
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Global health, Public health, Health policy, Evidence based practice
Keywords:	HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Human resource management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Abstract

Objective: This paper examined the performance motivation of community health workers and its determinants on India's Accredited Social Health Activist (ASHA) program.

Design: Cross-sectional study employing mixed-methods approach involved survey and focus group discussions

Setting: the State of Orissa

Participants: 386 community health workers (CHW) representing 10% of the total CHWs in the chosen districts and from settings selected through multi-stage stratified sampling.

Primary and secondary outcome measures: Level of performance motivation among CHWs and its determinants as well as their perceived status by CHWs.

Results: The level of performance motivation was the highest for *individual* and *community level* factors (mean score 5.94- 4.06), whereas *health system* factors scored the least (2.70-3.279). Those ASHAs who felt having more community and system level recognition had more *level of earning* as CHW (p=0.040, 95% CI 0.06-0.12), *sense of social responsibility* (p=0.0005, 95% CI 0.12-0.25), and feeling of *self-efficacy* (p=0.000, 95% CI 0.38-0.54) in undertaking responsibilities. No association was established between ASHA's dissatisfaction on incentives (p=0.385) and the extent of motivation. The inadequate healthcare delivery status and certain working modalities reduced their motivations. Gender mainstreaming in community health approach and community participation were the positive externalities of CHW program.

Conclusion: The CHW program could motivate and empower local lay women on community health largely. The desire to gain social recognition, sense of social responsibility and self-

efficacy motivate them to perform. Healthcare delivery system improvements might further motivate and enable them to gain community trust. The CHW management needs to change with adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

Key words: community health workers, performance motivation, developing health systems, India

Article Summary

Article focus

- What is the current level of performance motivation of community health workers?
- What are the determinants of their performance motivation?
- What are CHWs' perceptions and experiences on the current status of the determinants of performance motivation**?**

Key messages

- The community health workers (CHWs) are more motivated on *individual* and *community* level factors than *health system* determinants.
- The qualitative findings also support the survey outcomes that health care delivery status and human resource management modalities for CHW are not satisfactory for them
- This study recommends that CHW management needs change with adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

Strengths and limitations of the study

- This is the first study exploring the performance motivation of public sector community health workers (CHW) on one of the largest CHW programs in the world. The evidences on CHWs' performance motivation and that of public sector CHW programs are limited.

The unique application of mixed-methods approach will enhance the generalizability of study findings. It helped in finding the causality between the level of CHW's motivation and its each determinant along with an understanding of how and why a CHW is motivated or demotivated. The study discussions are centered on comparable global experiences for relevant policy changes.

- Among the study limitations, there could be a possibility of CHWs' responses complying with perceptions of what should be an acceptable answer. We did not assess the actual level of performance of CHWs and its effectiveness from the community's or supervisors' perspectives.

Key words: community health workers, performance motivation, developing health systems, India

Introduction

Globally, the intermediation of community health workers (CHW) in healthcare delivery is expanding owing to their inevitability on meeting universal primary healthcare and millennium development goals.[1] The term 'community health worker' encompasses a wide variety of local healthcare providers ranging from nurse midwives to home-based care givers and salaried staffs to volunteers.[2]CHWs enable access to and utilization of health services, and inculcate healthy behaviors among communities.[3]They are preponderantly deployed for under-utilized services, unmet health behaviors, and under-served populations.[3] CHW's contributions to disease control, immunization, and family planning programs are already established.[4]In the public sector, though CHWs are primarily link-workers or motivators, yet they do undertake curative services for malaria, tuberculosis, and elderly care.[3]The spectrum of CHW programs varies across countries on their objectives, rollout, and management. Their larger penetration and

sustainability are more observed with the public sector.[5] Having identified the potential of women in community mediation, predominantly females constitute CHWs universally.[2]

Rationale

The existing literature on CHWs' performance motivation and its determinants are scanty. Similar to any other health cadre, the performance of CHWs depends on their job satisfaction derived from intrinsic and extrinsic motivators.[6] However, the yardstick for their performance motivation assessment should be different from usual health staffs particularly on three grounds; 1) many CHWs are volunteers and not salaried staff, 2) they are lay workers without prior trainings on community health and 3) CHWs constitute outreach workforce directly linking the community with formal healthcare.[7] Further, the approach to assess the public sector CHWs' work motivation could be different from the private sector since they are more integrated with the formal healthcare system and have wider responsibilities. Existing few studies from Kenya, Vietnam, Bangladesh, Taiwan etc. have largely catered to the latter or omitted a 'mixed methods approach' by mostly employing qualitative tools.[8-12]This paper explores one of the largest public sector community health worker initiatives in the world, namely Accredited Social Health Activist (ASHA) program in India. This study had three objectives; 1) assessing the current level of performance motivation among CHWs 2) understanding the factors affecting their motivation 3) CHWs' perceptions and experiences on the current status of motivation determinants.

ASHA Program: an overview

This study documents the ASHA; a female volunteer selected by the community, deployed in her own village (one in every 1000 population) after a short training on community health.[13] She is preferred to be between 25 and 45 years old, with a minimum formal education of eight years

and demonstrable leadership qualities.[13] ASHAs are not salaried and belong to voluntary cadre of health staffs as they get fixed activity-based incentives. Started in 2006, currently the program has spread across the country with 820,000 women trained and deployed.[14] Her responsibilities range from health education to diagnosis of health conditions (Figure-1). Each state oversees the program confining to the guidelines of the National Rural Health Mission (NRHM).

Methods

Conceptual Framework

The concept of 'performance motivation' is complex and can be defined contextually. The study defined it as the CHW's degree of interest and willingness to undertake, maintain and improve upon an allotted responsibility towards community health. We used a customized framework adapted from the existing literatures.[8-9,11-12,15-16] The motivation factors were broadly classified into *Individual* and *Environmental.* The latter was further divided into *Health system* and *Community level* factors (Figure 2). Further, 16 parameters were considered (identified from literature and self-validated by CHWs through FGDs) together under the above broad classifications i.e. *Individual, Health System* and *Community levels* (Table2).

Assessment tools

The study conducted during 2010 employed a mixed-methods approach involving survey and focus groups discussions among CHWs. The survey tool constituted 16 parameters and under each a set of questions explored their level of motivation on a Likert Scale of 1 (strongly disagree) to 5 (strongly agree). The construct of the questions were balanced with both positive and negative directions to prevent similar responses. The composite score of all questions decided the level of motivation under each parameter. A CHW was considered as motivated on a particular parameter if her mean score was above three. At *health system level*, exploration was

on the organization and management of healthcare delivery system (e.g. availability of services and commodities, incentives, monitoring and training of CHWs, interaction with supervisors, peers and grass roots NGOs). The *community level* parameters consisted of community response, recognition of CHW, and participation in activities. At the *individual level*, abilities, inducements to perform, job satisfaction, family support etc. were explored. The FGDs explored CHWs' recent experiences and perceptions on the determinants of performance motivation and their current status. Their suggestions to improve upon the existing situations were also probed.

Sampling and recruitment

A multi-stage stratified sampling selected randomly Orissa among high-focus states of NRHM; districts of *Angul* and *Mayurbhanj* based on its administrative division; and 25% of rural administrative blocks from each district. The survey planned to interview 55 ASHAs from each of the eight rural administrative blocks as it purposively targeted 10% (n=434) of existing number of ASHAs (n=4342) together from both districts.[7] Finally, only 386 ASHAs could be interviewed due to their availability and willingness. There were 11 FGDs for 78 CHWs and each constituted 7-10 participants. Local women's groups mobilized CHWs for the interviews. Each FGD took between 45-60 minutes and interviews were conducted till the data saturation. Interviews were conducted at a convenient location and refreshments were provided to the participants. The language for the survey and the FGDs was Oriya. Written informed consent was obtained from each CHW after explaining the study objectives and the intended use of the information.

Data analysis

Quantitative information were analyzed with STATA software. Linear and multivariate regression tests explored the association between level of performance motivation and predictors

at different levels along with CHWs' background characteristics. Qualitative data were transcribed verbatim, translated to English, and coded with NVivo software. The analysis was both inductive and deductive and relevant themes were indexed under individual, health system and community level aspects. They were further classified as enabling and demotivating factors for CHW's performance. The qualitative findings were triangulated with the survey findings confining to the conceptual framework.

Results

The survey consisted of 386 CHWs (Table 1), of which majority were below poverty line (71%), married (70.47%), scheduled tribe or indigenous population (36%), had eight years of formal education (85.75%), experience of two to five years as CHW (82.9%), undergone minimum five trainings (73.06%), earned US$22.24 to 33.33 per month as a CHW (83.16%) and did not have any other individual sources of earning (91.97%).

Level of performance motivation among CHWs

The level of motivation was the highest for *intrinsic job satisfaction* (mean 4.30; 68.4% of CHWs) on various job related achievements, followed by *self-efficacy* or perceived abilities on job (4.27; 69.7%), *nature of job responsibilities* (4.18; 66.3%), *social responsibility and altruism* (4.12; 66.1%), *self-motivation* (4.07; 84.7%), *community participation* in activities (4.06; 63.2%) and *peer support* (4.04; 77.2%).

The degree of motivation was the least for *community opinion on healthcare delivery system* (2.7; 1%), followed by their satisfaction on *level of healthcare infrastructure* (2.83; 6.7%) and *work load* (2.96; 8.8%). The extent of motivation was moderate (mean 3-4) for enjoying the *autonomy* to move, express opinions and execute the responsibilities (3.96; 60.4%), *recognition* from community, family and health system (3.96; 55.4%), *training* (3.78; 72.8%), type of

supportive supervision received (3.28; 12.2%), *work modality* (3.18; 17.6%), and *incentive* (3.07; 16.6%). The highest number of CHWs were motivated on *self-motivation* (n=327; 84.72 %.) followed by *peer support* (n=298; 77.2%) and *training* (n=281; 72.8%).

If we look at the individual scores for each parameter, the question on community acceptance i.e. *"community accepts my activities as I intend to"* secured the highest mean score at 4.64 (n=366), followed by a *self-efficacy* related question on "*I can always manage to solve difficult problems if I try hard enough"* at 4.58 (n=350). The question on *intrinsic job satisfaction (I am satisfied that I accomplish something worthwhile in this job)* received a mean score of 4.54 (n=336).

CHWs' *earning* as a CHW ($p<0.05$, 95% CI 0.06-0.12), *sense of social responsibility and altruism* ($p<0.01$, 95% CI 0.12-0.25), and feeling of *self-efficacy* ($p<0.01$, 95% CI 0.38-0.54) in undertaking responsibilities influenced her recognition by health system, community and family (not mentioned in the tables). Other socio-economic characteristics were not significant in this regard.

As per the Cronbach's alpha test, the internal consistency of the scale was adequate. The consistency co-efficient was 0.78, 0.79 and 0.84 for the *community, health system* and *individual* scales respectively.

How does healthcare delivery system impact CHW's level of motivation?

The extent of demotivation among CHWs on *health system level* parameters compared to those at *community* and *individual levels* prompted us to further explore how significantly motivation at the former influenced it at the latter two levels (Table 2 & figure3).

Among *health system* parameters, *peer support* led to a higher satisfaction on *community participation*, *recognition, self-efficacy* and *intrinsic job satisfaction.* Those CHWs who were dissatisfied with their workload, reported to have lesser *community participation*, *recognition, self-efficacy* and *intrinsic job satisfaction.* The dissatisfied CHWs *on supportive supervision* had reported less *community recognition* and *intrinsic job satisfaction.* The demotivation on *work modality* and *healthcare infrastructure* were positively related to lesser *intrinsic job satisfaction.* CHWs' perception on *incentives* was not associated with their level of reported motivation on any of the *community, individual* or *health system* parameters.

Prevailing scenario of factors affecting performance motivations: experiences of CHWs

Enabling factors

Better use of time (91%), lack of alternative job opportunities (76%), and a sense of social responsibility (68%) were the reasons to become a CHW and everyone wanted to continue as ASHA. They considered *performance motivation* as an encouragement (45%) or something which makes their performance better (62%). Their prior involvement in women's groups improved their sense of altruism. Working with the community as CHW and empowering them, especially women, inspired many. They felt women to me more receptive to their health advices and engage in community activities compared to men.

Supporting the survey data, many reported enhancement in their family and social status, and personal autonomy attributing to the role of CHW. They felt empowered through the acquisition of knowledge and skills on community health through trainings, designated stature in the community, and personal autonomy to work. Peer support and healthy competition among CHWs seemed to have enhanced their enthusiasm to perform well and achieve progressive community health. They enjoyed the job autonomy to perform the designated duties.

"Now I have a say in my neighborhood. I am being invited to sit in community meetings and I represent my village in the health center meetings." [CHW# 28]

"*We meet during trainings and meetings and share a lot with each other. Since we have the same kind of work, learning from each other has increased our problem-solving skills."* [CHW # 41]

Demotivating factors

On the contrary, CHWs had certain dissatisfactions on health system aspects limiting their performance motivation at *individual* and *community levels*. Excessive workload, frequent refresher trainings and meetings at health centers and travel to remote habitations took away their personal time. They sometimes felt having limited autonomy at work to perform their social responsibilities beyond the specified guidelines. CHWs solicited their active involvement in planning of service delivery to incorporate community felt needs, as often they were given only the options to deliver services than planning.

"Very often what the program wants and people want from me are different. I wonder to what extent the issues raised by us at the health center level on implementation are addressed timely" [CHW# 74]

Many posed concern on community's lack of trust and care seeking from public healthcare providers. There were instances of care seeking from private informal providers, despite the availability of drugs with CHWs. This was based on people's prior experiences of unavailability of drugs with the CHWs. Some were dissatisfied on the existing status of public healthcare delivery system and monitoring of their work. Their activities were limited by frequent stock-out of drugs and commodities, communication gap at different levels of their supervision, their lack of adequate knowledge and skills and insufficient level of supervision. Their performances were monitored through self-recording of activities, supplemented with random visits by multi-

purpose female health workers and other supervisors. They felt the number of supervisory visits were inadequate to enhance knowledge, skills and perform optimally. CHWs admitted the difficulty in monitoring community health through surveys as it was time consuming and difficult to record, with their low level of education. Most of them expected to have routine supportive supervision of their activities and grass-roots level organizations' cooperation to enable improved performances.

"We would like to have an integrated approach with the women's group, NGOs and village health committee to share and solve local issues." [CHW# 13]

"Often, I communicate timely on drug stock outs to sub-center, but the primary health centers tell that they are not aware of this. I feel my concerns and issues are not spelled out at the higher level properly, though I share everything with my supervisors. I am also not given timely instruction on my roles on many activities" [CHW #53]

They demanded organizing meetings with more flexibility and less frequently to give more time for community and personal life. Though CHWs received honorarium for trainings and meetings, but they did not prefer frequently attending them. They felt confident and able to execute the responsibilities, still desired knowledge and skill enhancement to convince the community and improve community response. They seemed to be less confident on curative skills and demanded more system thrust and training in this regard.

Some of them were disgruntled on the level of monetary and non-monetary incentives received, yet they did not want to under-perform. CHWs denied having any opportunity of informal payments, but admitted to have received occasional incentives for escorting mothers without actually doing so.

"*I often spend out-of-pocket on mother's consumables at hospitals and what I receive is quite less in return. Still, I want to support the mothers as I feel they are like my sisters and I am obliged to support them."* [CHW#69].

Discussion

What prompts CHWs to perform and its externalities on community health?

Rural women consider becoming a CHW as a magnificent opportunity to empower themselves socially, personally and financially.[16] Empowering rural women as CHWs, who do not have alternate job opportunities can be a replicable and sustainable model on community health management.[17] In this study, the level of motivation was directly related to self-efficacy, yet socio-economic status did not influence the latter. This implies that with proper selection, orientation and training, lay women can be organized for community health activities.[18] They displayed a strong commitment towards empowering women as women were more receptive to their advices. Higher level of health awareness and adherence to healthy practices among women compared to men might justify this village level social network among women.[19]

The identity with the government motivated them to be a bridge between the community and the public healthcare system. This will be relevant for those countries trying to reduce the poor people's dependency on the private sector.[1] Peer support and cross-learning from peers were potential ways of inspiration, apart from the support of many community-based organizations. The involvement of locally based NGOs and CBOs needs to be promoted to empower and support CHWs.[20] However, NGOs need to be a complimentary mechanism and should not undermine CHWs' efficiency as health workers.[21]

Above all, a sense of intrinsic motivation was the underlying factor for CHWs' performance. For instance, their urge for community interactions prevented them from attending meetings and

trainings, despite the scope of receiving honoraria in such events. The local cultural traits of solidarity, hospitality, and lending social support lifted their enthusiasm.[22] These behavioral traits could be exploited positively with lending more public recognition to CHWs. Events of 'public honoring', involvement in public meetings, and appreciation in group meetings of CHWs would be an impetus for their social commitment. Kenya also reported on CHWs' strong preference for community acceptance compared to supervisor's recognition.[5]

In this study, the CHWs' dissatisfaction on remuneration was not associated their level of earning. This implies that remuneration through incentivizing each activity seems to have motivated performance despite their feeling of under-remunerated. Yet, care should be taken to ensure that CHWs perform equally on all the responsibilities despite the incentives vary on each responsibility.

What discourages CHWs and the consequences?

The study found a strong nexus between the health care delivery system's status and CHW's level of performance motivation. As demonstrated in similar settings, resource constraints such as limited transportation to escort mothers and stock outs of commodities hindered the community's trust on them.[23] The communication gap among different actors led to the delay in receiving stocks and non-clarity of responsibilities among CHWs. This weak supportive system to CHWs concerns many other countries also as it might lead to the exclusion of the poorest of the poor from appropriate health services.[1]

CHWs demanded regular supportive supervision and streamlining of responsibilities. However, in resource-constraint settings, identifying and training more experienced volunteers for CHW's supervision will be a challenge. This concern should be addressed through leveraging some of the grass-roots level public health managers or NGOs in a systematic manner. More involvement

of grass-roots entities like women's groups could inculcate a sense of collective accountability and learning. Nigeria reported village health committee (VHC) supporting CHWs.[24] Since India's VHCs are still evolving, CHW's monitoring can be designed as one of its roles in future.[19]

CHWs' increasing work load with more and more community based health programs produced a feeling of 'over-burdened.' Without proper orientation, the monitoring of many community health initiatives, especially surveys will be difficult for CHWs, considering their low level of formal education.[25-26] Though the current pattern of incentivizing does not appear to bring in less performance, India could experiment with preferential treatment on social securities and public privileges to CHWs and their households as demonstrated in Guatemala and Nepal.[24]

In India, the ASHAs are more indentified as 'link-workers' or facilitators for appropriate care and the community has less acceptance for their curative role.[7] CHWs are less confident on their curative care skills and the supply constraints strengthen community's non-confidence on CHW.[27-29]In future, CHWs' could be leveraged intensively on diagnosis to promote a comprehensive community health management approach. This will be relevant for elderly care and settings with increasing chronic disease burden to offer a cost-effective home-based care.[19,30-32]

We employed a mixed-methods approach and it helped us in two ways. First, to understand the the extent of causality between CHW's level of motivation and each of its determinant. Secondly, to assess the current status of the underpinning contextual factors as per the perceptions of CHWs. The latter enabled to triangulate and validate the survey findings on larger

generalizability. Thus, we could understand how, why and under what condition a CHW is motivated or demotivated. There could be a possibility of CHWs' responses complying with perceptions of what should be an acceptable answer. We did not assess the actual level of performance of CHWs and its effectiveness from the community's or supervisors' perspectives. Despite this, these study revelations on the CHW program add to the rare global evidence base for relevant policy changes, specifically on CHW management and retention.

Conclusion

The CHW program could motivate and empower local lay women on community health largely. The desire to gain social recognition, sense of social responsibility and self-efficacy enhances CHWs' motivation. Linking the incentive directly with each activity ensures performances of CHWs. Healthcare delivery system improvements might further enhance their motivation and enable them to gain community trust. The CHW management needs to change with adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

References

1. World Health Organization. Health Systems Financing -the path to universal coverage. *World Health Report* 2010. Geneva.
2. Lehmann U, Sanders D. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs an impact on health outcomes of using community health workers. *The World Health Organization* 2007. Geneva.
3. Lewin S, Munabi-Babigumira S, Glenton C et al. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *Cochrane Database of Systematic Reviews* 2010 (3). Art. No.: CD004015.

4. Shrestha R, Baral K and Weir N. Community ear care delivery by community ear assistants and volunteers: a pilot programme. *The Journal of Laryngology and Otology* 2003; 115: 869-73.

5. Lewin SA, Dick J, Pond P, Zwarenstein M, Aja GN, Van Wyk BE, et al. Lay health workers in primary and community health care. *Cochrane Database of Systematic Reviews* 2005; (1). Art. No.: CD004015.

6. Glenton C, Inger BS, Pradhan S, Lewin S, Hodgins S, Shrestha V. The female community health volunteer programme in Nepal: Decision makers' perceptions of volunteerism, payment and other incentives. *Social Science & Medicine* 2010;70: 1920-1927.

7. Government of India. ASHA the way forward: evaluation of ASHA program. *The National Health System Resource Center* 2011. NRHM. New Delhi.

8. Mbindyo P, Gilson L, Blaauw D, English M. Contextual influences on health worker motivation in district hospitals in Keny**a.** *Implementation Science* 2009, **4**:43 doi:10.1186/1748-5908-4-43.

9. Darmstadt GL, Baqui AH, Choi Y, Bari S, Rahman SM, Mannan I, et al. Validation of community health workers' assessment of neonatal illness in rural Bangladesh. *Bull World Health Organ.* 2009 Jan, **87**(1):12

10. Rahman SM, Ali NA, Jennings L, Seraji MHR, Mannan I. Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Human Resources for Health* 2010, **8**:12 http://www.human-resources-health.com/content/8/1/12

11. Li I-C, Lin M-C,Chen C-M. Relationship Between Personality Traits, Job Satisfaction, and Job Involvement Among Taiwanese Community Health Volunteers. *Public Health Nursing* 2007; 24 (3):274–282.

12. DielemanM, Cuong PV, Anh LV, Martineau T. Identifying factors for job motivation of rural health workers in North VietNam**.** *Human Resources for Health* 2003, 1:10.

13. Government of India. Accredited Social Health Activist (ASHA) Guidelines, *National Rural Health Mission,* Ministry of Health and Family Welfare 2005. New Delhi.

