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The role of Community Health Centres (CHCs) in promoting the provision of primary health care services in rural areas

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary **Background.** Community Health Centres (CHCs) are often operated by Non-Governmental Organisations (NGOs) to facilitate primary health care services in rural communities and remote areas.
Objectives. The study aims to examine the beneficiaries of NGO programmes by knowing their socio-economic demographic status, how CHCs are providing basic and primary health care services, and to get to know the beneficiaries' satisfaction with the provision of health care services.
Material and methods. The preliminary study opted for quantitative research to compile the responses of beneficiaries of the International Non-Governmental Organisations working in rural communities of Pakistan. The data was collected by a survey method and purposive random sampling techniques were deployed.
Results. The results of the study were analysed using SPSS v.26 and Jamovi. The results show that villagers are living in remote or rural areas where access to medical services are rarely provided by the Government. However, the results show that respondents easily get health treatment, medication, access to health-related services, and participate in community awareness health campaigns regarding preventive measures against illness and disease, as well as receiving health sessions for the betterment of the rural community.
Conclusions. CHCs provide essential Primary and Secondary Health Care services to uplift local communities. It was also found that community health centres are a priority for the public in achieving quality health services and gaining awareness regarding health issues at large in society.
Key words: public health, primary health care, delivery of health care.

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Background

Community Health Centres (CHCs) are specific health service facilities that provide first-level individual health services, by prioritising pre-emptive and preventive care, to achieve the highest public health status. Similarly, the beneficiaries of Community Health Centres (CHCs) or Basic Health Units (BHUs) are more likely to be visited than District Head Quarter (DHQ) hospitals to avail better primary healthcare services. The Health System is defined by the World Health Organization (WHO) (see Figure 1) as, 'A health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health' [1]. This definition covers all sectors that promote and provide health services to the public at all national and international levels through volunteer organisations [2]. The main purpose of the health care system is to provide all necessary health care facilities to the population that are needed through effective channels. With the help of organisations irrespective of health care facilities in a community, NGO run programs have positive effects on the consistency of rural communities [3]. However, the World Health Organization (WHO) emphasise four pillars of health that make the health care system more effective and powerful, providing health care facilities to every person in a population [4].

In Pakistan, CHCs are composed of ten thousand health units, which may consist of BHUs and Tertiary Health Centres

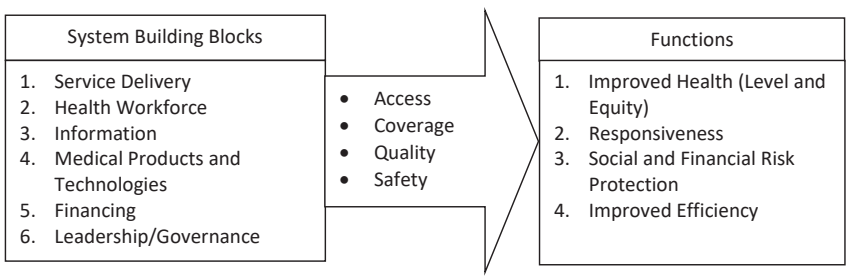

Figure 1. WHO health framework

(THCs), while BHUs and Rural Health Centres (RHCs) are included in the category of primary health care [5]. The Tehsil Headquarters (THQs) provide health care facilities at a sub-district level, while the DHQs provide health care facilities at a district level. The total number of THCs in Pakistan amounts to twenty-two, with most being teaching institutes in big cities, such as Karachi, Lahore and others [6, 7]. The main point of the study is to show that NGOs promote the health care services, providing space for villagers to learn about health education and awareness, and to develop capacity building among community members so that they come to know about prevention of illness and diseases, which is important in making communities sustainable. The study is limited to rural areas where programme interventions are currently being performed.

Material and methods

Study design

The study adopted a quantitative research method to include the maximum number of opinions from the rural communities and, especially, the beneficiaries of community health centres. The study used purposive random sampling techniques, and the survey was conducted through semi-structured questionnaires and field notes. We approached the respondents through a sampling frame (a list of the study population was developed with the help of organizations working in the community) given by the CHCs in these regions (Figure 2).