14. Government of India. Annual report: 2009-10. *Ministry of Health and Family Welfare* 2010. New Delhi, Available from: http://mohfw.nic.in/Health%20English%20Report.pdf

15. Manongi RN, Marchant TC, Bygbjerg IBC. Improving motivation among primary health care workers in Tanzania: a health worker perspective**.** *Human Resources for Health* 2006, **4**:6 doi:10.1186/1478-4491-4-6

16. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P:Motivation and retention of health workers in developing countries: a systematic review**.** *BMC Health Serv Res* 2008, 8:247

17. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P: Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Serv Res* 8:247.

18. Standing H, Chowdhury AM R. Producing effective knowledge agents in a pluralistic environment: what future for community health workers? Social Science & *Medicine 2008:* 66(10).

19. Gopalan SS. Report on Health equity. *Government of Orissa*, *DoHFW 2009;* Bhubaneswar.

20. Gray HH, Ciroma J Reducing attrition among village health workers in rural Nigeria. *Socio-Economic Planning Sciences 1988;* 22:39.

21. Kironde S, Klaasen S. What motivates lay volunteers in high burden but resource-limited tuberculosis control programmes? Perceptions from the Northern Cape province, South Africa. *The International Journal of Tuberculosis and Lung Disease 2002;* 6:104.

22. Robinson SA, Larsen DE. The relative influence of the community and the health system on work performance: a case study of community health workers in Colombia. *Social Science & Medicine 1990;* 30:1041.

23. Baker B, Benton D, Friedman E, Russell A. Systems support for task shifting to community health workers. *The Global Health Alliance* 2007; Geneva.

24. Bhattacharya K, Winch P, LeBan K, Tien M. Community Health Worker Incentives and Disincentives: How they affect motivation, retention and sustainability. B*asics II* 2001. USA.

25. Abbatt F. Scaling up health and education workers: Community health workers: A literature review. London: *DFID Health Systems Resource Centre* 2005. London.

26. Henderson L, Tulloch J. Incentives for retaining and motivating health workers in Pacific and Asian countries**.** *Human Resources for Health* 2008, 6:18.

27. Wendy Gidman W, Ward P, McGregor L. Understanding public trust in services provided by community pharmacists relative to those provided by general practitioners: a qualitative study. BMJ Open 2012 2:e000939; doi:10.1136/bmjopen-2012-000939.

28. Nyanzi S, Manneh H, Walraven G. Traditional birth attendants in rural Gambia: beyond health to social cohesion**.** *Afr J Reprod Health* 2007, 11:43-56.

29. Khan SH, Chowdhury AM, Karim F, Barua MK: Training and retaining Shasthyo Shebika: reasons for turnover of community health workers in Bangladesh**.** *Health Care Superv* 1998; 17:37-47.

30. PalmasW, Teresi JA, FindleyS, Mejia M, Batista M, Kong J, Silver S, Luchsinger J, Carrasquillo O. Protocol for the Northern Manhattan Diabetes Community Outreach Project. A randomised trial of a community health worker intervention to improve diiabetes care in Hispanic adults. BMJ Open 2012;2:e001051. doi:10.1136/bmjopen-2012-001051.

31. Macinko J, De Fátima Marinho de Souza M, Guanais F C, da Silva Simoes CC. Going to scale with community-based primary care: an analysis of the family health program and infant mortality in Brazil, 1999e2004. *Social Science & Medicine 2007;* 65(10).

32. Robert J Blendon RJ, Benson JM, Botta MD, Zeldow D, Kim MK. A four-country survey of public attitudes towards restricting healthcare costs by limiting the use of high-cost medical interventions. BMJ Open 2012 2:e001087; doi:10.1136/bmjopen-2012-001087.

Figure 1: Responsibilities of ASHA

Figure 2: CHW's performance motivation assessment framework

Figure3: Healthcare delivery system vis-à-vis CHWs' performance motivation

Table 1

Background characteristics of CHWs

Characteristics	% (n/386)
Age (years)	
25-30	45.60 (176)
31-35	32.64 (126)
36-40	17.88 (69)
>41	3.88 (15)
Education (years)	
5-7	14.25 (55)
8-10	85.75 (331)
Marital Status	
Married	70.47 (272)
Widowed	17.88 (69)
Separated	3.88 (15)
Unmarried	4.92 (19)
Divorced	2.85 (11)
Poverty Status	
Below poverty line	70.98 (274)
Above poverty line	29.02 (112)
Monthly household Income in INR (US$)	
1000-2000 (22.21-44.44)	21.51 (83)
2001-3000 (44.46-66.65)	43.26 (167)
>3000 (66.67)	35.23 (136)
Caste	
Scheduled Caste*	29.02 (112)
Scheduled Tribe*	36.01 (139)

Others	34.97 (135)
Monthly earning as CHW in INR (US$)	
<500 (11.13)	2.07 (8)
500-1000 (11.13-22.21)	14.77 (57)
1001-1500 (22.24-33.33)	83.16 (321)
Sources of earning	
Only as CHW	91.97 (355)
Other sources	8.03 (31)
Years of experience as ASHA	
<2	17.10 (66)
2-5	82.90 (320)
Number of trainings undergone	
<5	73.06 (282)
6-10	26.94 (104)

**Scheduled caste and tribe are communities that receive special privileges from the Government of India based on relatively weaker socio-economic status*

Table-2

Level of performance motivation among CHWs (N=386)

Variable	Mean	95% CI	Motivated* n (%)
Health system level			
Nature of Responsibilities: *level of interest in the responsibilities and confidence to execute them*	4.18	4.09-4.27	256 (66.3)
Workload: *time to complete daily tasks, able to spend time with family and flexibility in work schedule*	2.96	2.90-3.02	34 (8.8)
Incentive: *adequacy of financial and non-financial incentives and their pattern of payment*	3.07	2.97-3.17	64 (16.6)
Healthcare Infrastructure: *satisfaction on the quality of existing infrastructure, communication options and commodities*	2.83	2.78-2.89	26 (6.7)
Work Modality: *satisfaction on hierarchy, participatory approach, recording and reporting*	3.18	3.13-3.24	68(17.6)
Training: *level of knowledge and skills imparted through trainings, and timing and organization of training*	3.78	3.72-3.85	281 (72.8)
Supportive Supervision: *help, monitoring, and supervision to execute responsibilities and solve issues*	3.28	3.23 -3.32	47 (12.2)
Peer support: *moral support, advice and learning from peers*	4.04	3.95-4.14	298 (77.2)
Community level			
Community Participation: *level of community's interest, acceptance and participation in activities*	4.05	3.96-4.16	244 (63.2)
Community Opinion on public healthcare System: *on quality of care, availability of healthcare and community programs*	2.70	2.65-2.75	4 (1.0)
Individual level			
Social responsibility and altruism: *interest in social work when existing social norms adversely impact community health, and sense of social responsibility*	4.12	4.04-4.20	255 (66.1)

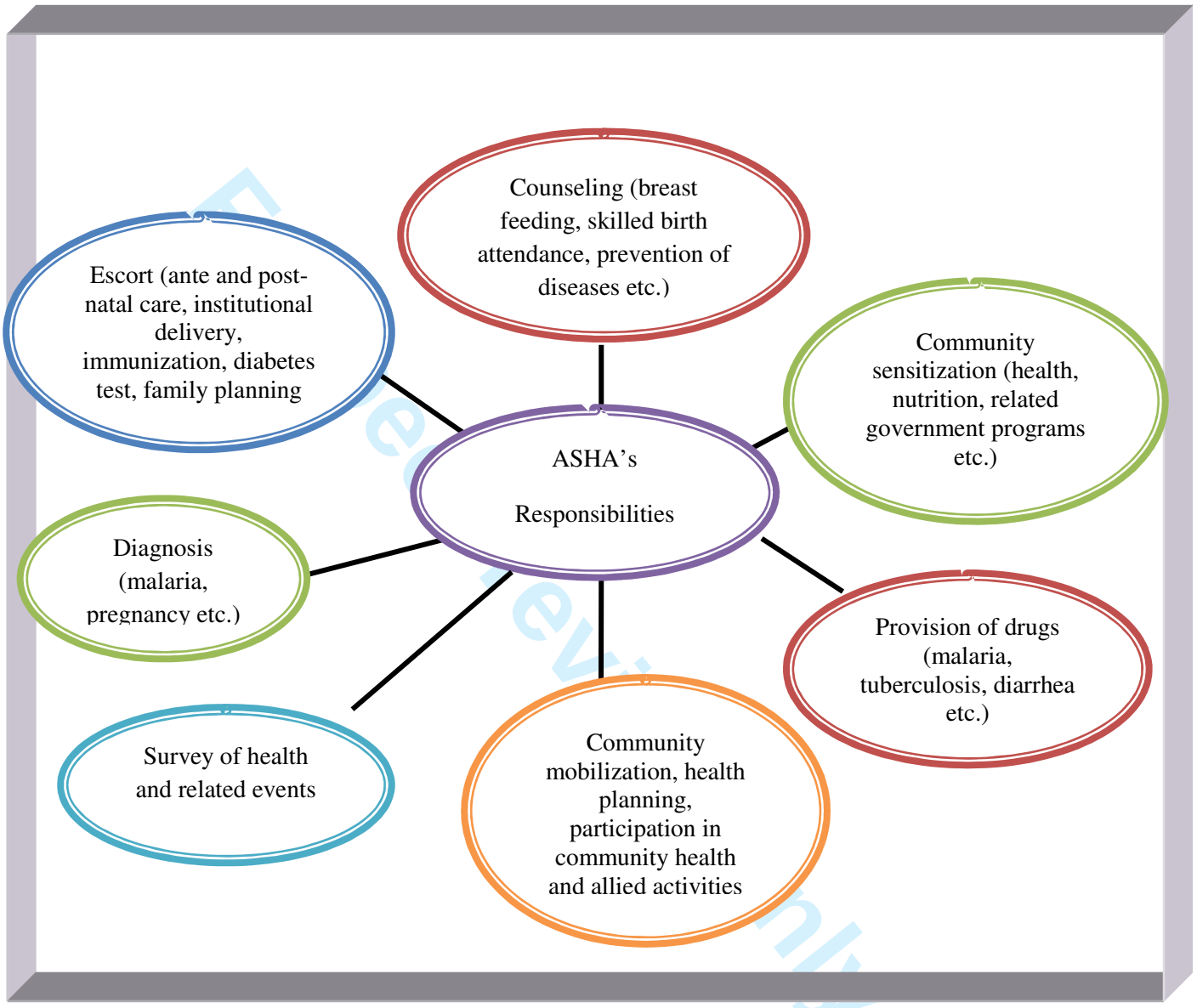
Intrinsic Job Satisfaction: *chance for better use of abilities and time, feeling of accomplishment, awards, career enhancement, advancement in employability, knowledge, communication skills, managerial skills, and overall happiness being on job*	4.30	4.24-4.36	264 (68.4)
Self-efficacy: *able to handle tough situations, solve problems, feel emotionally and physically perfect on work*	4.27	4.20-4.33	269 (69.7)
Self-motivation: *working with a sense that the job is important and is not for avoiding blame from others and gaining money alone*	4.07	4.05-4.10	327(84.7)
Individual + community + health system level			
Recognition: *acceptance of CHWs' performance, its value, and talents by family, community and system*	3.96	3.90-4.02	214 (55.4)
Autonomy: *freedom to move in the community, express opinion and execute responsibilities*	3.96	3.90- 4.02	233 (60.4)

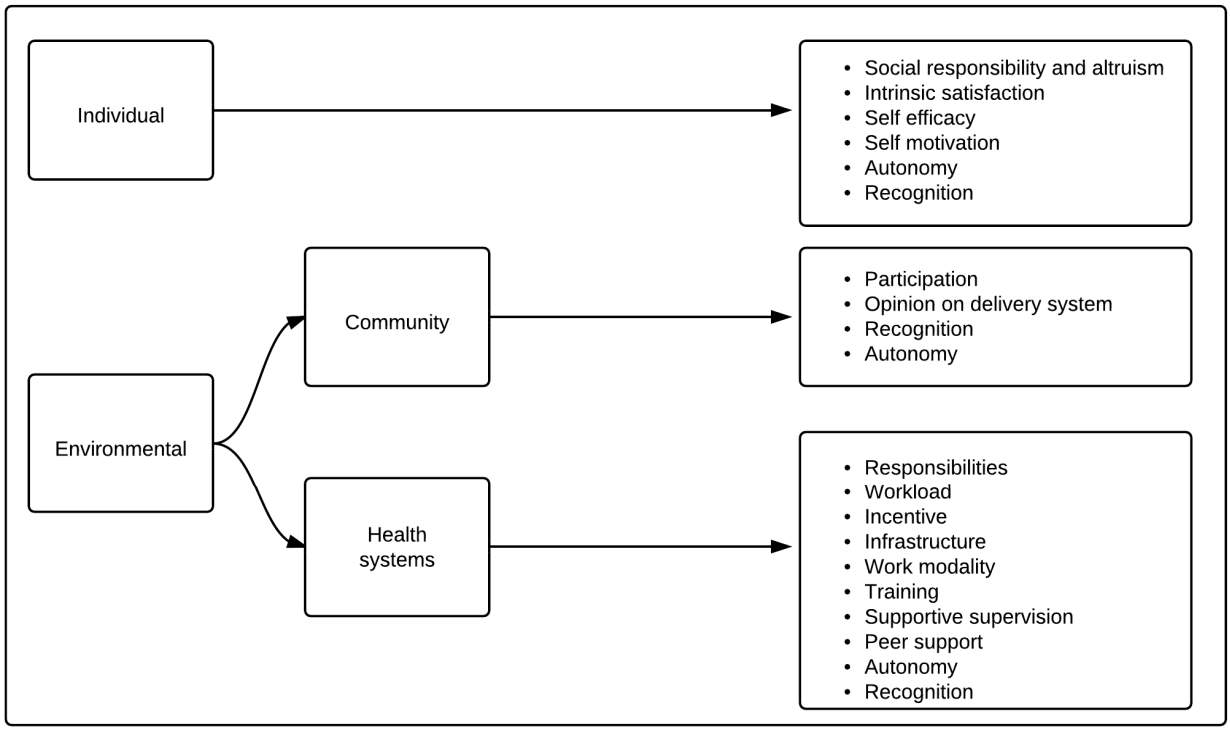
* Motivated if mean score >3

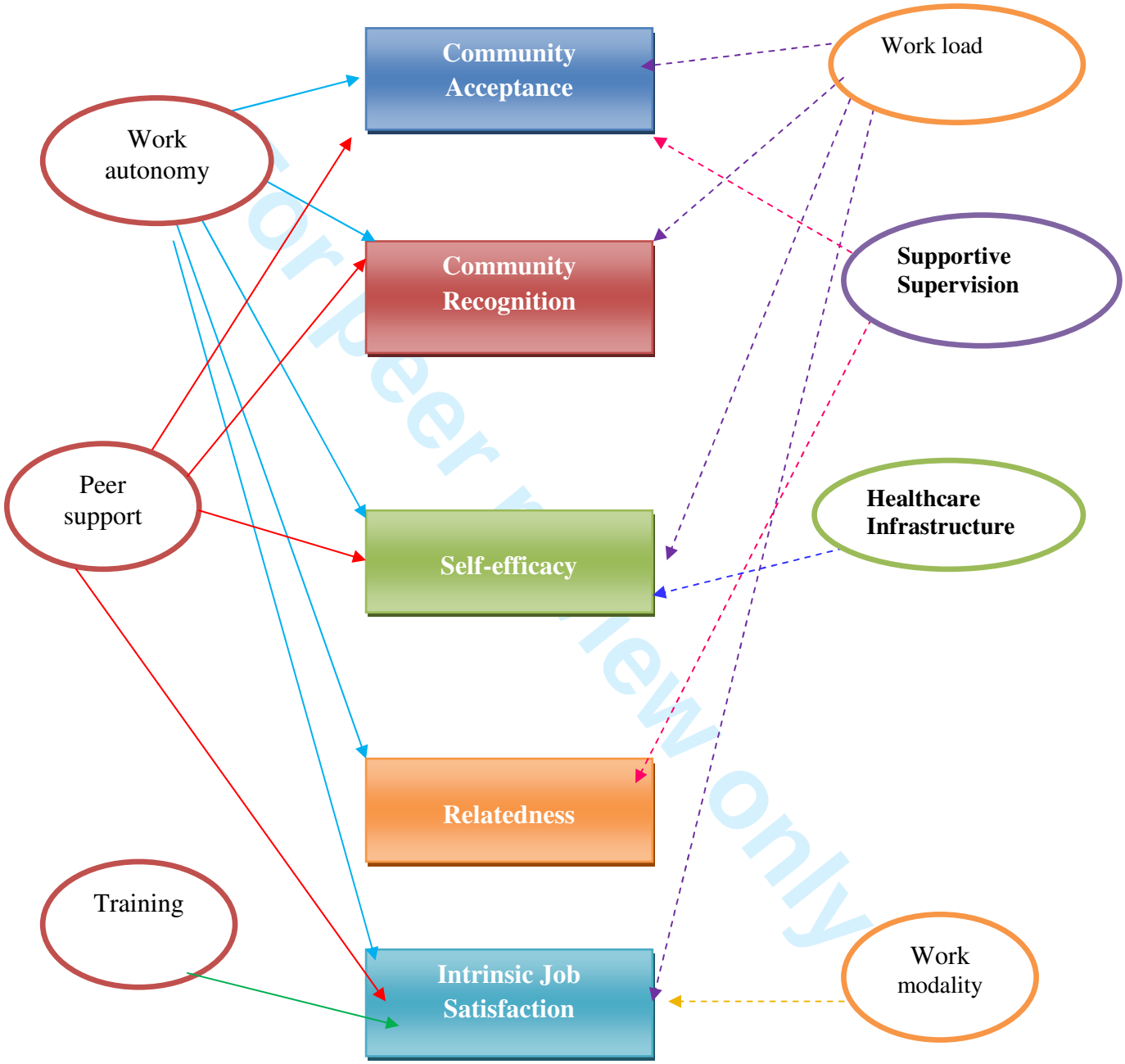
Table-3

Influence of healthcare delivery system on CHWs' performance motivation

Dependent variable	Independent Variable	Coefficient	Std. Error	P	95% CI	R2
Community Participation	Work load	-0.065	0.028	<0.05	-0.12 - -0.01	0.069
	Work autonomy	0.062	0.026	<0.01	0.01-0.11	
	Peer Support	0.139	0.049	<0.001	0.04-0.24	
Community Recognition	Work load	-0.215	0.077	<0.001	-0.37- -0.06	0.223
	Work Autonomy	0.165	0.039	<0.001	0.08-0.24	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
	Supportive Supervision	-0.19	0.096	<0.05	-0.38- -0.00	
Social Prestige	Work Autonomy	0.153	0.032	<0.001	0.09-0.22	0.124
Self-efficacy	workload	-0.204	0.082	<0.01	-0.37- 0.04	0.436
	Work Autonomy	0.185	0.042	<0.001	0.10-0.27	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
Relatedness	Work autonomy	0.238	0.036	<0.001	0.17-0.31	0.276
Intrinsic Job Satisfaction	Workload	-0.097	0.039	<0.01	-0.18--0.02	0.510
	Work autonomy	0.215	0.020	<0.001	0.17-0.25	
	Healthcare Infrastructure	-0.145	0.049	<0.001	-0.24- -0.05	
	Work modality	-0.063	0.030	<0.05	-0.12- 0.05	
	Training	0.327	0.038	<0.001	0.25-0.40	
	Supportive Supervision	-0.229	0.079	<0.001	-0.38- -0.07	
	Peer Support	0.131	0.045	<0.001	0.04-0.22	


Counseling (breast feeding, skilled birth attendance, prevention of diseases etc.)
Escort (ante and post-natal care, institutional delivery, immunization, diabetes test, family planning
Community sensitization (health, nutrition, related government programs etc.)
ASHA's Responsibilities
Diagnosis (malaria, pregnancy etc.)
Provision of drugs (malaria, tuberculosis, diarrhea etc.)
Survey of health and related events
Community mobilization, health planning, participation in community health and allied activities


Individual
Environmental
Community
Health systems
• Social responsibility and altruism
• Intrinsic satisfaction
• Self efficacy
• Self motivation
• Autonomy
• Recognition
• Participation
• Opinion on delivery system
• Recognition
• Autonomy
• Responsibilities
• Workload
• Incentive
• Infrastructure
• Work modality
• Training
• Supportive supervision
• Peer support
• Autonomy
• Recognition



(Solid arrows indicate enabling relationship and dotted arrows indicate deterring relationship)

BMJ open

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2012-001557.R1
Article Type:	Research
Date Submitted by the Author:	13-Jul-2012
Complete List of Authors:	Gopalan, Saji Mohanty, Satya; D-COR Consulting, Das, Ashis; The World Bank,
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Global health, Public health, Health policy, Evidence based practice
Keywords:	HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Human resource management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Abstract

Objective: This paper examined the performance motivation of the community health workers (CHWs) and its determinants on India's Accredited Social Health Activist (ASHA) program.

Design: Cross-sectional study employing mixed-methods approach involved survey and focus group discussions

Setting: the State of Orissa

Participants: 386 CHWs representing 10% of the total CHWs in the chosen districts and from settings selected through a multi-stage stratified sampling.

Primary and secondary outcome measures: The level of performance motivation among the CHWs, its determinants and their current status as per the perceptions of the CHWs.

Results: The level of performance motivation was the highest for the *individual* and the *community level* factors (mean score 5.94- 4.06), while the *health system* factors scored the least (2.70-3.279). Those ASHAs who felt having more community and system level recognition also had higher *levels of earning* as CHWs (p=0.040, 95% CI 0.06-0.12), a *sense of social responsibility* (p=0.0005, 95% CI 0.12-0.25), and a feeling of *self-efficacy* (p=0.000, 95% CI 0.38-0.54) on their responsibilities. There was no association established between their level of dissatisfaction on the incentives (p=0.385) and the extent of motivation. The inadequate healthcare delivery status and certain working modalities reduced their motivations. The gender mainstreaming in the community health approach, especially on the demand-side and the community participation were the positive externalities of the CHW program.

Conclusion: The CHW program could motivate and empower the local lay women on community health largely. The desire to gain social recognition, a sense of social responsibility and self-efficacy motivated them to perform. The healthcare delivery system improvements might further motivate and enable them to gain the community trust. The CHW management needs amendments to ensure adequate supportive supervision, skill and knowledge enhancement and enabling working modalities.

Key words: community health workers, performance motivation, developing health systems, India

Article Summary

Article focus

- What is the current level of the performance motivation of the community health workers?
- What are the determinants of their performance motivation?
- What are the CHWs' perceptions and experiences on the current status of the factors affecting their performance motivation**?**

Key messages

- The community health workers (CHWs) are more motivated on the *individual* and the *community* level factors than the *health system* determinants.
- The qualitative findings also support the survey outcomes that the health care delivery status and the human resource management modalities for CHW are not satisfactory for them

- This study recommends that the CHW management needs changes to ensure adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

Strengths and limitations of the study

- This is a unique study exploring the performance motivation of the public sector community health workers (CHW) on one of the largest CHW programs in the world. The evidences on the CHWs' performance motivation and that of public sector CHW programs are limited. The unique application of the mixed-methods approach will enhance the generalizability of the study findings. It helped in finding the causality between the level of CHW's motivation and its each determinant along with an understanding of how and why a CHW is motivated or demotivated. The study discussions are centered on comparable global experiences for relevant policy changes.
- Among the study limitations, there could be a possibility of CHWs' responses complying with perceptions of what should be an acceptable answer. We did not assess the actual level of performance of the CHWs and its effectiveness from the community's or the supervisors' perspectives.

Key words: community health workers, performance motivation, developing health systems, India

Introduction

Globally, the intermediation of community health workers (CHW) in healthcare delivery is widening as they are inevitable to meet the universal healthcare provision and the millennium development goals.[1] The term 'community health worker' encompasses a wide variety of local healthcare providers ranging from the nurse-midwives to the home-based care givers and the

salaried-staffs to the volunteers.[2] The CHWs enable access to and utilization of health services, and inculcate healthy behaviors among the communities.[3]They are preponderantly deployed to cater to the under-utilized services, the unmet health behaviors, and the under-served populations.[3] The CHW's contributions to disease control, immunization, and family planning programs are already established.[4]In the public sector, though the CHWs are primarily link-workers or motivators, yet they do undertake curative services for malaria, tuberculosis, and elderly care.[3]The spectrum of the CHW programs varies across countries on their objectives, rollout, and management. Their larger penetration and sustainability are more observed with the public sector.[5] Having identified the potential of women in community mediation, predominantly females constitute CHWs universally.[2]

Rationale

The existing literature on the CHWs' performance motivation and its determinants are scanty. Similar to any other health cadre, the performance of the CHWs depends on their job satisfaction derived from certain intrinsic and extrinsic motivators.[6] However, the yardstick for their performance motivation assessment should be different from usual health staffs particularly on three grounds; 1) many CHWs are volunteers and not salaried staff, 2) they are lay workers without prior trainings on community health and 3) CHWs constitute the outreach workforce directly linking the community with the formal healthcare.[7] Further, the approach to assess the public sector CHWs' work motivation could be different from the private sector since they are more integrated with the formal healthcare system and have wider responsibilities. The existing few studies from Kenya, Vietnam, Bangladesh, Taiwan etc. have largely catered to the latter or omitted a 'mixed -methods approach' by mostly employing the qualitative tools.[8-12]This paper explores one of the largest public sector community health worker initiatives in the world,

namely the Accredited Social Health Activist (ASHA) program in India. This study had three objectives; 1) assessing the current level of performance motivation among the ASHAs 2) understanding the factors affecting their level of motivation 3) their perceptions and experiences on the current status of the motivational determinants.

ASHA Program: an overview

The ASHA is a female volunteer selected by the community, deployed in her own village (one in every 1000 population) after a short training on community health.[13] She is preferred to be between 25 and 45 years old, with a minimum formal education of eight years and demonstrable leadership qualities.[13]ASHAs are not salaried and belong to voluntary cadre of health staffs as they get fixed activity-based incentives. Started in 2006, currently the ASHA program has spread across the country with 820,000 women trained and deployed.[14] ~~Her~~ Their responsibilities range from health education to diagnosis of health conditions (Figure-1). Each state oversees the program confining to the guidelines of the National Rural Health Mission (NRHM).

Methods

Conceptual Framework

The concept of 'performance motivation' is complex and can be defined contextually. The study defined it as the CHW's degree of interest and willingness to undertake~~, maintain~~ and improve upon an allotted responsibility towards community health.[8] We used a customized framework adapted from the existing literatures.[8-12,15-16] The motivation factors were broadly classified into *Individual* and *Environmental.* The latter was further divided into *Health system* and *Community level* factors (Figure 2). Further, 16 parameters were considered (identified from the literature and self-validated by the CHWs through group discussions) together under the above broad classifications i.e. *Individual, Health System* and *Community levels* (Table2).

Assessment tools

This cross-sectional study conducted during 2010 employed a mixed-methods approach i.e. a combination of qualitative and quantitative techniques. It employed both survey and focus groups discussions among the CHWs. The survey tool constituted 16 parameters and under each a set of questions explored their level of motivation on a Likert Scale of 1 (strongly disagree) to 5 (strongly agree). The construct of the questions were balanced with both positive and negative directions to prevent similar responses. The composite score of all questions decided the level of motivation under each parameter. A CHW was considered as motivated on a particular parameter if her mean score was above three. At the *health system level*, the exploration was on the organization and management of the healthcare delivery system (e.g. availability of services and commodities, incentives, monitoring and training of CHWs, interaction with supervisors, peers and grass roots NGOs). The *community level* parameters consisted of community response, recognition of CHW, and participation in activities. At the *individual level*, abilities, inducements to perform, job satisfaction, family support etc. were explored. The FGDs explored the CHWs' ~~recent~~ current experiences and perceptions on the factors affecting their performance motivation. Their suggestions to improve upon the existing situations were also probed.

Sampling and recruitment

The study settings were selected through a multi-stage stratified sampling. First, Orissa was selected randomly among the high-focus states of NRHM. Then, the districts of *Angul* and *Mayurbhanj* were selected representing the state based on its administrative division. Finally, 25% of the rural administrative blocks from each district were randomly selected.

The survey purposively targeted 10% (n=434) of the existing number of ASHAs (n=4342) together from both the districts.[7] Thus, it planned to interview 55 ASHAs from each of the eight

rural administrative blocks. However, only 386 ASHAs could be interviewed considering their availability and willingness during the study period. Each survey on an average took about 30 to 45 minutes.

There were 11 FGDs for 78 CHWs and each constituted 7-10 participants. There were mixed groups of ASHAs from different socio-economic and demographic backgrounds. Each FGD took between 45 and 60 minutes and interviews were conducted till the data saturation. An FGD guide with broad themes and specific probes directed the discussions. The FGDs were conducted first, followed by the survey.

The local women's groups mobilized the CHWs for the surveys and the FGDs. The interviews were conducted in the local language Oriya. A written informed consent was obtained from each CHW after explaining the study objectives and the intended use of the information. The interviews were conducted at a convenient location and refreshments were provided to the participants. In each district, the survey and the FGDs were performed by five locally based researchers, who are social science bachelors. The entire data collection process took three months. A pre-designed protocol guided the conduct of the data collection and further, it was supervised by two of the authors (SSG and SM).

Data analysis

The quantitative information were analyzed through the STATA. Linear and multivariate regression tests explored the association between the level of performance motivation and the predictors at different levels along with the CHWs' background characteristics. The qualitative data were transcribed verbatim and translated to English by the researchers themselves who conducted the interviews. These translations were verified by the co-authors who are proficient

in the local language. The translated transcripts were coded and analyzed through the NVivo. The analysis was both inductive and deductive and relevant themes were indexed under the *individual*, health *system* and *community level* aspects. They were further classified as the enabling and the demotivating factors for the CHW's performance. The qualitative findings were triangulated with the survey findings confining to the conceptual framework of the study.

Results

The survey consisted of 386 CHWs (Table 1), of which majority were the below poverty line (71%), married (70.47%) and scheduled tribes (36%). Most of them had eight years of formal education (85.75%), experience of two to five years as CHW (82.9%). The majority had undergone minimum five trainings (73.06%), earned US$22.24 to 33.33 per month as a CHW (83.16%). Further, most of them did not have any other personal sources of earning (91.97%).

Level of performance motivation among the CHWs

The level of motivation was the highest on the *intrinsic job satisfaction* on various job related achievements (mean 4.30; 68.4% of CHWs). The self-efficacy or the perceived abilities on job scored a mean score of 4.27 (69.7%). The nature of the job responsibilities positioned the third with a mean score of 4.18 (66.3%), followed by the *social responsibility and altruism* (4.12; 66.1%). The mean scores were 4.07 for the self-motivation (84.7%), 4.06 for the *community participation* in activities (63.2%) and 4.04 for the *peer support* (77.2%).

The degree of motivation was the least on the *community opinion on the healthcare delivery system* (2.7; 1%), followed by their satisfaction on the *level of healthcare infrastructure* (2.83; 6.7%). The ASHAs were also less motivated on their *work load* (2.96; 8.8%). They had a moderate level of motivation (mean 3-4) on enjoying the *autonomy* to move, express opinions and execute the responsibilities (3.96; 60.4%). The *recognition* from the community, family and

health system scored moderately (3.96; 55.4%). The *training* (3.78; 72.8%), the type of *supportive supervision* received (3.28; 12.2%), the *work modality* (3.18; 17.6%), and the *incentive*s (3.07; 16.6%) also scored a moderate mean.

A large proportion of the ASHAs (n=327; 84.72 %) were *self-motivated.* If we look at the individual scores for each parameter, the question on community acceptance i.e. *"the community accepts my activities as I intend to"* secured the highest mean score at 4.64 (n=366). Secondly, a self-efficacy related question on "*I can always manage to solve difficult problems if I try hard enough" scored* at 4.58 (n=350). Further, The probe on the *intrinsic job satisfaction (I am satisfied that I accomplish something worthwhile in this job)* received a mean score of 4.54 (n=336).

As per the Cronbach's alpha test, the internal consistency of the scale was adequate. The consistency co-efficient was 0.78, 0.79 and 0.84 for the *community, the health system* and the *individual* scales respectively.

Determinants of the level of performance motivation

The ASHA's *earning* as a CHW ($p<0.05$, 95% CI 0.06-0.12), *sense of social responsibility and altruism* ($p<0.01$, 95% CI 0.12-0.25), and feeling of *self-efficacy* ($p<0.01$, 95% CI 0.38-0.54) in undertaking responsibilities influenced her *recognition* at the health system, community and family (not mentioned in the tables). Other socio-economic characteristics were not significant in this regard.

How does the healthcare delivery system impact the CHW's level of motivation?

We explored how significantly the level of motivation on the *health system* factors influenced their motivation at the *individual and* the *community* levels. This exploration was prompted by the fact that the CHWs were more demotivated on the status of the former (Table 2 & figure3).

The *peer support* induced for a higher level of satisfaction on the *community participation*, *recognition, self-efficacy* and *intrinsic job satisfaction.* On the contrary, the dissatisfaction on the *workload* also led to a higher level of dissatisfaction on the above aspects. The dissatisfied CHWs *on the supportive supervision* had reported a lesser *community recognition* and *intrinsic job satisfaction.* The demotivation on *the work modality* and the *healthcare infrastructure* were positively related to a lesser *intrinsic job satisfaction*. Their perceptions on the *incentives* did not affect the level of motivation on any of the *community, individual* or *health system* parameters.

The prevailing scenario of the factors affecting the performance motivations: experiences of the ASHAs

The enabling factors

The better use of time (91%), lack of alternative job opportunities (76%), and a sense of social responsibility (68%) were the reasons to become a CHW and everyone wanted to continue as ASHA. They considered *performance motivation* as an encouragement (45%) or something which makes their performance better (62%). Their prior involvement in the women's groups improved their sense of altruism. Working with the community as CHW and empowering them, especially women, inspired many. They felt women to be more receptive to their health advices and engage in community activities compared to men.

"We have more support from our Didis and women's groups are now more enthusiastic and capable in community activities. Our social cohesion is improving further." [CHW, #4]

Supporting the survey data, many reported enhancement in their family and social status, and personal autonomy attributing to the role of CHW. They felt empowered through the acquisition of knowledge and skills on community health through training, designated stature in the

community, and the personal autonomy to work. The peer support and the healthy competition among the ASHAs seemed to have enhanced their enthusiasm to perform well and achieve progressive community health. They enjoyed the job autonomy to perform the designated duties.

"Now I have a say in my neighborhood. I am being invited to sit in the community meetings and I represent my village in the health center meetings." [CHW# 28]

"*We meet during trainings and meetings and share a lot with each other. Since we have the same kind of work, learning from each other has increased our problem-solving skills."* [CHW # 41]

The demotivating factors

On the contrary, the CHWs had certain dissatisfactions on the health system aspects limiting their performance motivation at the *individual* and the *community levels*. The excessive workload, frequent refresher trainings and meetings at the health centers and travel to remote habitations took away their personal time. They sometimes felt having limited autonomy at work to perform their social responsibilities beyond the specified guidelines. The CHWs solicited their active involvement in the planning of service delivery to incorporate community felt needs, as often they were given only the options to deliver services than planning.

"Very often what the program wants and people want from me are different. I feel whatever issues I raise on behalf of the community during the health center meetings are not addressed timely" [CHW# 74]

Many posed concern on the community's lack of trust on the public healthcare system. There were instances of care seeking from the private informal providers, despite the availability of drugs with the CHWs. This community behavior was built on the instances of them not getting drugs from the CHWs due to unavailability. Their activities were limited by the frequent stock-out of drugs and commodities and the communication gap at different levels of their supervision.

They also reported to have an inadequate level of knowledge, skills and supportive supervision to perform optimally. Their performances were monitored through the self-recording of activities, supplemented with random visits by the multi-purpose female health workers and other supervisors. They found it difficult to monitor the community health through surveys as it was time consuming and tricky to record, with their low level of education. Most of them expected to have routine supportive supervision of their activities and the grass-roots level organizations' cooperation to enable improved performances.

"We would like to have an integrated approach with the women's group, the NGOs and the village health committee to share and solve local issues." [CHW# 13]

"Often, I communicate timely on drug stock outs to sub-center, but the primary health centers tell that they are not aware of this. I feel my concerns and issues are not spelled out at the higher level properly, though I share everything with my supervisors. I am also not given timely instruction on my roles on many activities" [CHW #53]

They demanded for more flexibility in organizing the meetings at convenient locations and time to give more time for the community and the personal life. Though the CHWs received honorarium for trainings and meetings, but they did not prefer frequently attending. They were confident to execute the responsibilities, still desired knowledge and skill enhancements to convince the community and gain the community acceptance. They seemed to be less confident on the curative skills and urged for more system thrust and training in this regard.

"I want to be with the community more than the meetings. We wait for longer time, even for four hours at the health centers for a one hour meeting' '[CHW# 29]

Some of them were disgruntled on the level of the monetary and the non-monetary incentives received, yet they did not want to under-perform. The ASHAs often had to expend on mother's

consumables and spare on an average 30 hours on escorting mothers on child birth. However, that they receive was lesser considering their actual spending and the time cost. The CHWs denied having any opportunity for informal payments, but admitted to have received occasional incentives for escorting mothers without actually doing so.

"*I often spend out-of-pocket on mother's consumables at hospitals and what I receive is quite less in return. Still, I want to support the mothers as I feel they are like my sisters and I am obliged to support them."* [CHW#69].

Discussion

What prompts the CHWs to perform and its externalities on the community health?

The rural women consider becoming a CHW as a magnificent opportunity to empower themselves socially, personally and financially.[16] Empowering rural women as CHWs, who do not have alternate job opportunities can be a replicable and sustainable model on community health management.[17] In this study, the level of motivation was directly related to self-efficacy, yet socio-economic status did not influence the latter. This implies that with proper selection, orientation and training, the lay women can be organized for community health activities.[18-21] They displayed a strong commitment towards empowering women as women were more receptive to their advices. The higher level of health awareness and adherence to healthy practices among women compared to men might justify this village level social network among women.[22]

The identity with the government motivated them to be a bridge between the community and the public healthcare system. This will be relevant for those countries trying to reduce the poor people's dependency on the private sector.[1] The peer support and the cross-learning from peers were potential ways of inspiration, apart from the support of many community-based

organizations. The involvement of locally based NGOs and CBOs needs to be promoted to empower and support the CHWs.[23] However, the NGOs need to be a complimentary mechanism and should not undermine the CHWs' efficiency as health workers.[24]

Above all, a sense of intrinsic motivation was the underlying factor for the CHWs' performance. For instance, their urge for community interactions prevented them from attending the meetings and trainings, despite the scope of receiving honoraria in such events. The local cultural traits of solidarity, hospitality, and lending social support lifted their enthusiasm.[25] These behavioral traits could be exploited positively with lending more public recognition to the CHWs. The events of 'public honoring', involvement in public meetings, and appreciation in group meetings of the CHWs would be an impetus for their social commitment. Kenya also reported on CHWs' strong preference for community acceptance compared to supervisor's recognition.[5]

In this study, the CHWs' dissatisfaction on remuneration was not associated their level of earning. This implies that remuneration through incentivizing each activity seems to have motivated performance despite their feeling of under-remunerated. Yet, care should be taken to ensure that the CHWs perform equally on all the responsibilities despite the incentives vary on each responsibility. Further, they are remunerated adequately considering the time cost and the market rate.

What discourages the CHWs and the consequences?

The study found a strong nexus between the health care delivery system's status and the CHW's level of performance motivation. As demonstrated in similar settings, resource constraints such as limited transportation to escort mothers and stock outs of commodities hindered the community's trust on them.[26] The communication gap among different actors led to the delay in receiving the stocks and non-clarity on the responsibilities among CHWs. This weak supportive

system to CHWs concerns many other countries also as it might lead to the exclusion of the poorest of the poor from appropriate health services.[1]

The CHWs demanded for a regular supportive supervision and streamlining of responsibilities. However, in resource-constraint settings, identifying and training more experienced volunteers for CHW's supervision will be a challenge. This concern should be addressed through leveraging some of the grass-roots level public health managers or NGOs in a systematic manner. More involvement of grass-roots entities like women's groups could inculcate a sense of collective accountability and learning. Nigeria reported village health committee (VHC) supporting CHWs.[27]Since India's VHCs are still evolving, CHW's monitoring can be designed as one of its roles in the future.[19]

The CHWs' increasing work load with more and more community based health programs produced a feeling of 'over-burdened.' Without proper orientation, the monitoring of many community health initiatives, especially surveys will be difficult for them, considering their low level of formal education.[28-29] Though the current pattern of incentivizing does not appear to bring in less performance, India could experiment with preferential treatment on social securities and public privileges to the CHWs and their households as demonstrated in Guatemala and Nepal.[27]

In India, the ASHAs are more indentified as 'link-workers' or facilitators for appropriate care and the community has less acceptance for their curative role.[7] The CHWs are less confident on their curative care skills and the supply constraints induce the community's non-confidence on them.[30-32]In the future, the CHWs' could be leveraged intensively on the diagnosis of health conditions to promote a comprehensive community health management approach. This will be

relevant for elderly care and settings with increasing chronic disease burden to offer a cost-effective care.[19,33-35]

Strengths and limitations of the study

We employed a mixed-methods approach and it helped us in two ways. First, to understand the the extent of causality between the CHW's level of motivation and each of its determinant. Secondly, to assess how, why and under what condition a CHW is motivated or demotivated. The study depended on a 'relativist' approach to trigger the policy processes on streamlining the motivating factors for the CHW's performance motivation. Further, the FGD responses were used to verify the survey responses and thereby enhance the generalizability of the study outcomes. There could be a possibility of the CHWs' responses complying with the perceptions of what should be an acceptable answer. We did not assess the actual level of performance of the CHWs and its effectiveness from the community's or supervisors' perspectives. Despite this, these study revelations on the CHW program add to the rare global evidence base for relevant policy changes, specifically on the CHW management and the retention.

Conclusion

The CHW program could motivate and empower the local lay women on the community health largely. The desire to gain social recognition, a sense of social responsibility and self-efficacy enhances their motivation. Linking the incentive directly with each activity ensures performances of the CHWs. The healthcare delivery system improvements might further enhance their motivation and enable them to gain the community trust. The CHW management needs to change with adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

References

1. World Health Organization. Health Systems Financing -the path to universal coverage. *World Health Report* 2010. Geneva.
2. Lehmann U, Sanders D. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs an impact on health outcomes of using community health workers. *The World Health Organization* 2007. Geneva.
3. Lewin S, Munabi-Babigumira S, Glenton C et al. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *Cochrane Database of Systematic Reviews* 2010 (3). Art. No.: CD004015.
4. Shrestha R, Baral K and Weir N. Community ear care delivery by community ear assistants and volunteers: a pilot programme. *The Journal of Laryngology and Otology* 2003; 115: 869-73.
5. Lewin SA, Dick J, Pond P, Zwarenstein M, Aja GN, Van Wyk BE, et al. Lay health workers in primary and community health care. *Cochrane Database of Systematic Reviews* 2005; (1). Art. No.: CD004015.
6. Glenton C, Inger BS, Pradhan S, Lewin S, Hodgins S, Shrestha V. The female community health volunteer programme in Nepal: Decision makers' perceptions of volunteerism, payment and other incentives. *Social Science & Medicine* 2010;70: 1920-1927.
7. Government of India. ASHA the way forward: evaluation of ASHA program. *The National Health System Resource Center* 2011. NRHM. New Delhi.
8. DielemanM, Cuong PV, Anh LV, Martineau T. Identifying factors for job motivation of rural health workers in North VietNam. Human Resources for Health 2003, 1:10.

9. Mbindyo P, Gilson L, Blaauw D, English M. Contextual influences on health worker motivation in district hospitals in Keny**a.** *Implementation Science* 2009, **4**:43 doi:10.1186/1748-5908-4-43.

10. Darmstadt GL, Baqui AH, Choi Y, Bari S, Rahman SM, Mannan I, et al. Validation of community health workers' assessment of neonatal illness in rural Bangladesh. *Bull World Health Organ.* 2009 Jan, **87**(1):12

11. Rahman SM, Ali NA, Jennings L, Seraji MHR, Mannan I. Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Human Resources for Health* 2010, **8**:12 http://www.human-resources-health.com/content/8/1/12

12. Li I-C, Lin M-C,Chen C-M. Relationship Between Personality Traits, Job Satisfaction, and Job Involvement Among Taiwanese Community Health Volunteers. *Public Health Nursing* 2007; 24 (3):274–282.

13. Government of India. Accredited Social Health Activist (ASHA) Guidelines, *National Rural Health Mission,* Ministry of Health and Family Welfare 2005. New Delhi.

14. Government of India. Annual report: 2009-10. *Ministry of Health and Family Welfare* 2010. New Delhi, Available from: http://mohfw.nic.in/Health%20English%20Report.pdf

15. Manongi RN, Marchant TC, Bygbjerg IBC. Improving motivation among primary health care workers in Tanzania: a health worker perspective**.** *Human Resources for Health* 2006, **4**:6 doi:10.1186/1478-4491-4-6

16. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P:Motivation and retention of health workers in developing countries: a systematic review**.** *BMC Health Serv Res* 2008, 8:247

17. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P: Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Serv Res* 8:247.

18. Scott K, Shanker S. Tying their hands? Institutional obstacles to the success of the ASHA community health worker programme in rural north India. AIDS Care 2010; 22(2):1606-12.

19. Kane SS, Gerretsen B, Scherpbier R, Dal Poz M, Dieleman M. A realist synthesis of randomised control trials involving use of community health workers for delivering child health interventions in low and middle income countries. BMC Health Serv Res 2010;10:286.

~~18.~~20. Daniels K, Van Zyl H H, Clarke M, Dick J, Johansson E. Ear to the ground: listening to farm dwellers talk about the experience of becoming lay health workers. Health Policy 2005;73(1):92-103.

~~19.~~21. George A.Nurses, community health workers, and home carers: gendered human resources compensating for skewed health systems. Glob Public Health 2008;3 (1):75-89.

~~20.~~22. Gopalan SS. Report on Health equity. *Government of Orissa*, *DoHFW 2009;* Bhubaneswar.

~~21.~~23. Gray HH, Ciroma J Reducing attrition among village health workers in rural Nigeria. *Socio-Economic Planning Sciences 1988;* 22:39.

~~22.~~24. Kironde S, Klaasen S. What motivates lay volunteers in high burden but resource-limited tuberculosis control programmes? Perceptions from the Northern Cape province, South Africa. *The International Journal of Tuberculosis and Lung Disease 2002;* 6:104.

~~23.~~25. Robinson SA, Larsen DE. The relative influence of the community and the health system on work performance: a case study of community health workers in Colombia. *Social Science & Medicine 1990;* 30:1041.

~~24.~~26. Baker B, Benton D, Friedman E, Russell A. Systems support for task shifting to community health workers. *The Global Health Alliance* 2007; Geneva.

~~25.~~27. Bhattacharya K, Winch P, LeBan K, Tien M. Community Health Worker Incentives and Disincentives: How they affect motivation, retention and sustainability. B*asics II* 2001. USA.

~~26.~~28. Abbatt F. Scaling up health and education workers: Community health workers: A literature review. London: *DFID Health Systems Resource Centre* 2005. London.

~~27.~~29. Henderson L, Tulloch J. Incentives for retaining and motivating health workers in Pacific and Asian countries**.** *Human Resources for Health* 2008, 6:18.

~~28.~~30. Wendy Gidman W, Ward P, McGregor L. Understanding public trust in services provided by community pharmacists relative to those provided by general practitioners: a qualitative study. BMJ Open 2012 2:e000939; doi:10.1136/bmjopen-2012-000939.

~~29.~~31. Nyanzi S, Manneh H, Walraven G. Traditional birth attendants in rural Gambia: beyond health to social cohesion**.** *Afr J Reprod Health* 2007, 11:43-56.

~~30.~~32. Khan SH, Chowdhury AM, Karim F, Barua MK: Training and retaining Shasthyo Shebika: reasons for turnover of community health workers in Bangladesh**.** *Health Care Superv* 1998; 17:37-47.

~~31.~~33. PalmasW, Teresi JA, FindleyS, Mejia M, Batista M, Kong J, Silver S, Luchsinger J, Carrasquillo O. Protocol for the Northern Manhattan Diabetes Community Outreach Project. A randomised trial of a community health worker intervention to

improve diiabetes care in Hispanic adults. BMJ Open 2012;2:e001051. doi:10.1136/bmjopen-2012-001051.

~~32.~~34. Macinko J, De Fátima Marinho de Souza M, Guanais F C, da Silva Simoes CC. Going to scale with community-based primary care: an analysis of the family health program and infant mortality in Brazil, 1999e2004. *Social Science & Medicine 2007;* 65(10).

~~33.~~35. Robert J Blendon RJ, Benson JM, Botta MD, Zeldow D, Kim MK. A four-country survey of public attitudes towards restricting healthcare costs by limiting the use of high-cost medical interventions. BMJ Open 2012 2:e001087; doi:10.1136/bmjopen-2012-001087.

Figure 1: The responsibilities of the ASHA

Figure 2: The CHW's performance motivation assessment framework

Figure3: The healthcare delivery system vis-à-vis the CHWs' performance motivation

Table 1

Background characteristics of the CHWs

Characteristics	% (n/386)
Age (years)	
25-30	45.60 (176)
31-35	32.64 (126)
36-40	17.88 (69)
>41	3.88 (15)
Education (years)	
5-7	14.25 (55)
8-10	85.75 (331)
Marital Status	
Married	70.47 (272)
Widowed	17.88 (69)
Separated	3.88 (15)
Unmarried	4.92 (19)
Divorced	2.85 (11)
Poverty Status	
Below poverty line	70.98 (274)
Above poverty line	29.02 (112)
Monthly household Income in INR (US$)	
1000-2000 (22.21-44.44)	21.51 (83)
2001-3000 (44.46-66.65)	43.26 (167)
>3000 (66.67)	35.23 (136)
Caste	
Scheduled Caste*	29.02 (112)

Scheduled Tribe*	36.01 (139)
Others	34.97 (135)
Monthly earning as CHW in INR (US$)	
<500 (11.13)	2.07 (8)
500-1000 (11.13-22.21)	14.77 (57)
1001-1500 (22.24-33.33)	83.16 (321)
Sources of earning	
Only as CHW	91.97 (355)
Other sources	8.03 (31)
Years of experience as ASHA	
<2	17.10 (66)
2-5	82.90 (320)
Number of trainings undergone	
<5	73.06 (282)
6-10	26.94 (104)

**Scheduled caste and tribe are communities that receive special privileges from the Government of India based on relatively weaker socio-economic status*

Table-2

The level of performance motivation among the CHWs (N=386)

Variable	Mean	95% CI	Motivated* n (%)
Health system level			
Nature of Responsibilities: *level of interest in the responsibilities and confidence to execute them*	4.18	4.09-4.27	256 (66.3)
Workload: *time to complete daily tasks, able to spend time with family and flexibility in work schedule*	2.96	2.90-3.02	34 (8.8)
Incentive: *adequacy of financial and non-financial incentives and their pattern of payment*	3.07	2.97-3.17	64 (16.6)
Healthcare Infrastructure: *satisfaction on the quality of existing infrastructure, communication options and commodities*	2.83	2.78-2.89	26 (6.7)
Work Modality: *satisfaction on hierarchy, participatory approach, recording and reporting*	3.18	3.13-3.24	68(17.6)
Training: *level of knowledge and skills imparted through trainings, and timing and organization of training*	3.78	3.72-3.85	281 (72.8)
Supportive Supervision: *help, monitoring, and supervision to execute responsibilities and solve issues*	3.28	3.23 -3.32	47 (12.2)
Peer support: *moral support, advice and learning from peers*	4.04	3.95-4.14	298 (77.2)
Community level			
Community Participation: *level of community's interest, acceptance and participation in activities*	4.05	3.96-4.16	244 (63.2)
Community Opinion on public healthcare System: *on quality of care, availability of healthcare and community programs*	2.70	2.65-2.75	4 (1.0)
Individual level			
Social responsibility and altruism: *interest in social work when*	4.12	4.04-4.20	255 (66.1)

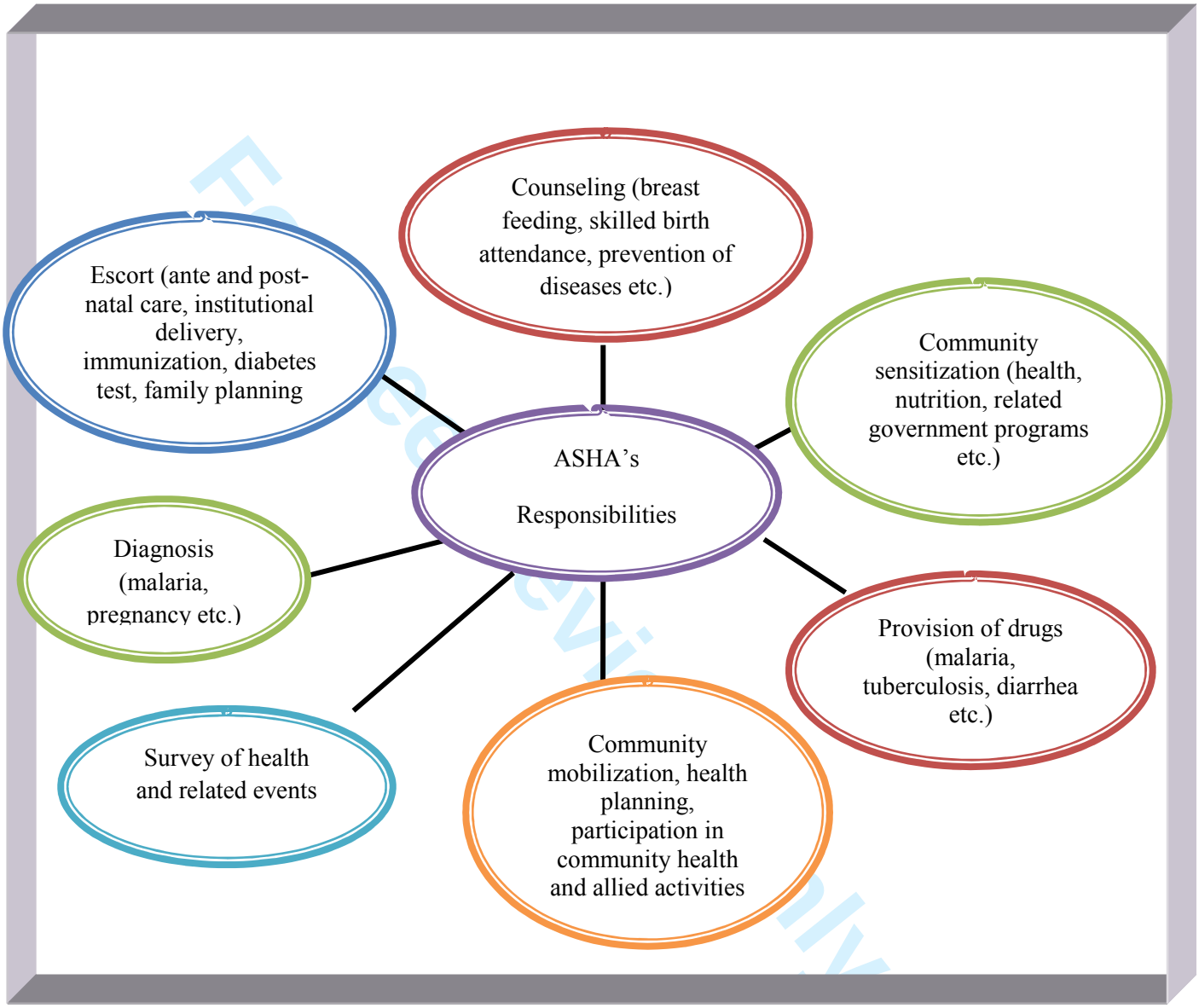
existing social norms adversely impact community health, and sense of social responsibility			
Intrinsic Job Satisfaction: *chance for better use of abilities and time, feeling of accomplishment, awards, career enhancement, advancement in employability, knowledge, communication skills, managerial skills, and overall happiness being on job*	4.30	4.24-4.36	264 (68.4)
Self-efficacy: *able to handle tough situations, solve problems, feel emotionally and physically perfect on work*	4.27	4.20-4.33	269 (69.7)
Self-motivation: *working with a sense that the job is important and is not for avoiding blame from others and gaining money alone*	4.07	4.05-4.10	327(84.7)
Individual + community + health system level			
Recognition: *acceptance of CHWs' performance, its value, and talents by family, community and system*	3.96	3.90-4.02	214 (55.4)
Autonomy: *freedom to move in the community, express opinion and execute responsibilities*	3.96	3.90- 4.02	233 (60.4)

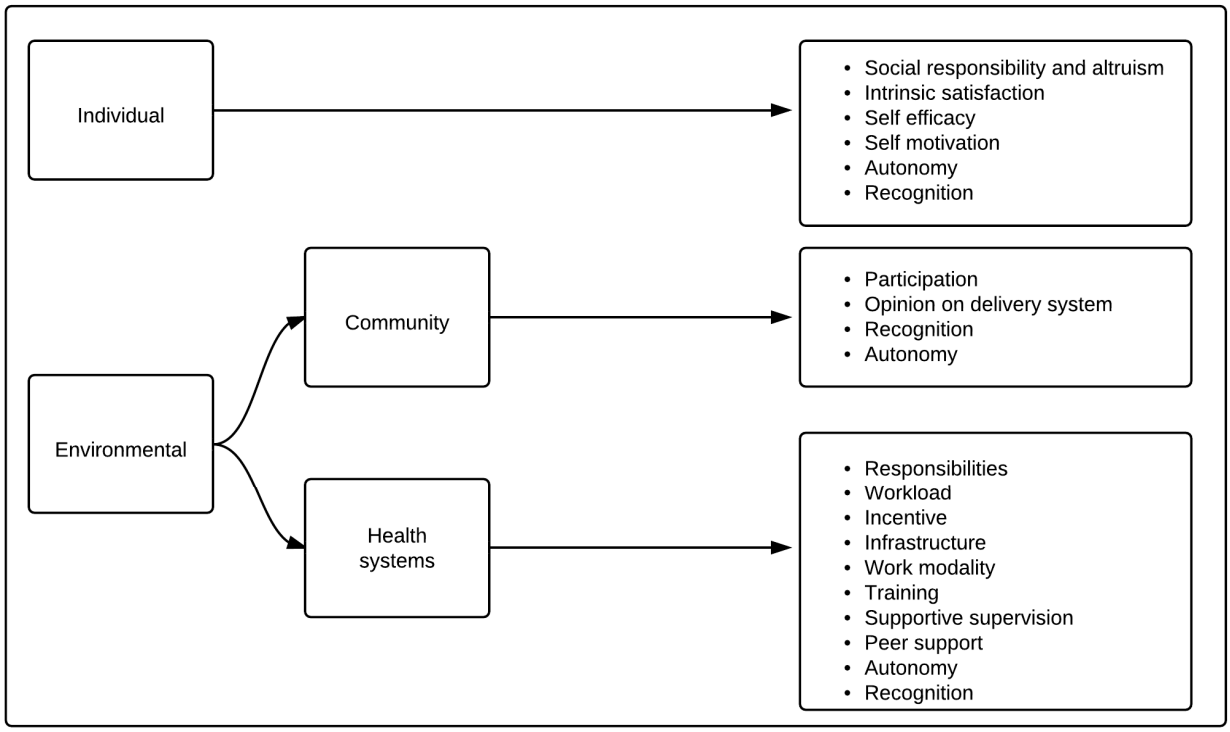
* Motivated if mean score >3

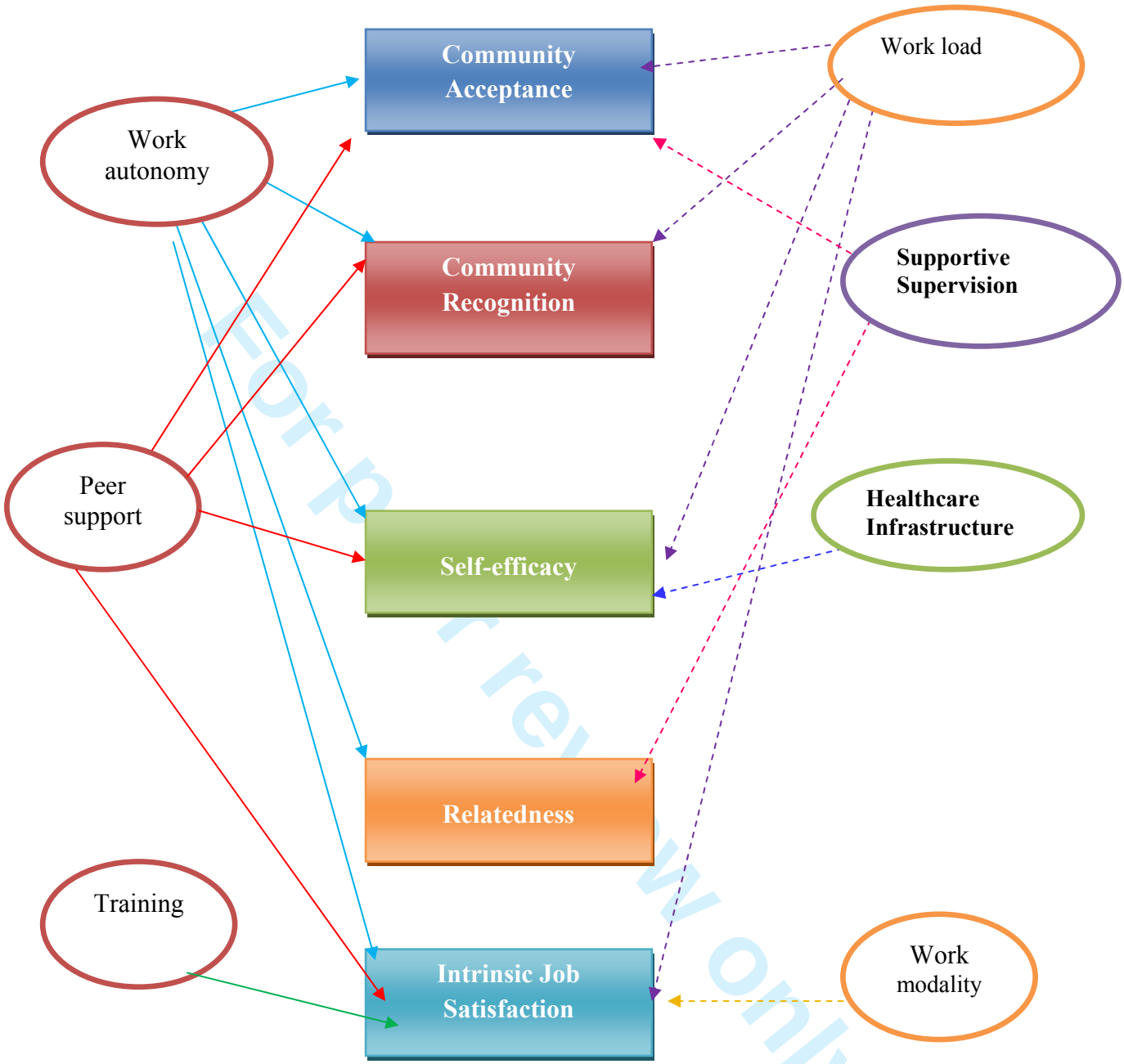
Table-3

Influence of the healthcare delivery system on the CHWs' performance motivation

Dependent variable	Independent Variable	Coefficient	Std. Error	P	95% CI	R2
Community Participation	Work load	-0.065	0.028	<0.05	-0.12 - -0.01	0.069
	Work autonomy	0.062	0.026	<0.01	0.01-0.11	
	Peer Support	0.139	0.049	<0.001	0.04-0.24	
Community Recognition	Work load	-0.215	0.077	<0.001	-0.37- -0.06	0.223
	Work Autonomy	0.165	0.039	<0.001	0.08-0.24	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
	Supportive Supervision	-0.19	0.096	<0.05	-0.38- -0.00	
Social Prestige	Work Autonomy	0.153	0.032	<0.001	0.09-0.22	0.124
Self-efficacy	workload	-0.204	0.082	<0.01	-0.37- 0.04	0.436
	Work Autonomy	0.185	0.042	<0.001	0.10-0.27	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
Relatedness	Work autonomy	0.238	0.036	<0.001	0.17-0.31	0.276
Intrinsic Job Satisfaction	Workload	-0.097	0.039	<0.01	-0.18--0.02	0.510
	Work autonomy	0.215	0.020	<0.001	0.17-0.25	
	Healthcare Infrastructure	-0.145	0.049	<0.001	-0.24- -0.05	
	Work modality	-0.063	0.030	<0.05	-0.12- 0.05	
	Training	0.327	0.038	<0.001	0.25-0.40	
	Supportive Supervision	-0.229	0.079	<0.001	-0.38- -0.07	
	Peer Support	0.131	0.045	<0.001	0.04-0.22	







(Solid arrows indicate enabling relationship and dotted arrows indicate deterring relationship)

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Journal:	*BMJ Open*
Manuscript ID:	bmjopen-2012-001557.R2
Article Type:	Research
Date Submitted by the Author:	13-Aug-2012
Complete List of Authors:	Gopalan, Saji Mohanty, Satya; D-COR Consulting, Das, Ashis; The World Bank,
Primary Subject Heading:	Health policy
Secondary Subject Heading:	Health services research, Global health, Public health, Health policy, Evidence based practice
Keywords:	HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Human resource management < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Saji S Gopalan, Satyanarayan Mohanty, Ashis Das

Abstract

Objective: This paper examined the performance motivation of the community health workers (CHWs) and its determinants on India's Accredited Social Health Activist (ASHA) program.

Design: Cross-sectional study employing mixed-methods approach involved survey and focus group discussions

Setting: the State of Orissa

Participants: 386 CHWs representing 10% of the total CHWs in the chosen districts and from settings selected through a multi-stage stratified sampling.

Primary and secondary outcome measures: The level of performance motivation among the CHWs, its determinants and their current status as per the perceptions of the CHWs.

Results: The level of performance motivation was the highest for the *individual* and the *community level* factors (mean score 5.94- 4.06), while the *health system* factors scored the least (2.70-3.279). Those ASHAs who felt having more community and system level recognition also had higher *levels of earning* as CHWs (p=0.040, 95% CI 0.06-0.12), a *sense of social responsibility* (p=0.0005, 95% CI 0.12-0.25), and a feeling of *self-efficacy* (p=0.000, 95% CI 0.38-0.54) on their responsibilities. There was no association established between their level of dissatisfaction on the incentives (p=0.385) and the extent of motivation. The inadequate healthcare delivery status and certain working modalities reduced their motivations. The gender

mainstreaming in the community health approach, especially on the demand-side and the community participation were the positive externalities of the CHW program.

Conclusion: The CHW program could motivate and empower the local lay women on community health largely. The desire to gain social recognition, a sense of social responsibility and self-efficacy motivated them to perform. The healthcare delivery system improvements might further motivate and enable them to gain the community trust. The CHW management needs amendments to ensure adequate supportive supervision, skill and knowledge enhancement and enabling working modalities.

Key words: community health workers, performance motivation, developing health systems, India

Article Summary

Article focus

- What is the current level of the performance motivation of the community health workers?
- What are the determinants of their performance motivation?
- What are the CHWs' perceptions and experiences on the current status of the factors affecting their performance motivation**?**

Key messages

- The community health workers (CHWs) are more motivated on the *individual* and the *community* level factors than the *health system* determinants.
- The qualitative findings also support the survey outcomes that the health care delivery status and the human resource management modalities for CHW are not satisfactory for them

- This study recommends that the CHW management needs changes to ensure adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

Strengths and limitations of the study

- This is a unique study exploring the performance motivation of the public sector community health workers (CHW) on one of the largest CHW programs in the world. The evidences on the CHWs' performance motivation and that of public sector CHW programs are limited. The unique application of the mixed-methods approach will enhance the generalizability of the study findings. It helped in finding the causality between the level of CHW's motivation and its each determinant along with an understanding of how and why a CHW is motivated or demotivated. The study discussions are centered on comparable global experiences for relevant policy changes.
- Among the study limitations, there could be a possibility of CHWs' responses complying with perceptions of what should be an acceptable answer. We did not assess the actual level of performance of the CHWs and its effectiveness from the community's or the supervisors' perspectives.

Key words: community health workers, performance motivation, developing health systems, India

Introduction

Globally, the intermediation of community health workers (CHW) in healthcare delivery is widening as they are inevitable to meet the universal healthcare provision and the millennium development goals.[1] The term 'community health worker' encompasses a wide variety of local healthcare providers ranging from the nurse-midwives to the home-based care givers and the

salaried-staffs to the volunteers.[2] The CHWs enable access to and utilization of health services, and inculcate healthy behaviors among the communities.[3]They are preponderantly deployed to cater to the under-utilized services, the unmet health behaviors, and the under-served populations.[3] The CHW's contributions to disease control, immunization, and family planning programs are already established.[4]In the public sector, though the CHWs are primarily link-workers or motivators, yet they do undertake curative services for malaria, tuberculosis, and elderly care.[3]The spectrum of the CHW programs varies across countries on their objectives, rollout, and management. Their larger penetration and sustainability are more observed with the public sector.[5] Having identified the potential of women in community mediation, predominantly females constitute CHWs universally.[2]

Rationale

The existing literature on the CHWs' performance motivation and its determinants are scanty. Similar to any other health cadre, the performance of the CHWs depends on their job satisfaction derived from certain intrinsic and extrinsic motivators.[6] However, the yardstick for their performance motivation assessment should be different from usual health staffs particularly on three grounds; 1) many CHWs are volunteers and not salaried staff, 2) they are lay workers without prior trainings on community health and 3) CHWs constitute the outreach workforce directly linking the community with the formal healthcare.[7] Further, the approach to assess the public sector CHWs' work motivation could be different from the private sector since they are more integrated with the formal healthcare system and have wider responsibilities. The existing few studies from Kenya, Vietnam, Bangladesh, Taiwan etc. have largely catered to the latter or omitted a 'mixed -methods approach' by mostly employing the qualitative tools.[8-12]This paper explores one of the largest public sector community health worker initiatives in the world,

namely the Accredited Social Health Activist (ASHA) program in India. This study had three objectives; 1) assessing the current level of performance motivation among the ASHAs 2) understanding the factors affecting their level of motivation 3) their perceptions and experiences on the current status of the motivational determinants.

ASHA Program: an overview

The ASHA is a female volunteer selected by the community, deployed in her own village (one in every 1000 population) after a short training on community health.[13] She is preferred to be between 25 and 45 years old, with a minimum formal education of eight years and demonstrable leadership qualities.[13]ASHAs are not salaried and belong to voluntary cadre of health staffs as they get fixed activity-based incentives. Started in 2006, currently the ASHA program has spread across the country with 820,000 women trained and deployed.[14] Their responsibilities range from health education to diagnosis of health conditions (Figure-1). Each state oversees the program confining to the guidelines of the National Rural Health Mission (NRHM).

Methods

Conceptual Framework

The concept of 'performance motivation' is complex and can be defined contextually. The study defined it as the CHW's degree of interest and willingness to undertake and improve upon an allotted responsibility towards community health.[8] We used a customized framework adapted from the existing literatures.[8-12,15-16] The motivation factors were broadly classified into *Individual* and *Environmental.* The latter was further divided into *Health system* and *Community level* factors (Figure 2). Further, 16 parameters were considered (identified from the literature and self-validated by the CHWs through group discussions) together under the above broad classifications i.e. *Individual, Health System* and *Community levels* (Table2).

Assessment tools

This cross-sectional study conducted during 2010 employed a mixed-methods approach i.e. a combination of qualitative and quantitative techniques. It employed both survey and focus groups discussions among the CHWs. The survey tool constituted 16 parameters and under each a set of questions explored their level of motivation on a Likert Scale of 1 (strongly disagree) to 5 (strongly agree). The construct of the questions were balanced with both positive and negative directions to prevent similar responses. The composite score of all questions decided the level of motivation under each parameter. A CHW was considered as motivated on a particular parameter if her mean score was above three. At the *health system level*, the exploration was on the organization and management of the healthcare delivery system (e.g. availability of services and commodities, incentives, monitoring and training of CHWs, interaction with supervisors, peers and grass roots NGOs). The *community level* parameters consisted of community response, recognition of CHW, and participation in activities. At the *individual level*, abilities, inducements to perform, job satisfaction, family support etc. were explored. The FGDs explored the CHWs' current experiences and perceptions on the factors affecting their performance motivation. Their suggestions to improve upon the existing situations were also probed.

Sampling and recruitment

The study settings were selected through a multi-stage stratified sampling. First, Orissa was selected randomly among the high-focus states of NRHM. Then, the districts of *Angul* and *Mayurbhanj* were selected representing the state based on its administrative division. Finally, 25% of the rural administrative blocks from each district were randomly selected.

The survey purposively targeted 10% (n=434) of the existing number of ASHAs (n=4342) together from both the districts.[7] Thus, it planned to interview 55 ASHAs from each of the eight

rural administrative blocks. However, only 386 ASHAs could be interviewed considering their availability and willingness during the study period. Each survey on an average took about 30 to45 minutes.

There were 11 FGDs for 78 CHWs and each constituted 7-10 participants. There were mixed groups of ASHAs from different socio-economic and demographic backgrounds. Each FGD took between 45 and 60 minutes and interviews were conducted till the data saturation. An FGD guide with broad themes and specific probes directed the discussions. The FGDs were conducted first, followed by the survey.

The local women's groups mobilized the CHWs for the surveys and the FGDs. The interviews were conducted in the local language Oriya. The participants were informed about this study through local village leaders and women's groups a week prior to the study. A written informed consent was obtained from each CHW after explaining the study objectives and the intended use of the information. The participation was completely voluntary and the respondents had the choice of not answering any question or withdrawal from the study at any time. The confidentiality of the participants was maintained throughout the study. The interviews were conducted at a convenient location and refreshments were provided to the participants. In each district, the survey and the FGDs were performed by five locally based researchers, who are social science bachelors. The entire data collection process took three months. A pre-designed protocol guided the conduct of the data collection and further, it was supervised by one of the co-authors. We could not initiate for ethical approval as there was no such specific entity in the state providing ethical approval on this kind of research.

Data analysis

The quantitative information were analyzed through the STATA. Linear and multivariate regression tests explored the association between the level of performance motivation and the predictors at different levels along with the CHWs' background characteristics. The qualitative data were transcribed verbatim and translated to English by the researchers themselves who conducted the interviews. These translations were verified by the co-authors who are proficient in the local language. The translated transcripts were coded and analyzed through the NVivo. The analysis was both inductive and deductive and relevant themes were indexed under the *individual*, health *system* and *community level* aspects. They were further classified as the enabling and the demotivating factors for the CHW's performance. The qualitative findings were triangulated with the survey findings confining to the conceptual framework of the study.

Results

The survey consisted of 386 CHWs (Table 1), of which majority were the below poverty line (71%), married (70.47%) and scheduled tribes (36%). Most of them had eight years of formal education (85.75%), experience of two to five years as CHW (82.9%). The majority had undergone minimum five trainings (73.06%), earned US$22.24 to 33.33 per month as a CHW (83.16%). Further, most of them did not have any other personal sources of earning (91.97%).

Level of performance motivation among the CHWs

The level of motivation was the highest on the *intrinsic job satisfaction* on various job related achievements (mean 4.30; 68.4% of CHWs). The self-efficacy or the perceived abilities on job scored a mean score of 4.27 (69.7%). The nature of the job responsibilities positioned the third with a mean score of 4.18 (66.3%), followed by the *social responsibility and altruism* (4.12;

66.1%). The mean scores were 4.07 for the self-motivation (84.7%), 4.06 for the *community participation* in activities (63.2%) and 4.04 for the *peer support* (77.2%).

The degree of motivation was the least on the *community opinion on the healthcare delivery system* (2.7; 1%), followed by their satisfaction on the *level of healthcare infrastructure* (2.83; 6.7%). The ASHAs were also less motivated on their *work load* (2.96; 8.8%). They had a moderate level of motivation (mean 3-4) on enjoying the *autonomy* to move, express opinions and execute the responsibilities (3.96; 60.4%). The *recognition* from the community, family and health system scored moderately (3.96; 55.4%). The *training* (3.78; 72.8%), the type of *supportive supervision* received (3.28; 12.2%), the *work modality* (3.18; 17.6%), and the *incentive*s (3.07; 16.6%) also scored a moderate mean.

A large proportion of the ASHAs (n=327; 84.72 %) were *self-motivated.* If we look at the individual scores for each parameter, the question on community acceptance i.e. *"the community accepts my activities as I intend to"* secured the highest mean score at 4.64 (n=366). Secondly, a self-efficacy related question on "*I can always manage to solve difficult problems if I try hard enough" scored* at 4.58 (n=350). Further, The probe on the *intrinsic job satisfaction (I am satisfied that I accomplish something worthwhile in this job)* received a mean score of 4.54 (n=336).

As per the Cronbach's alpha test, the internal consistency of the scale was adequate. The consistency co-efficient was 0.78, 0.79 and 0.84 for the *community, the health system* and the *individual* scales respectively.

Determinants of the level of performance motivation

The ASHA's *earning* as a CHW ($p<0.05$, 95% CI 0.06-0.12), *sense of social responsibility and altruism* ($p<0.01$, 95% CI 0.12-0.25), and feeling of *self-efficacy* ($p<0.01$, 95% CI 0.38-0.54) in

undertaking responsibilities influenced her *recognition* at the health system, community and family (not mentioned in the tables). Other socio-economic characteristics were not significant in this regard.

How does the healthcare delivery system impact the CHW's level of motivation?

We explored how significantly the level of motivation on the *health system* factors influenced their motivation at the *individual and* the *community* levels. This exploration was prompted by the fact that the CHWs were more demotivated on the status of the former (Table 2 & figure3). The *peer support* induced for a higher level of satisfaction on the *community participation*, *recognition, self-efficacy* and *intrinsic job satisfaction.* On the contrary, the dissatisfaction on the *workload* also led to a higher level of dissatisfaction on the above aspects. The dissatisfied CHWs *on the supportive supervision* had reported a lesser *community recognition* and *intrinsic job satisfaction.* The demotivation on *the work modality* and the *healthcare infrastructure* were positively related to a lesser *intrinsic job satisfaction*. Their perceptions on the *incentives* did not affect the level of motivation on any of the *community, individual* or *health system* parameters.

The prevailing scenario of the factors affecting the performance motivations: experiences of the ASHAs

The enabling factors

The better use of time (91%), lack of alternative job opportunities (76%), and a sense of social responsibility (68%) were the reasons to become a CHW and everyone wanted to continue as ASHA. They considered *performance motivation* as an encouragement (45%) or something which makes their performance better (62%). Their prior involvement in the women's groups improved their sense of altruism. Working with the community as CHW and empowering them,

especially women, inspired many. They felt women to be more receptive to their health advices and engage in community activities compared to men.

"*We have more support from our Didis and women's groups are now more enthusiastic and capable in community activities. Our social cohesion is improving further."* [CHW, #4]

Supporting the survey data, many reported enhancement in their family and social status, and personal autonomy attributing to the role of CHW. They felt empowered through the acquisition of knowledge and skills on community health through training, designated stature in the community, and the personal autonomy to work. The peer support and the healthy competition among the ASHAs seemed to have enhanced their enthusiasm to perform well and achieve progressive community health. They enjoyed the job autonomy to perform the designated duties.

"Now I have a say in my neighborhood. I am being invited to sit in the community meetings and I represent my village in the health center meetings." [CHW# 28]

"*We meet during trainings and meetings and share a lot with each other. Since we have the same kind of work, learning from each other has increased our problem-solving skills."* [CHW # 41]

The demotivating factors

On the contrary, the CHWs had certain dissatisfactions on the health system aspects limiting their performance motivation at the *individual* and the *community levels*. The excessive workload, frequent refresher trainings and meetings at the health centers and travel to remote habitations took away their personal time. They sometimes felt having limited autonomy at work to perform their social responsibilities beyond the specified guidelines. The CHWs solicited their active involvement in the planning of service delivery to incorporate community felt needs, as often they were given only the options to deliver services than planning.

"Very often what the program wants and people want from me are different. I feel whatever issues I raise on behalf of the community during the health center meetings are not addressed timely" [CHW# 74]

Many posed concern on the community's lack of trust on the public healthcare system. There were instances of care seeking from the private informal providers, despite the availability of drugs with the CHWs. This community behavior was built on the instances of them not getting drugs from the CHWs due to unavailability. Their activities were limited by the frequent stock-out of drugs and commodities and the communication gap at different levels of their supervision. They also reported to have an inadequate level of knowledge, skills and supportive supervision to perform optimally. Their performances were monitored through the self-recording of activities, supplemented with random visits by the multi-purpose female health workers and other supervisors. They found it difficult to monitor the community health through surveys as it was time consuming and tricky to record, with their low level of education. Most of them expected to have routine supportive supervision of their activities and the grass-roots level organizations' cooperation to enable improved performances.

"We would like to have an integrated approach with the women's group, the NGOs and the village health committee to share and solve local issues." [CHW# 13]

"Often, I communicate timely on drug stock outs to sub-center, but the primary health centers tell that they are not aware of this. I feel my concerns and issues are not spelled out at the higher level properly, though I share everything with my supervisors. I am also not given timely instruction on my roles on many activities" [CHW #53]

They demanded for more flexibility in organizing the meetings at convenient locations and time to give more time for the community and the personal life. Though the CHWs received

honorarium for trainings and meetings, but they did not prefer frequently attending. They were confident to execute the responsibilities, still desired knowledge and skill enhancements to convince the community and gain the community acceptance. They seemed to be less confident on the curative skills and urged for more system thrust and training in this regard.

"I want to be with the community more than the meetings. We wait for longer time, even for four hours at the health centers for a one hour meeting' '[CHW# 29]

Some of them were disgruntled on the level of the monetary and the non-monetary incentives received, yet they did not want to under-perform. The ASHAs often had to expend on mother's consumables and spare on an average 30 hours on escorting mothers on child birth. However, that they receive was lesser considering their actual spending and the time cost. The CHWs denied having any opportunity for informal payments, but admitted to have received occasional incentives for escorting mothers without actually doing so.

"*I often spend out-of-pocket on mother's consumables at hospitals and what I receive is quite less in return. Still, I want to support the mothers as I feel they are like my sisters and I am obliged to support them."* [CHW#69].**Discussion**

What prompts the CHWs to perform and its externalities on the community health?

The rural women consider becoming a CHW as a magnificent opportunity to empower themselves socially, personally and financially.[16] Empowering rural women as CHWs, who do not have alternate job opportunities can be a replicable and sustainable model on community health management.[17] In this study, the level of motivation was directly related to self-efficacy, yet socio-economic status did not influence the latter. This implies that with proper selection, orientation and training, the lay women can be organized for community health activities.[18-21]

They displayed a strong commitment towards empowering women as women were more receptive to their advices. The higher level of health awareness and adherence to healthy practices among women compared to men might justify this village level social network among women.[22]

The identity with the government motivated them to be a bridge between the community and the public healthcare system. This will be relevant for those countries trying to reduce the poor people's dependency on the private sector.[1] The peer support and the cross-learning from peers were potential ways of inspiration, apart from the support of many community-based organizations. The involvement of locally based NGOs and CBOs needs to be promoted to empower and support the CHWs.[23] However, the NGOs need to be a complimentary mechanism and should not undermine the CHWs' efficiency as health workers.[24]

Above all, a sense of intrinsic motivation was the underlying factor for the CHWs' performance. For instance, their urge for community interactions prevented them from attending the meetings and trainings, despite the scope of receiving honoraria in such events. The local cultural traits of solidarity, hospitality, and lending social support lifted their enthusiasm.[25] These behavioral traits could be exploited positively with lending more public recognition to the CHWs. The events of 'public honoring', involvement in public meetings, and appreciation in group meetings of the CHWs would be an impetus for their social commitment. Kenya also reported on CHWs' strong preference for community acceptance compared to supervisor's recognition.[5]

In this study, the CHWs' dissatisfaction on remuneration was not associated their level of earning. This implies that remuneration through incentivizing each activity seems to have motivated performance despite their feeling of under-remunerated. Yet, care should be taken to ensure that the CHWs perform equally on all the responsibilities despite the incentives vary on

each responsibility. Further, they are remunerated adequately considering the time cost and the market rate.

What discourages the CHWs and the consequences?

The study found a strong nexus between the health care delivery system's status and the CHW's level of performance motivation. As demonstrated in similar settings, resource constraints such as limited transportation to escort mothers and stock outs of commodities hindered the community's trust on them.[26] The communication gap among different actors led to the delay in receiving the stocks and non-clarity on the responsibilities among CHWs. This weak supportive system to CHWs concerns many other countries also as it might lead to the exclusion of the poorest of the poor from appropriate health services.[1]

The CHWs demanded for a regular supportive supervision and streamlining of responsibilities. However, in resource-constraint settings, identifying and training more experienced volunteers for CHW's supervision will be a challenge. This concern should be addressed through leveraging some of the grass-roots level public health managers or NGOs in a systematic manner. More involvement of grass-roots entities like women's groups could inculcate a sense of collective accountability and learning. Nigeria reported village health committee (VHC) supporting CHWs.[27]Since India's VHCs are still evolving, CHW's monitoring can be designed as one of its roles in the future.[19]

The CHWs' increasing work load with more and more community based health programs produced a feeling of 'over-burdened.' Without proper orientation, the monitoring of many community health initiatives, especially surveys will be difficult for them, considering their low level of formal education.[28-29] Though the current pattern of incentivizing does not appear to bring in less performance, India could experiment with preferential treatment on social securities

and public privileges to the CHWs and their households as demonstrated in Guatemala and Nepal.[27]

In India, the ASHAs are more indentified as 'link-workers' or facilitators for appropriate care and the community has less acceptance for their curative role.[7] The CHWs are less confident on their curative care skills and the supply constraints induce the community's non-confidence on them.[30-32]In the future, the CHWs' could be leveraged intensively on the diagnosis of health conditions to promote a comprehensive community health management approach. This will be relevant for elderly care and settings with increasing chronic disease burden to offer a cost-effective care.[19,33-35]

Strengths and limitations of the study

We employed a mixed-methods approach and it helped us in two ways. First, to understand the the extent of causality between the CHW's level of motivation and each of its determinant. Secondly, to assess how, why and under what condition a CHW is motivated or demotivated. The study depended on a 'relativist' approach to trigger the policy processes on streamlining the motivating factors for the CHW's performance motivation. Further, the FGD responses were used to verify the survey responses and thereby enhance the generalizability of the study outcomes. There could be a possibility of the CHWs' responses complying with the perceptions of what should be an acceptable answer. We did not assess the actual level of performance of the CHWs and its effectiveness from the community's or supervisors' perspectives. Despite this, these study revelations on the CHW program add to the rare global evidence base for relevant policy changes, specifically on the CHW management and the retention.

Conclusion

The CHW program could motivate and empower the local lay women on the community health largely. The desire to gain social recognition, a sense of social responsibility and self-efficacy enhances their motivation. Linking the incentive directly with each activity ensures performances of the CHWs. The healthcare delivery system improvements might further enhance their motivation and enable them to gain the community trust. The CHW management needs to change with adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

Competing Interests Statement

The authors declare that they do not have any competing interests.

Funding Statement

This research received no specific funding.

Contributorship Statement

All authors took part in the conceptualization, design of tools and writing of manuscript.SSG analyzed the data and wrote the first draft of the manuscript. SNM enabled the data collection. All authors read and approved the final version.

Data Sharing Statement

We declare that all the raw data are available with the primary authors on the published information for public sharing.

References

1. World Health Organization. Health Systems Financing -the path to universal coverage. *World Health Report* 2010. Geneva.
2. Lehmann U, Sanders D. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs an impact on health outcomes of using community health workers. *The World Health Organization* 2007. Geneva.
3. Lewin S, Munabi-Babigumira S, Glenton C et al. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *Cochrane Database of Systematic Reviews* 2010 (3). Art. No.: CD004015.
4. Shrestha R, Baral K and Weir N. Community ear care delivery by community ear assistants and volunteers: a pilot programme. *The Journal of Laryngology and Otology* 2003; 115: 869-73.
5. Lewin SA, Dick J, Pond P, et al. Lay health workers in primary and community health care. *Cochrane Database of Systematic Reviews* 2005; (1). Art. No.: CD004015.
6. Glenton C, Inger BS, Pradhan S, et al. The female community health volunteer programme in Nepal: Decision makers' perceptions of volunteerism, payment and other incentives. *Social Science & Medicine* 2010;70: 1920-1927.
7. Government of India. ASHA the way forward: evaluation of ASHA program. *The National Health System Resource Center* 2011. NRHM. New Delhi.

8. DielemanM, Cuong PV, Anh LV, et al. Identifying factors for job motivation of rural health workers in North VietNam. Human Resources for Health 2003, 1:10.

9. Mbindyo P, Gilson L, Blaauw D, et al. Contextual influences on health worker motivation in district hospitals in Keny**a.** *Implementation Science* 2009, **4**:43 doi:10.1186/1748-5908-4-43.

10. Darmstadt GL, Baqui AH, Choi Y, et al. Validation of community health workers' assessment of neonatal illness in rural Bangladesh. *Bull World Health Organ.* 2009 Jan, **87**(1):12

11. Rahman SM, Ali NA, Jennings L, et al. Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Human Resources for Health* 2010, **8**:12 http://www.human-resources-health.com/content/8/1/12

12. Li I-C, Lin M-C,Chen C-M. Relationship Between Personality Traits, Job Satisfaction, and Job Involvement Among Taiwanese Community Health Volunteers. *Public Health Nursing* 2007; 24 (3):274–282.

13. Government of India. Accredited Social Health Activist (ASHA) Guidelines, *National Rural Health Mission,* Ministry of Health and Family Welfare 2005. New Delhi.

14. Government of India. Annual report: 2009-10. *Ministry of Health and Family Welfare* 2010. New Delhi, Available from: http://mohfw.nic.in/Health%20English%20Report.pdf

15. Manongi RN, Marchant TC, Bygbjerg IBC. Improving motivation among primary health care workers in Tanzania: a health worker perspective**.** *Human Resources for Health* 2006, **4**:6 doi:10.1186/1478-4491-4-6

16. Willis-Shattuck M, Bidwell P, Thomas S, et al.Motivation and retention of health workers in developing countries: a systematic review**.** *BMC Health Serv Res* 2008, 8:247

17. Willis-Shattuck M, Bidwell P, Thomas S, et al.Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Serv Res* 8:247.

18. Scott K, Shanker S. Tying their hands? Institutional obstacles to the success of the ASHA community health worker programme in rural north India. AIDS Care 2010; 22(2):1606-12.

19. Kane SS, Gerretsen B, Scherpbier R, et al. A realist synthesis of randomised control trials involving use of community health workers for delivering child health interventions in low and middle income countries. BMC Health Serv Res 2010;10:286.

20. Daniels K, Van Zyl H H, Clarke M, et al. Ear to the ground: listening to farm dwellers talk about the experience of becoming lay health workers. Health Policy 2005;73(1):92-103.

21. George A.Nurses, community health workers, and home carers: gendered human resources compensating for skewed health systems. Glob Public Health 2008;3 (1):75-89.

22. Gopalan SS. Report on Health equity. *Government of Orissa*, *DoHFW 2009;* Bhubaneswar.

23. Gray HH, Ciroma J Reducing attrition among village health workers in rural Nigeria. *Socio-Economic Planning Sciences 1988;* 22:39.

24. Kironde S, Klaasen S. What motivates lay volunteers in high burden but resource-limited tuberculosis control programmes? Perceptions from the Northern Cape province, South Africa. *The International Journal of Tuberculosis and Lung Disease 2002;* 6:104.

25. Robinson SA, Larsen DE. The relative influence of the community and the health system on work performance: a case study of community health workers in Colombia. *Social Science & Medicine 1990;* 30:1041.

26. Baker B, Benton D, Friedman E, et al. Systems support for task shifting to community health workers. *The Global Health Alliance* 2007; Geneva.

27. Bhattacharya K, Winch P, LeBan K, et al. Community Health Worker Incentives and Disincentives: How they affect motivation, retention and sustainability. B*asics II* 2001. USA.

28. Abbatt F. Scaling up health and education workers: Community health workers: A literature review. London: *DFID Health Systems Resource Centre* 2005. London.

29. Henderson L, Tulloch J. Incentives for retaining and motivating health workers in Pacific and Asian countries**.** *Human Resources for Health* 2008, 6:18.

30. Wendy Gidman W, Ward P, McGregor L. Understanding public trust in services provided by community pharmacists relative to those provided by general practitioners: a qualitative study. BMJ Open 2012 2:e000939; doi:10.1136/bmjopen-2012-000939.

31. Nyanzi S, Manneh H, Walraven G. Traditional birth attendants in rural Gambia: beyond health to social cohesion**.** *Afr J Reprod Health* 2007, 11:43-56.

32. Khan SH, Chowdhury AM, Karim F, et al. Training and retaining Shasthyo Shebika: reasons for turnover of community health workers in Bangladesh**.** *Health Care Superv* 1998; 17:37-47.

33. PalmasW, Teresi JA, FindleyS, et al. Protocol for the Northern Manhattan Diabetes Community Outreach Project. A randomised trial of a community health worker intervention to improve diiabetes care in Hispanic adults. BMJ Open 2012;2:e001051. doi:10.1136/bmjopen-2012-001051.

34. Macinko J, De Fátima Marinho de Souza M, Guanais F C, et al. Going to scale with community-based primary care: an analysis of the family health program and infant mortality in Brazil, 1999e2004. *Social Science & Medicine 2007;* 65(10).

35. Robert J Blendon RJ, Benson JM, Botta MD, et al. A four-country survey of public attitudes towards restricting healthcare costs by limiting the use of high-cost medical interventions. BMJ Open 2012 2:e001087; doi:10.1136/bmjopen-2012-001087.

Figure 1: The responsibilities of the ASHA

Figure 2: The CHW's performance motivation assessment framework

Figure3: The healthcare delivery system vis-à-vis the CHWs' performance motivation

Table 1

Background characteristics of the CHWs

Characteristics	% (n/386)
Age (years)	
25-30	45.60 (176)
31-35	32.64 (126)
36-40	17.88 (69)
>41	3.88 (15)
Education (years)	
5-7	14.25 (55)
8-10	85.75 (331)
Marital Status	
Married	70.47 (272)
Widowed	17.88 (69)
Separated	3.88 (15)
Unmarried	4.92 (19)
Divorced	2.85 (11)
Poverty Status	
Below poverty line	70.98 (274)
Above poverty line	29.02 (112)
Monthly household Income in INR (US$)	
1000-2000 (22.21-44.44)	21.51 (83)
2001-3000 (44.46-66.65)	43.26 (167)
>3000 (66.67)	35.23 (136)
Caste	
Scheduled Caste*	29.02 (112)

Scheduled Tribe*	36.01 (139)
Others	34.97 (135)
Monthly earning as CHW in INR (US$)	
<500 (11.13)	2.07 (8)
500-1000 (11.13-22.21)	14.77 (57)
1001-1500 (22.24-33.33)	83.16 (321)
Sources of earning	
Only as CHW	91.97 (355)
Other sources	8.03 (31)
Years of experience as ASHA	
<2	17.10 (66)
2-5	82.90 (320)
Number of trainings undergone	
<5	73.06 (282)
6-10	26.94 (104)

**Scheduled caste and tribe are communities that receive special privileges from the Government of India based on relatively weaker socio-economic status*

Table-2

The level of performance motivation among the CHWs (N=386)

Variable	Mean	95% CI	Motivated* n (%)
Health system level			
Nature of Responsibilities: *level of interest in the responsibilities and confidence to execute them*	4.18	4.09-4.27	256 (66.3)
Workload: *time to complete daily tasks, able to spend time with family and flexibility in work schedule*	2.96	2.90-3.02	34 (8.8)
Incentive: *adequacy of financial and non-financial incentives and their pattern of payment*	3.07	2.97-3.17	64 (16.6)
Healthcare Infrastructure: *satisfaction on the quality of existing infrastructure, communication options and commodities*	2.83	2.78-2.89	26 (6.7)
Work Modality: *satisfaction on hierarchy, participatory approach, recording and reporting*	3.18	3.13-3.24	68(17.6)
Training: *level of knowledge and skills imparted through trainings, and timing and organization of training*	3.78	3.72-3.85	281 (72.8)
Supportive Supervision: *help, monitoring, and supervision to execute responsibilities and solve issues*	3.28	3.23 -3.32	47 (12.2)
Peer support: *moral support, advice and learning from peers*	4.04	3.95-4.14	298 (77.2)
Community level			
Community Participation: *level of community's interest, acceptance and participation in activities*	4.05	3.96-4.16	244 (63.2)
Community Opinion on public healthcare System: *on quality of care, availability of healthcare and community programs*	2.70	2.65-2.75	4 (1.0)
Individual level			
Social responsibility and altruism: *interest in social work when*	4.12	4.04-4.20	255 (66.1)

existing social norms adversely impact community health, and sense of social responsibility			
Intrinsic Job Satisfaction: *chance for better use of abilities and time, feeling of accomplishment, awards, career enhancement, advancement in employability, knowledge, communication skills, managerial skills, and overall happiness being on job*	4.30	4.24-4.36	264 (68.4)
Self-efficacy: *able to handle tough situations, solve problems, feel emotionally and physically perfect on work*	4.27	4.20-4.33	269 (69.7)
Self-motivation: *working with a sense that the job is important and is not for avoiding blame from others and gaining money alone*	4.07	4.05-4.10	327(84.7)
Individual + community + health system level			
Recognition: *acceptance of CHWs' performance, its value, and talents by family, community and system*	3.96	3.90-4.02	214 (55.4)
Autonomy: *freedom to move in the community, express opinion and execute responsibilities*	3.96	3.90- 4.02	233 (60.4)

* Motivated if mean score >3

Table-3

Influence of the healthcare delivery system on the CHWs' performance motivation

Dependent variable	Independent Variable	Coefficient	Std. Error	P	95% CI	R2
Community Participation	Work load	-0.065	0.028	<0.05	-0.12 - -0.01	0.069
	Work autonomy	0.062	0.026	<0.01	0.01-0.11	
	Peer Support	0.139	0.049	<0.001	0.04-0.24	
Community Recognition	Work load	-0.215	0.077	<0.001	-0.37- -0.06	0.223
	Work Autonomy	0.165	0.039	<0.001	0.08-0.24	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
	Supportive Supervision	-0.19	0.096	<0.05	-0.38- -0.00	
Social Prestige	Work Autonomy	0.153	0.032	<0.001	0.09-0.22	0.124
Self-efficacy	workload	-0.204	0.082	<0.01	-0.37- 0.04	0.436
	Work Autonomy	0.185	0.042	<0.001	0.10-0.27	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
Relatedness	Work autonomy	0.238	0.036	<0.001	0.17-0.31	0.276
Intrinsic Job Satisfaction	Workload	-0.097	0.039	<0.01	-0.18--0.02	0.510
	Work autonomy	0.215	0.020	<0.001	0.17-0.25	
	Healthcare Infrastructure	-0.145	0.049	<0.001	-0.24- -0.05	
	Work modality	-0.063	0.030	<0.05	-0.12- 0.05	
	Training	0.327	0.038	<0.001	0.25-0.40	
	Supportive Supervision	-0.229	0.079	<0.001	-0.38- -0.07	
	Peer Support	0.131	0.045	<0.001	0.04-0.22	

Assessing community health workers' performance motivation: a mixed-methods approach on India's Accredited Social Health Activists (ASHA) program

Saji S Gopalan, Satyanarayan Mohanty, Ashis Das

Abstract

Objective: This paper examined the performance motivation of the community health workers (CHWs) and its determinants on India's Accredited Social Health Activist (ASHA) program.

Design: Cross-sectional study employing mixed-methods approach involved survey and focus group discussions

Setting: the State of Orissa

Participants: 386 CHWs representing 10% of the total CHWs in the chosen districts and from settings selected through a multi-stage stratified sampling.

Primary and secondary outcome measures: The level of performance motivation among the CHWs, its determinants and their current status as per the perceptions of the CHWs.

Results: The level of performance motivation was the highest for the *individual* and the *community level* factors (mean score 5.94- 4.06), while the *health system* factors scored the least (2.70-3.279). Those ASHAs who felt having more community and system level recognition also had higher *levels of earning* as CHWs (p=0.040, 95% CI 0.06-0.12), a *sense of social responsibility* (p=0.0005, 95% CI 0.12-0.25), and a feeling of *self-efficacy* (p=0.000, 95% CI 0.38-0.54) on their responsibilities. There was no association established between their level of dissatisfaction on the incentives (p=0.385) and the extent of motivation. The inadequate healthcare delivery status and certain working modalities reduced their motivations. The gender

mainstreaming in the community health approach, especially on the demand-side and the community participation were the positive externalities of the CHW program.

Conclusion: The CHW program could motivate and empower the local lay women on community health largely. The desire to gain social recognition, a sense of social responsibility and self-efficacy motivated them to perform. The healthcare delivery system improvements might further motivate and enable them to gain the community trust. The CHW management needs amendments to ensure adequate supportive supervision, skill and knowledge enhancement and enabling working modalities.

Key words: community health workers, performance motivation, developing health systems, India

Article Summary

Article focus

- What is the current level of the performance motivation of the community health workers?
- What are the determinants of their performance motivation?
- What are the CHWs' perceptions and experiences on the current status of the factors affecting their performance motivation**?**

Key messages

- The community health workers (CHWs) are more motivated on the *individual* and the *community* level factors than the *health system* determinants.
- The qualitative findings also support the survey outcomes that the health care delivery status and the human resource management modalities for CHW are not satisfactory for them

- This study recommends that the CHW management needs changes to ensure adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

Strengths and limitations of the study

- This is a unique study exploring the performance motivation of the public sector community health workers (CHW) on one of the largest CHW programs in the world. The evidences on the CHWs' performance motivation and that of public sector CHW programs are limited. The unique application of the mixed-methods approach will enhance the generalizability of the study findings. It helped in finding the causality between the level of CHW's motivation and its each determinant along with an understanding of how and why a CHW is motivated or demotivated. The study discussions are centered on comparable global experiences for relevant policy changes.
- Among the study limitations, there could be a possibility of CHWs' responses complying with perceptions of what should be an acceptable answer. We did not assess the actual level of performance of the CHWs and its effectiveness from the community's or the supervisors' perspectives.

Key words: community health workers, performance motivation, developing health systems, India

Introduction

Globally, the intermediation of community health workers (CHW) in healthcare delivery is widening as they are inevitable to meet the universal healthcare provision and the millennium development goals.[1] The term 'community health worker' encompasses a wide variety of local healthcare providers ranging from the nurse-midwives to the home-based care givers and the

salaried-staffs to the volunteers.[2] The CHWs enable access to and utilization of health services, and inculcate healthy behaviors among the communities.[3]They are preponderantly deployed to cater to the under-utilized services, the unmet health behaviors, and the under-served populations.[3] The CHW's contributions to disease control, immunization, and family planning programs are already established.[4]In the public sector, though the CHWs are primarily link-workers or motivators, yet they do undertake curative services for malaria, tuberculosis, and elderly care.[3]The spectrum of the CHW programs varies across countries on their objectives, rollout, and management. Their larger penetration and sustainability are more observed with the public sector.[5] Having identified the potential of women in community mediation, predominantly females constitute CHWs universally.[2]

Rationale

The existing literature on the CHWs' performance motivation and its determinants are scanty. Similar to any other health cadre, the performance of the CHWs depends on their job satisfaction derived from certain intrinsic and extrinsic motivators.[6] However, the yardstick for their performance motivation assessment should be different from usual health staffs particularly on three grounds; 1) many CHWs are volunteers and not salaried staff, 2) they are lay workers without prior trainings on community health and 3) CHWs constitute the outreach workforce directly linking the community with the formal healthcare.[7] Further, the approach to assess the public sector CHWs' work motivation could be different from the private sector since they are more integrated with the formal healthcare system and have wider responsibilities. The existing few studies from Kenya, Vietnam, Bangladesh, Taiwan etc. have largely catered to the latter or omitted a 'mixed -methods approach' by mostly employing the qualitative tools.[8-12]This paper explores one of the largest public sector community health worker initiatives in the world,

namely the Accredited Social Health Activist (ASHA) program in India. This study had three objectives; 1) assessing the current level of performance motivation among the ASHAs 2) understanding the factors affecting their level of motivation 3) their perceptions and experiences on the current status of the motivational determinants.

ASHA Program: an overview

The ASHA is a female volunteer selected by the community, deployed in her own village (one in every 1000 population) after a short training on community health.[13] She is preferred to be between 25 and 45 years old, with a minimum formal education of eight years and demonstrable leadership qualities.[13]ASHAs are not salaried and belong to voluntary cadre of health staffs as they get fixed activity-based incentives. Started in 2006, currently the ASHA program has spread across the country with 820,000 women trained and deployed.[14] Their responsibilities range from health education to diagnosis of health conditions (Figure-1). Each state oversees the program confining to the guidelines of the National Rural Health Mission (NRHM).

Methods

Conceptual Framework

The concept of 'performance motivation' is complex and can be defined contextually. The study defined it as the CHW's degree of interest and willingness to undertake and improve upon an allotted responsibility towards community health.[8] We used a customized framework adapted from the existing literatures.[8-12,15-16] The motivation factors were broadly classified into *Individual* and *Environmental.* The latter was further divided into *Health system* and *Community level* factors (Figure 2). Further, 16 parameters were considered (identified from the literature and self-validated by the CHWs through group discussions) together under the above broad classifications i.e. *Individual, Health System* and *Community levels* (Table2).

Assessment tools

This cross-sectional study conducted during 2010 employed a mixed-methods approach i.e. a combination of qualitative and quantitative techniques. It employed both survey and focus groups discussions among the CHWs. The survey tool constituted 16 parameters and under each a set of questions explored their level of motivation on a Likert Scale of 1 (strongly disagree) to 5 (strongly agree). The construct of the questions were balanced with both positive and negative directions to prevent similar responses. The composite score of all questions decided the level of motivation under each parameter. A CHW was considered as motivated on a particular parameter if her mean score was above three. At the *health system level*, the exploration was on the organization and management of the healthcare delivery system (e.g. availability of services and commodities, incentives, monitoring and training of CHWs, interaction with supervisors, peers and grass roots NGOs). The *community level* parameters consisted of community response, recognition of CHW, and participation in activities. At the *individual level*, abilities, inducements to perform, job satisfaction, family support etc. were explored. The FGDs explored the CHWs' current experiences and perceptions on the factors affecting their performance motivation. Their suggestions to improve upon the existing situations were also probed.

Sampling and recruitment

The study settings were selected through a multi-stage stratified sampling. First, Orissa was selected randomly among the high-focus states of NRHM. Then, the districts of *Angul* and *Mayurbhanj* were selected representing the state based on its administrative division. Finally, 25% of the rural administrative blocks from each district were randomly selected.

The survey purposively targeted 10% (n=434) of the existing number of ASHAs (n=4342) together from both the districts.[7] Thus, it planned to interview 55 ASHAs from each of the eight

rural administrative blocks. However, only 386 ASHAs could be interviewed considering their availability and willingness during the study period. Each survey on an average took about 30 to45 minutes.

There were 11 FGDs for 78 CHWs and each constituted 7-10 participants. There were mixed groups of ASHAs from different socio-economic and demographic backgrounds. Each FGD took between 45 and 60 minutes and interviews were conducted till the data saturation. An FGD guide with broad themes and specific probes directed the discussions. The FGDs were conducted first, followed by the survey.

The local women's groups mobilized the CHWs for the surveys and the FGDs. The interviews were conducted in the local language Oriya. The participants were informed about this study through local village leaders and women's groups a week prior to the study. A written informed consent was obtained from each CHW after explaining the study objectives and the intended use of the information. The participation was completely voluntary and the respondents had the choice of not answering any question or withdrawal from the study at any time. The confidentiality of the participants was maintained throughout the study. The interviews were conducted at a convenient location and refreshments were provided to the participants. In each district, the survey and the FGDs were performed by five locally based researchers, who are social science bachelors. The entire data collection process took three months. A pre-designed protocol guided the conduct of the data collection and further, it was supervised by one of the co-authors. We could not initiate for ethical approval as there was no such specific entity in the state providing ethical approval on this kind of research.

Data analysis

The quantitative information were analyzed through the STATA. Linear and multivariate regression tests explored the association between the level of performance motivation and the predictors at different levels along with the CHWs' background characteristics. The qualitative data were transcribed verbatim and translated to English by the researchers themselves who conducted the interviews. These translations were verified by the co-authors who are proficient in the local language. The translated transcripts were coded and analyzed through the NVivo. The analysis was both inductive and deductive and relevant themes were indexed under the *individual*, health *system* and *community level* aspects. They were further classified as the enabling and the demotivating factors for the CHW's performance. The qualitative findings were triangulated with the survey findings confining to the conceptual framework of the study.

Results

The survey consisted of 386 CHWs (Table 1), of which majority were the below poverty line (71%), married (70.47%) and scheduled tribes (36%). Most of them had eight years of formal education (85.75%), experience of two to five years as CHW (82.9%). The majority had undergone minimum five trainings (73.06%), earned US$22.24 to 33.33 per month as a CHW (83.16%). Further, most of them did not have any other personal sources of earning (91.97%).

Level of performance motivation among the CHWs

The level of motivation was the highest on the *intrinsic job satisfaction* on various job related achievements (mean 4.30; 68.4% of CHWs). The self-efficacy or the perceived abilities on job scored a mean score of 4.27 (69.7%). The nature of the job responsibilities positioned the third with a mean score of 4.18 (66.3%), followed by the *social responsibility and altruism* (4.12;

66.1%). The mean scores were 4.07 for the self-motivation (84.7%), 4.06 for the *community participation* in activities (63.2%) and 4.04 for the *peer support* (77.2%).

The degree of motivation was the least on the *community opinion on the healthcare delivery system* (2.7; 1%), followed by their satisfaction on the *level of healthcare infrastructure* (2.83; 6.7%). The ASHAs were also less motivated on their *work load* (2.96; 8.8%). They had a moderate level of motivation (mean 3-4) on enjoying the *autonomy* to move, express opinions and execute the responsibilities (3.96; 60.4%). The *recognition* from the community, family and health system scored moderately (3.96; 55.4%). The *training* (3.78; 72.8%), the type of *supportive supervision* received (3.28; 12.2%), the *work modality* (3.18; 17.6%), and the *incentive*s (3.07; 16.6%) also scored a moderate mean.

A large proportion of the ASHAs (n=327; 84.72 %) were *self-motivated.* If we look at the individual scores for each parameter, the question on community acceptance i.e. *"the community accepts my activities as I intend to"* secured the highest mean score at 4.64 (n=366). Secondly, a self-efficacy related question on "*I can always manage to solve difficult problems if I try hard enough" scored* at 4.58 (n=350). Further, The probe on the *intrinsic job satisfaction (I am satisfied that I accomplish something worthwhile in this job)* received a mean score of 4.54 (n=336).

As per the Cronbach's alpha test, the internal consistency of the scale was adequate. The consistency co-efficient was 0.78, 0.79 and 0.84 for the *community, the health system* and the *individual* scales respectively.

Determinants of the level of performance motivation

The ASHA's *earning* as a CHW ($p<0.05$, 95% CI 0.06-0.12), *sense of social responsibility and altruism* ($p<0.01$, 95% CI 0.12-0.25), and feeling of *self-efficacy* ($p<0.01$, 95% CI 0.38-0.54) in

undertaking responsibilities influenced her *recognition* at the health system, community and family (not mentioned in the tables). Other socio-economic characteristics were not significant in this regard.

How does the healthcare delivery system impact the CHW's level of motivation?

We explored how significantly the level of motivation on the *health system* factors influenced their motivation at the *individual and* the *community* levels. This exploration was prompted by the fact that the CHWs were more demotivated on the status of the former (Table 2 & figure3). The *peer support* induced for a higher level of satisfaction on the *community participation*, *recognition, self-efficacy* and *intrinsic job satisfaction.* On the contrary, the dissatisfaction on the *workload* also led to a higher level of dissatisfaction on the above aspects. The dissatisfied CHWs *on the supportive supervision* had reported a lesser *community recognition* and *intrinsic job satisfaction.* The demotivation on *the work modality* and the *healthcare infrastructure* were positively related to a lesser *intrinsic job satisfaction*. Their perceptions on the *incentives* did not affect the level of motivation on any of the *community, individual* or *health system* parameters.

The prevailing scenario of the factors affecting the performance motivations: experiences of the ASHAs

The enabling factors

The better use of time (91%), lack of alternative job opportunities (76%), and a sense of social responsibility (68%) were the reasons to become a CHW and everyone wanted to continue as ASHA. They considered *performance motivation* as an encouragement (45%) or something which makes their performance better (62%). Their prior involvement in the women's groups improved their sense of altruism. Working with the community as CHW and empowering them,

especially women, inspired many. They felt women to be more receptive to their health advices and engage in community activities compared to men.

"*We have more support from our Didis and women's groups are now more enthusiastic and capable in community activities. Our social cohesion is improving further."* [CHW, #4]

Supporting the survey data, many reported enhancement in their family and social status, and personal autonomy attributing to the role of CHW. They felt empowered through the acquisition of knowledge and skills on community health through training, designated stature in the community, and the personal autonomy to work. The peer support and the healthy competition among the ASHAs seemed to have enhanced their enthusiasm to perform well and achieve progressive community health. They enjoyed the job autonomy to perform the designated duties.

"Now I have a say in my neighborhood. I am being invited to sit in the community meetings and I represent my village in the health center meetings." [CHW# 28]

"*We meet during trainings and meetings and share a lot with each other. Since we have the same kind of work, learning from each other has increased our problem-solving skills."* [CHW # 41]

The demotivating factors

On the contrary, the CHWs had certain dissatisfactions on the health system aspects limiting their performance motivation at the *individual* and the *community levels*. The excessive workload, frequent refresher trainings and meetings at the health centers and travel to remote habitations took away their personal time. They sometimes felt having limited autonomy at work to perform their social responsibilities beyond the specified guidelines. The CHWs solicited their active involvement in the planning of service delivery to incorporate community felt needs, as often they were given only the options to deliver services than planning.

"Very often what the program wants and people want from me are different. I feel whatever issues I raise on behalf of the community during the health center meetings are not addressed timely" [CHW# 74]

Many posed concern on the community's lack of trust on the public healthcare system. There were instances of care seeking from the private informal providers, despite the availability of drugs with the CHWs. This community behavior was built on the instances of them not getting drugs from the CHWs due to unavailability. Their activities were limited by the frequent stock-out of drugs and commodities and the communication gap at different levels of their supervision. They also reported to have an inadequate level of knowledge, skills and supportive supervision to perform optimally. Their performances were monitored through the self-recording of activities, supplemented with random visits by the multi-purpose female health workers and other supervisors. They found it difficult to monitor the community health through surveys as it was time consuming and tricky to record, with their low level of education. Most of them expected to have routine supportive supervision of their activities and the grass-roots level organizations' cooperation to enable improved performances.

"We would like to have an integrated approach with the women's group, the NGOs and the village health committee to share and solve local issues." [CHW# 13]

"Often, I communicate timely on drug stock outs to sub-center, but the primary health centers tell that they are not aware of this. I feel my concerns and issues are not spelled out at the higher level properly, though I share everything with my supervisors. I am also not given timely instruction on my roles on many activities" [CHW #53]

They demanded for more flexibility in organizing the meetings at convenient locations and time to give more time for the community and the personal life. Though the CHWs received

honorarium for trainings and meetings, but they did not prefer frequently attending. They were confident to execute the responsibilities, still desired knowledge and skill enhancements to convince the community and gain the community acceptance. They seemed to be less confident on the curative skills and urged for more system thrust and training in this regard.

"I want to be with the community more than the meetings. We wait for longer time, even for four hours at the health centers for a one hour meeting' '[CHW# 29]

Some of them were disgruntled on the level of the monetary and the non-monetary incentives received, yet they did not want to under-perform. The ASHAs often had to expend on mother's consumables and spare on an average 30 hours on escorting mothers on child birth. However, that they receive was lesser considering their actual spending and the time cost. The CHWs denied having any opportunity for informal payments, but admitted to have received occasional incentives for escorting mothers without actually doing so.

"*I often spend out-of-pocket on mother's consumables at hospitals and what I receive is quite less in return. Still, I want to support the mothers as I feel they are like my sisters and I am obliged to support them."* [CHW#69].**Discussion**

What prompts the CHWs to perform and its externalities on the community health?

The rural women consider becoming a CHW as a magnificent opportunity to empower themselves socially, personally and financially.[16] Empowering rural women as CHWs, who do not have alternate job opportunities can be a replicable and sustainable model on community health management.[17] In this study, the level of motivation was directly related to self-efficacy, yet socio-economic status did not influence the latter. This implies that with proper selection, orientation and training, the lay women can be organized for community health activities.[18-21]

They displayed a strong commitment towards empowering women as women were more receptive to their advices. The higher level of health awareness and adherence to healthy practices among women compared to men might justify this village level social network among women.[22]

The identity with the government motivated them to be a bridge between the community and the public healthcare system. This will be relevant for those countries trying to reduce the poor people's dependency on the private sector.[1] The peer support and the cross-learning from peers were potential ways of inspiration, apart from the support of many community-based organizations. The involvement of locally based NGOs and CBOs needs to be promoted to empower and support the CHWs.[23] However, the NGOs need to be a complimentary mechanism and should not undermine the CHWs' efficiency as health workers.[24]

Above all, a sense of intrinsic motivation was the underlying factor for the CHWs' performance. For instance, their urge for community interactions prevented them from attending the meetings and trainings, despite the scope of receiving honoraria in such events. The local cultural traits of solidarity, hospitality, and lending social support lifted their enthusiasm.[25] These behavioral traits could be exploited positively with lending more public recognition to the CHWs. The events of 'public honoring', involvement in public meetings, and appreciation in group meetings of the CHWs would be an impetus for their social commitment. Kenya also reported on CHWs' strong preference for community acceptance compared to supervisor's recognition.[5]

In this study, the CHWs' dissatisfaction on remuneration was not associated their level of earning. This implies that remuneration through incentivizing each activity seems to have motivated performance despite their feeling of under-remunerated. Yet, care should be taken to ensure that the CHWs perform equally on all the responsibilities despite the incentives vary on

each responsibility. Further, they are remunerated adequately considering the time cost and the market rate.

What discourages the CHWs and the consequences?

The study found a strong nexus between the health care delivery system's status and the CHW's level of performance motivation. As demonstrated in similar settings, resource constraints such as limited transportation to escort mothers and stock outs of commodities hindered the community's trust on them.[26] The communication gap among different actors led to the delay in receiving the stocks and non-clarity on the responsibilities among CHWs. This weak supportive system to CHWs concerns many other countries also as it might lead to the exclusion of the poorest of the poor from appropriate health services.[1]

The CHWs demanded for a regular supportive supervision and streamlining of responsibilities. However, in resource-constraint settings, identifying and training more experienced volunteers for CHW's supervision will be a challenge. This concern should be addressed through leveraging some of the grass-roots level public health managers or NGOs in a systematic manner. More involvement of grass-roots entities like women's groups could inculcate a sense of collective accountability and learning. Nigeria reported village health committee (VHC) supporting CHWs.[27]Since India's VHCs are still evolving, CHW's monitoring can be designed as one of its roles in the future.[19]

The CHWs' increasing work load with more and more community based health programs produced a feeling of 'over-burdened.' Without proper orientation, the monitoring of many community health initiatives, especially surveys will be difficult for them, considering their low level of formal education.[28-29] Though the current pattern of incentivizing does not appear to bring in less performance, India could experiment with preferential treatment on social securities

and public privileges to the CHWs and their households as demonstrated in Guatemala and Nepal.[27]

In India, the ASHAs are more indentified as 'link-workers' or facilitators for appropriate care and the community has less acceptance for their curative role.[7] The CHWs are less confident on their curative care skills and the supply constraints induce the community's non-confidence on them.[30-32]In the future, the CHWs' could be leveraged intensively on the diagnosis of health conditions to promote a comprehensive community health management approach. This will be relevant for elderly care and settings with increasing chronic disease burden to offer a cost-effective care.[19,33-35]

Strengths and limitations of the study

We employed a mixed-methods approach and it helped us in two ways. First, to understand the the extent of causality between the CHW's level of motivation and each of its determinant. Secondly, to assess how, why and under what condition a CHW is motivated or demotivated. The study depended on a 'relativist' approach to trigger the policy processes on streamlining the motivating factors for the CHW's performance motivation. Further, the FGD responses were used to verify the survey responses and thereby enhance the generalizability of the study outcomes. There could be a possibility of the CHWs' responses complying with the perceptions of what should be an acceptable answer. We did not assess the actual level of performance of the CHWs and its effectiveness from the community's or supervisors' perspectives. Despite this, these study revelations on the CHW program add to the rare global evidence base for relevant policy changes, specifically on the CHW management and the retention.

Conclusion

The CHW program could motivate and empower the local lay women on the community health largely. The desire to gain social recognition, a sense of social responsibility and self-efficacy enhances their motivation. Linking the incentive directly with each activity ensures performances of the CHWs. The healthcare delivery system improvements might further enhance their motivation and enable them to gain the community trust. The CHW management needs to change with adequate supportive supervision, skill and knowledge enhancement, and enabling working modalities.

References

1. World Health Organization. Health Systems Financing -the path to universal coverage. *World Health Report* 2010. Geneva.
2. Lehmann U, Sanders D. Community health workers: What do we know about them? The state of the evidence on programmes, activities, costs an impact on health outcomes of using community health workers. *The World Health Organization* 2007. Geneva.
3. Lewin S, Munabi-Babigumira S, Glenton C et al. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. *Cochrane Database of Systematic Reviews* 2010 (3). Art. No.: CD004015.
4. Shrestha R, Baral K and Weir N. Community ear care delivery by community ear assistants and volunteers: a pilot programme. *The Journal of Laryngology and Otology* 2003; 115: 869-73.
5. Lewin SA, Dick J, Pond P, Zwarenstein M, Aja GN, Van Wyk BE, et al. Lay health workers in primary and community health care. *Cochrane Database of Systematic Reviews* 2005; (1). Art. No.: CD004015.

6. Glenton C, Inger BS, Pradhan S, Lewin S, Hodgins S, Shrestha V. The female community health volunteer programme in Nepal: Decision makers' perceptions of volunteerism, payment and other incentives. *Social Science & Medicine* 2010;70: 1920-1927.

7. Government of India. ASHA the way forward: evaluation of ASHA program. *The National Health System Resource Center* 2011. NRHM. New Delhi.

8. DielemanM, Cuong PV, Anh LV, Martineau T. Identifying factors for job motivation of rural health workers in North VietNam. Human Resources for Health 2003, 1:10.

9. Mbindyo P, Gilson L, Blaauw D, English M. Contextual influences on health worker motivation in district hospitals in Keny**a.** *Implementation Science* 2009, **4**:43 doi:10.1186/1748-5908-4-43.

10. Darmstadt GL, Baqui AH, Choi Y, Bari S, Rahman SM, Mannan I, et al. Validation of community health workers' assessment of neonatal illness in rural Bangladesh. *Bull World Health Organ.* 2009 Jan, **87**(1):12

11. Rahman SM, Ali NA, Jennings L, Seraji MHR, Mannan I. Factors affecting recruitment and retention of community health workers in a newborn care intervention in Bangladesh. *Human Resources for Health* 2010, **8**:12 http://www.human-resources-health.com/content/8/1/12

12. Li I-C, Lin M-C,Chen C-M. Relationship Between Personality Traits, Job Satisfaction, and Job Involvement Among Taiwanese Community Health Volunteers. *Public Health Nursing* 2007; 24 (3):274–282.

13. Government of India. Accredited Social Health Activist (ASHA) Guidelines, *National Rural Health Mission,* Ministry of Health and Family Welfare 2005. New Delhi.

14. Government of India. Annual report: 2009-10. *Ministry of Health and Family Welfare* 2010. New Delhi, Available from: http://mohfw.nic.in/Health%20English%20Report.pdf

15. Manongi RN, Marchant TC, Bygbjerg IBC. Improving motivation among primary health care workers in Tanzania: a health worker perspective**.** *Human Resources for Health* 2006, **4**:6 doi:10.1186/1478-4491-4-6

16. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P:Motivation and retention of health workers in developing countries: a systematic review**.** *BMC Health Serv Res* 2008, 8:247

17. Willis-Shattuck M, Bidwell P, Thomas S, Wyness L, Blaauw D, Ditlopo P: Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Serv Res* 8:247.

18. Scott K, Shanker S. Tying their hands? Institutional obstacles to the success of the ASHA community health worker programme in rural north India. AIDS Care 2010; 22(2):1606-12.

19. Kane SS, Gerretsen B, Scherpbier R, Dal Poz M, Dieleman M. A realist synthesis of randomised control trials involving use of community health workers for delivering child health interventions in low and middle income countries. BMC Health Serv Res 2010;10:286.

20. Daniels K, Van Zyl H H, Clarke M, Dick J, Johansson E. Ear to the ground: listening to farm dwellers talk about the experience of becoming lay health workers. Health Policy 2005;73(1):92-103.

21. George A.Nurses, community health workers, and home carers: gendered human resources compensating for skewed health systems. Glob Public Health 2008;3 (1):75-89.

22. Gopalan SS. Report on Health equity. *Government of Orissa*, *DoHFW 2009;* Bhubaneswar.

23. Gray HH, Ciroma J Reducing attrition among village health workers in rural Nigeria. *Socio-Economic Planning Sciences 1988;* 22:39.

24. Kironde S, Klaasen S. What motivates lay volunteers in high burden but resource-limited tuberculosis control programmes? Perceptions from the Northern Cape province, South Africa. *The International Journal of Tuberculosis and Lung Disease 2002;* 6:104.

25. Robinson SA, Larsen DE. The relative influence of the community and the health system on work performance: a case study of community health workers in Colombia. *Social Science & Medicine 1990;* 30:1041.

26. Baker B, Benton D, Friedman E, Russell A. Systems support for task shifting to community health workers. *The Global Health Alliance* 2007; Geneva.

27. Bhattacharya K, Winch P, LeBan K, Tien M. Community Health Worker Incentives and Disincentives: How they affect motivation, retention and sustainability. B*asics II* 2001. USA.

28. Abbatt F. Scaling up health and education workers: Community health workers: A literature review. London: *DFID Health Systems Resource Centre* 2005. London.

29. Henderson L, Tulloch J. Incentives for retaining and motivating health workers in Pacific and Asian countries**.** *Human Resources for Health* 2008, 6:18.

30. Wendy Gidman W, Ward P, McGregor L. Understanding public trust in services provided by community pharmacists relative to those provided by general practitioners: a qualitative study. BMJ Open 2012 2:e000939; doi:10.1136/bmjopen-2012-000939.

31. Nyanzi S, Manneh H, Walraven G. Traditional birth attendants in rural Gambia: beyond health to social cohesion**.** *Afr J Reprod Health* 2007, 11:43-56.

32. Khan SH, Chowdhury AM, Karim F, Barua MK: Training and retaining Shasthyo Shebika: reasons for turnover of community health workers in Bangladesh**.** *Health Care Superv* 1998; 17:37-47.

33. PalmasW, Teresi JA, FindleyS, Mejia M, Batista M, Kong J, Silver S, Luchsinger J, Carrasquillo O. Protocol for the Northern Manhattan Diabetes Community Outreach Project. A randomised trial of a community health worker intervention to improve diiabetes care in Hispanic adults. BMJ Open 2012;2:e001051. doi:10.1136/bmjopen-2012-001051.

34. Macinko J, De Fátima Marinho de Souza M, Guanais F C, da Silva Simoes CC. Going to scale with community-based primary care: an analysis of the family health program and infant mortality in Brazil, 1999e2004. *Social Science & Medicine 2007;* 65(10).

35. Robert J Blendon RJ, Benson JM, Botta MD, Zeldow D, Kim MK. A four-country survey of public attitudes towards restricting healthcare costs by limiting the use of high-cost medical interventions. BMJ Open 2012 2:e001087; doi:10.1136/bmjopen-2012-001087.

Figure 1: The responsibilities of the ASHA

Figure 2: The CHW's performance motivation assessment framework

Figure3: The healthcare delivery system vis-à-vis the CHWs' performance motivation

Table 1

Background characteristics of the CHWs

Characteristics	% (n/386)
Age (years)	
25-30	45.60 (176)
31-35	32.64 (126)
36-40	17.88 (69)
>41	3.88 (15)
Education (years)	
5-7	14.25 (55)
8-10	85.75 (331)
Marital Status	
Married	70.47 (272)
Widowed	17.88 (69)
Separated	3.88 (15)
Unmarried	4.92 (19)
Divorced	2.85 (11)
Poverty Status	
Below poverty line	70.98 (274)

Above poverty line	29.02 (112)
Monthly household Income in INR (US$)	
1000-2000 (22.21-44.44)	21.51 (83)
2001-3000 (44.46-66.65)	43.26 (167)
>3000 (66.67)	35.23 (136)
Caste	
Scheduled Caste*	29.02 (112)
Scheduled Tribe*	36.01 (139)
Others	34.97 (135)
Monthly earning as CHW in INR (US$)	
<500 (11.13)	2.07 (8)
500-1000 (11.13-22.21)	14.77 (57)
1001-1500 (22.24-33.33)	83.16 (321)
Sources of earning	
Only as CHW	91.97 (355)
Other sources	8.03 (31)
Years of experience as ASHA	
<2	17.10 (66)
2-5	82.90 (320)
Number of trainings undergone	
<5	73.06 (282)
6-10	26.94 (104)

**Scheduled caste and tribe are communities that receive special privileges from the Government of India based on relatively weaker socio-economic status*

Table-2

The level of performance motivation among the CHWs (N=386)

Variable	Mean	95% CI	Motivated* n (%)
Health system level			
Nature of Responsibilities: *level of interest in the responsibilities and confidence to execute them*	4.18	4.09-4.27	256 (66.3)
Workload: *time to complete daily tasks, able to spend time with family and flexibility in work schedule*	2.96	2.90-3.02	34 (8.8)
Incentive: *adequacy of financial and non-financial incentives and their pattern of payment*	3.07	2.97-3.17	64 (16.6)
Healthcare Infrastructure: *satisfaction on the quality of existing infrastructure, communication options and commodities*	2.83	2.78-2.89	26 (6.7)
Work Modality: *satisfaction on hierarchy, participatory approach, recording and reporting*	3.18	3.13-3.24	68(17.6)
Training: *level of knowledge and skills imparted through trainings, and timing and organization of training*	3.78	3.72-3.85	281 (72.8)

Supportive Supervision: *help, monitoring, and supervision to execute responsibilities and solve issues*	3.28	3.23 -3.32	47 (12.2)
Peer support: *moral support, advice and learning from peers*	4.04	3.95-4.14	298 (77.2)
Community level			
Community Participation: *level of community's interest, acceptance and participation in activities*	4.05	3.96-4.16	244 (63.2)
Community Opinion on public healthcare System: *on quality of care, availability of healthcare and community programs*	2.70	2.65-2.75	4 (1.0)
Individual level			
Social responsibility and altruism: *interest in social work when existing social norms adversely impact community health, and sense of social responsibility*	4.12	4.04-4.20	255 (66.1)
Intrinsic Job Satisfaction: *chance for better use of abilities and time, feeling of accomplishment, awards, career enhancement, advancement in employability, knowledge, communication skills, managerial skills, and overall happiness being on job*	4.30	4.24-4.36	264 (68.4)
Self-efficacy: *able to handle tough situations, solve problems, feel emotionally and physically perfect on work*	4.27	4.20-4.33	269 (69.7)
Self-motivation: *working with a sense that the job is important and is not for avoiding blame from others and gaining money alone*	4.07	4.05-4.10	327(84.7)
Individual + community + health system level			
Recognition: *acceptance of CHWs' performance, its value, and talents by family, community and system*	3.96	3.90-4.02	214 (55.4)
Autonomy: *freedom to move in the community, express opinion and execute responsibilities*	3.96	3.90- 4.02	233 (60.4)

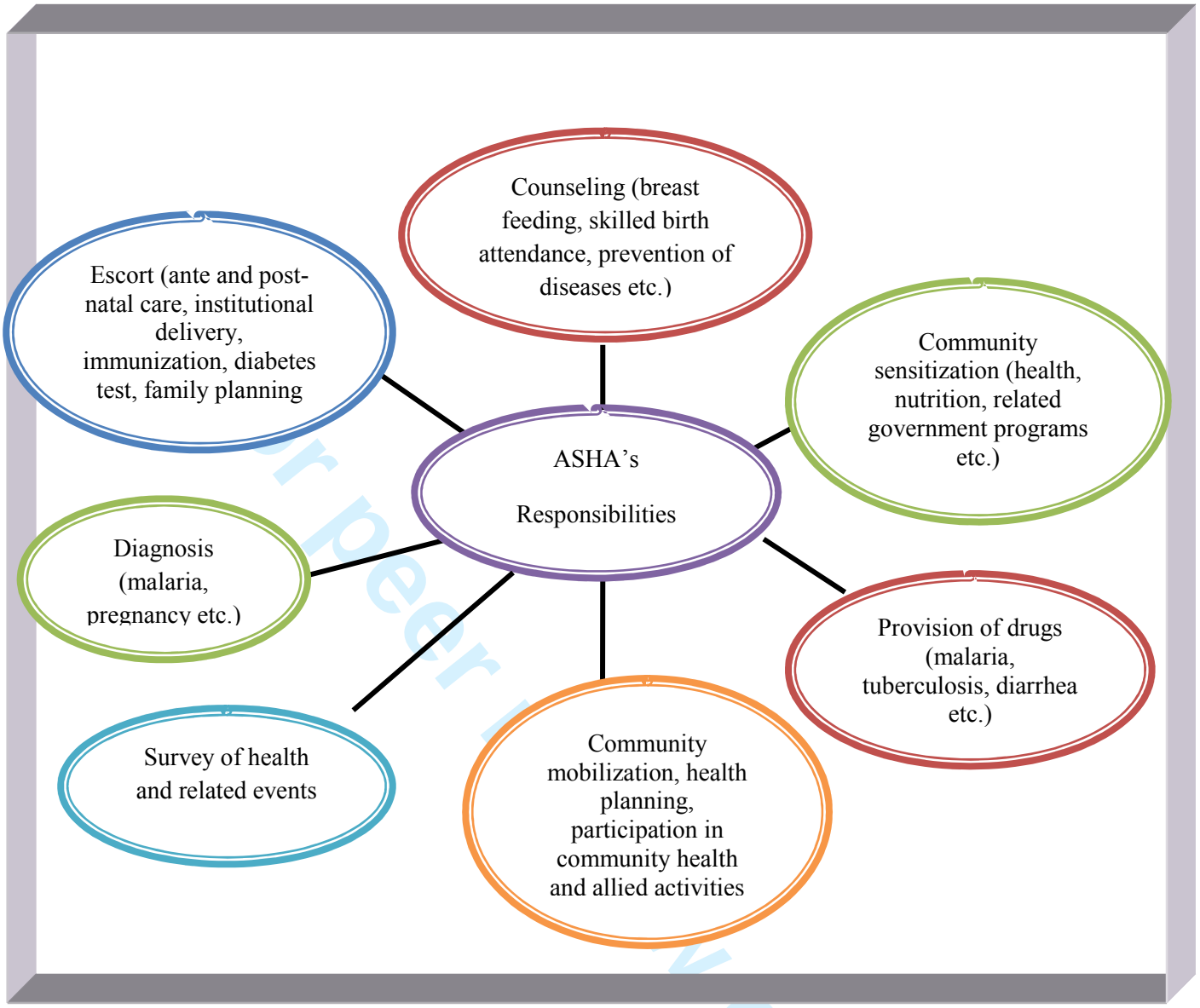
* Motivated if mean score >3

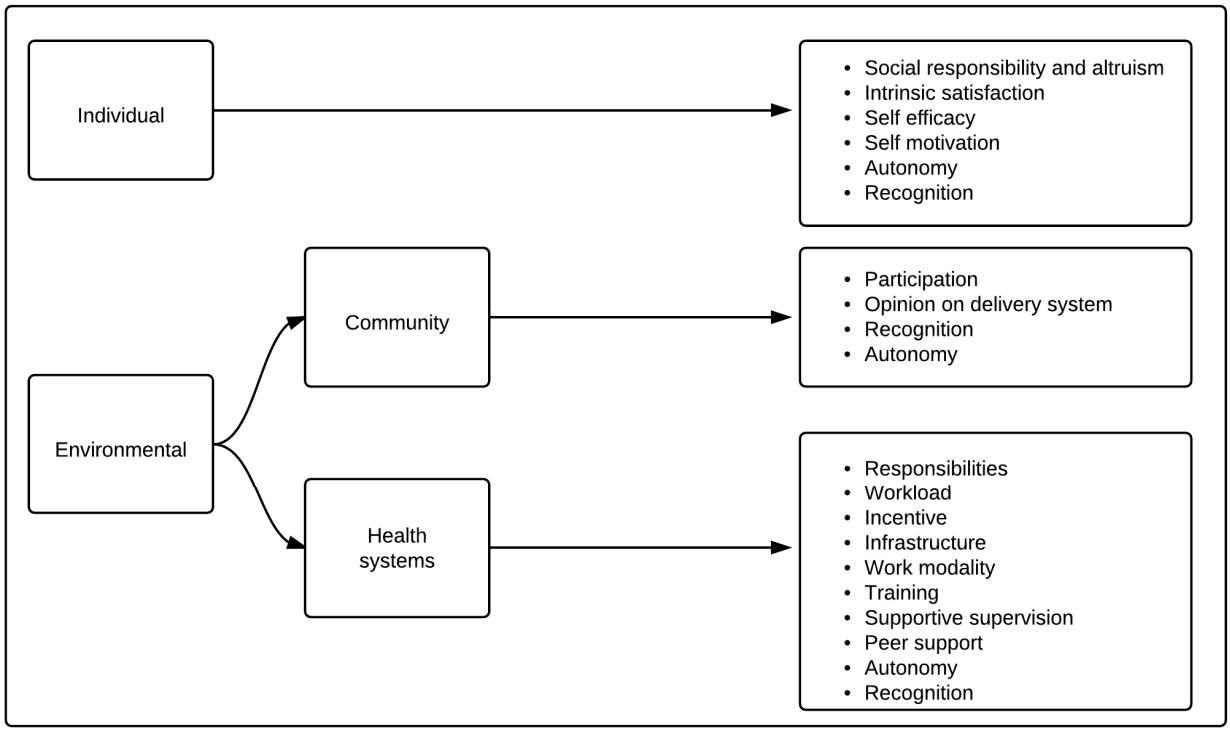
Table-3

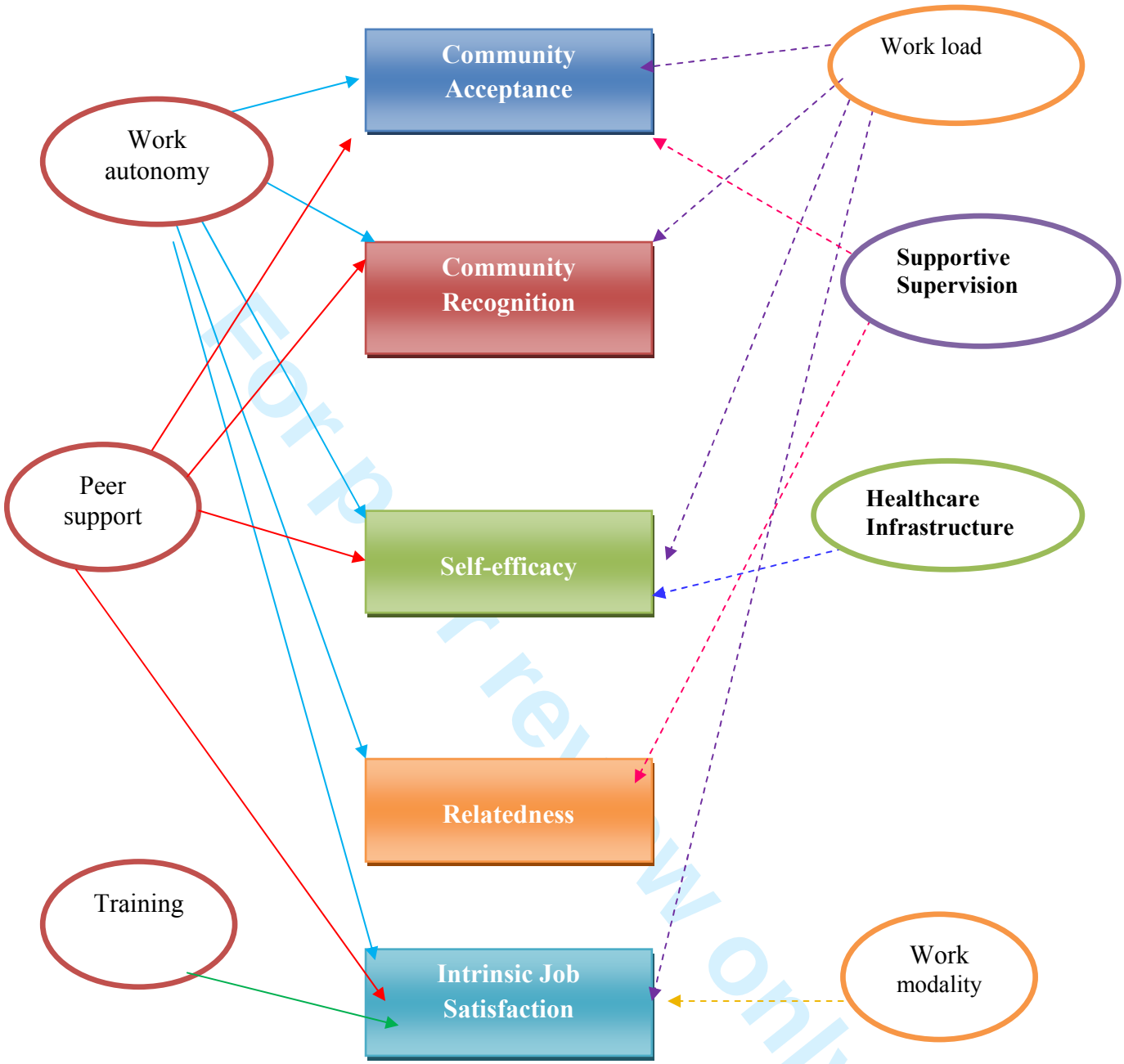
Influence of the healthcare delivery system on the CHWs' performance motivation

Dependent variable	Independent Variable	Coefficient	Std. Error	P	95% CI	R2
Community Participation	Work load	-0.065	0.028	<0.05	-0.12 - -0.01	0.069
	Work autonomy	0.062	0.026	<0.01	0.01-0.11	
	Peer Support	0.139	0.049	<0.001	0.04-0.24	
Community Recognition	Work load	-0.215	0.077	<0.001	-0.37- -0.06	0.223
	Work Autonomy	0.165	0.039	<0.001	0.08-0.24	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
	Supportive Supervision	-0.19	0.096	<0.05	-0.38- -0.00	
Social Prestige	Work Autonomy	0.153	0.032	<0.001	0.09-0.22	0.124
Self-efficacy	workload	-0.204	0.082	<0.01	-0.37- 0.04	0.436
	Work Autonomy	0.185	0.042	<0.001	0.10-0.27	
	Peer Support	0.089	0.040	<0.05	0.01-0.17	
Relatedness	Work autonomy	0.238	0.036	<0.001	0.17-0.31	0.276
Intrinsic Job	Workload	-0.097	0.039	<0.01	-0.18--0.02	0.510

Satisfaction	Work autonomy	0.215	0.020	<0.001	0.17-0.25
	Healthcare Infrastructure	-0.145	0.049	<0.001	-0.24- -0.05
	Work modality	-0.063	0.030	<0.05	-0.12- 0.05
	Training	0.327	0.038	<0.001	0.25-0.40
	Supportive Supervision	-0.229	0.079	<0.001	-0.38- -0.07
	Peer Support	0.131	0.045	<0.001	0.04-0.22







(Solid arrows indicate enabling relationship and dotted arrows indicate deterring relationship)

Figure 1: The responsibilities of the ASHA

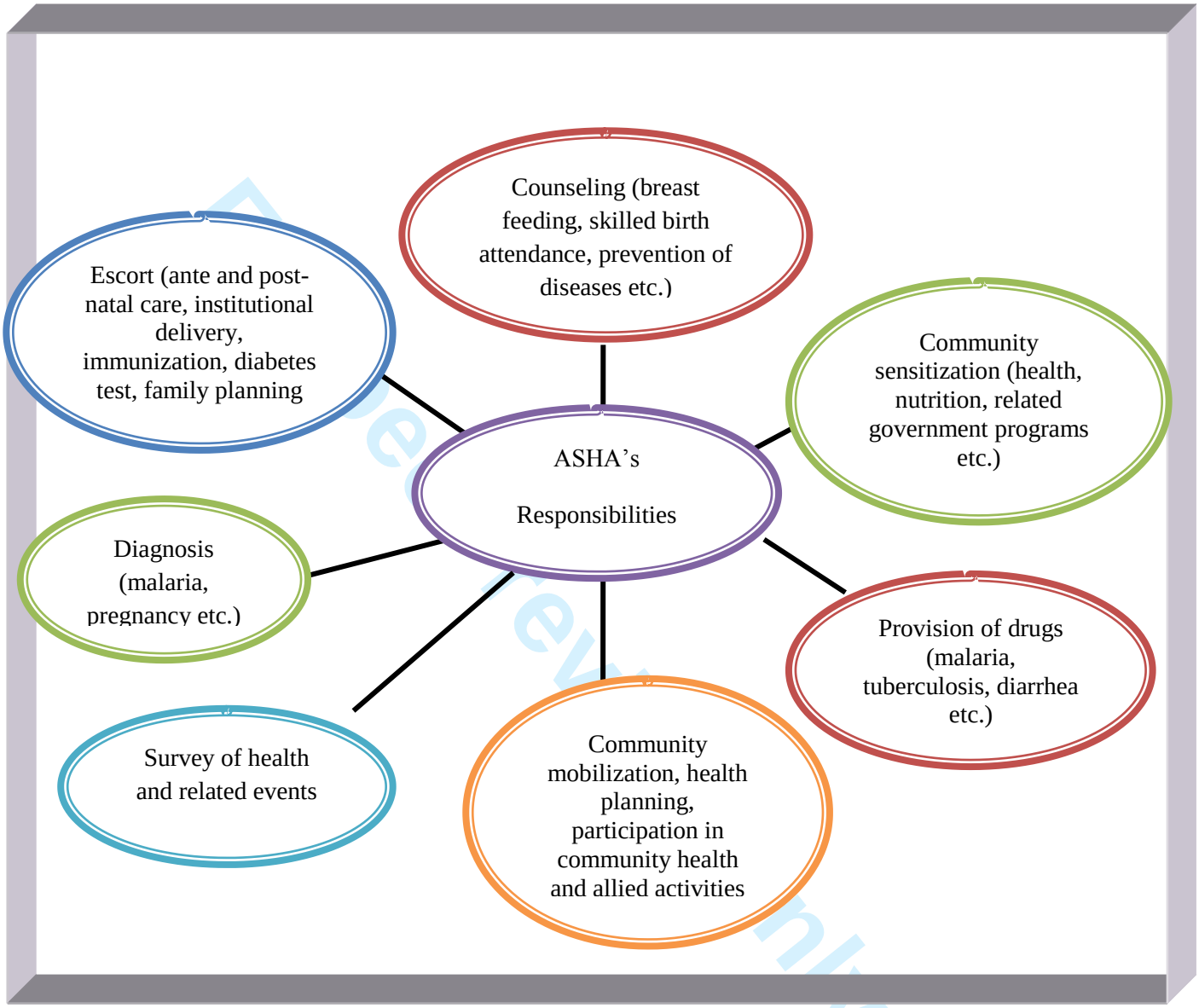


Figure 2: The CHW's performance motivation assessment framework

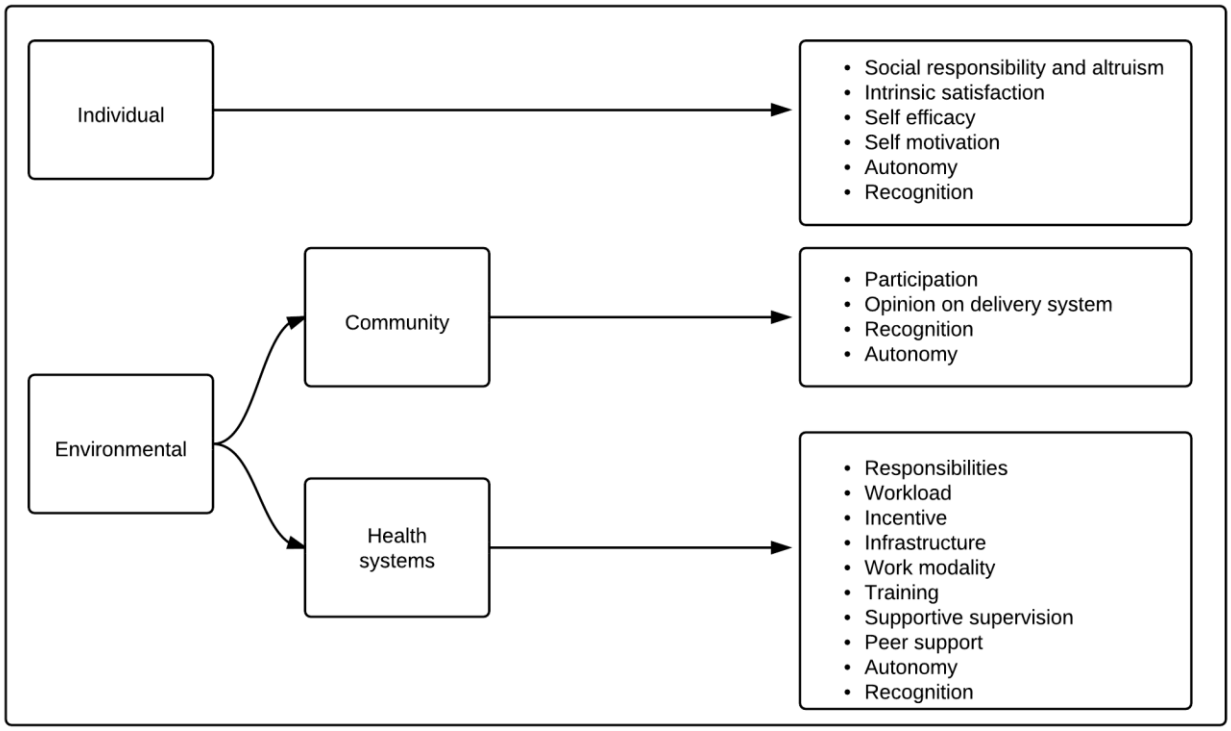
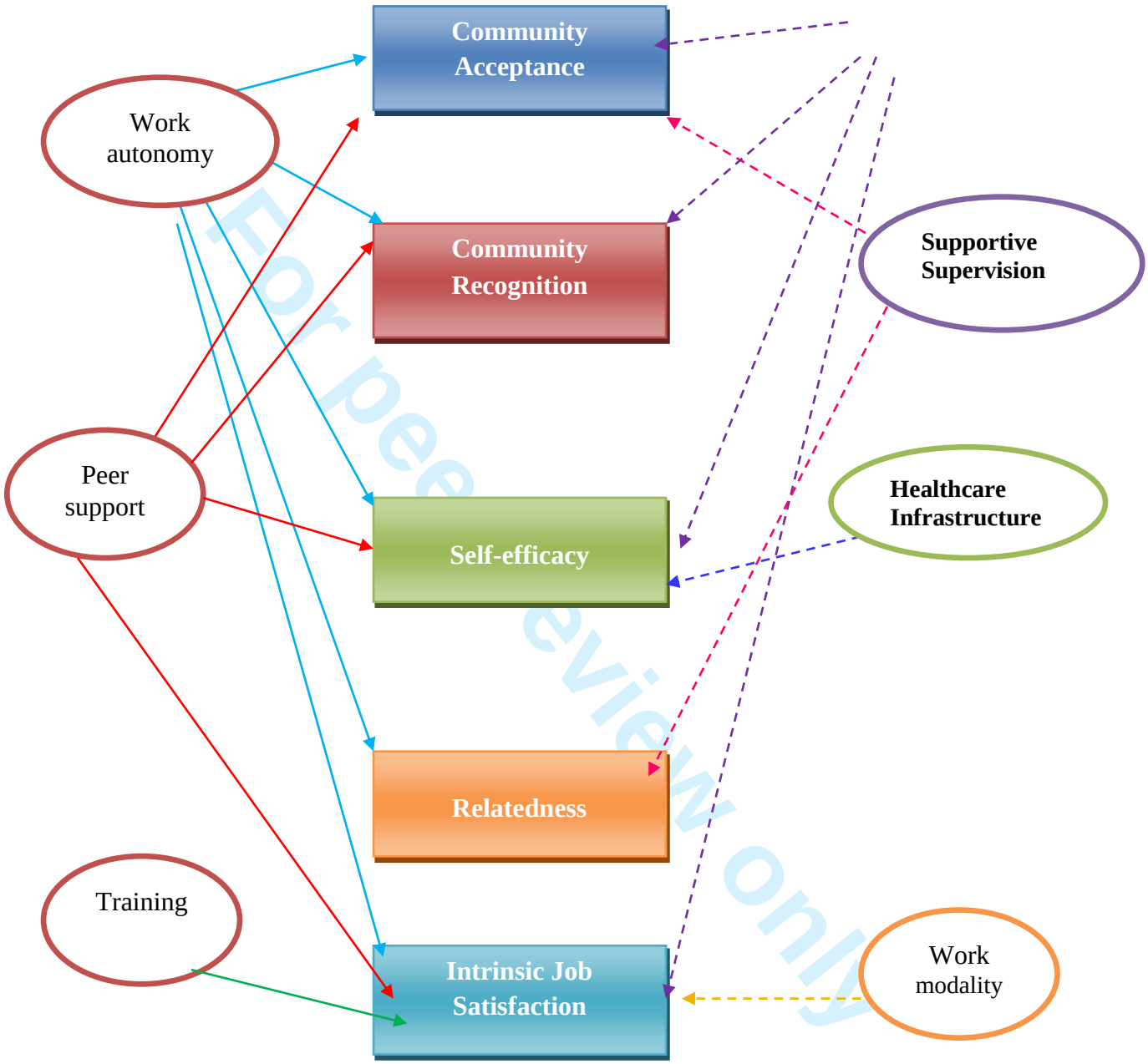


Figure3: The healthcare delivery system vis-à-vis the CHWs' performance motivation



(Solid arrows indicate enabling relationship and dotted arrows indicate deterring relationship)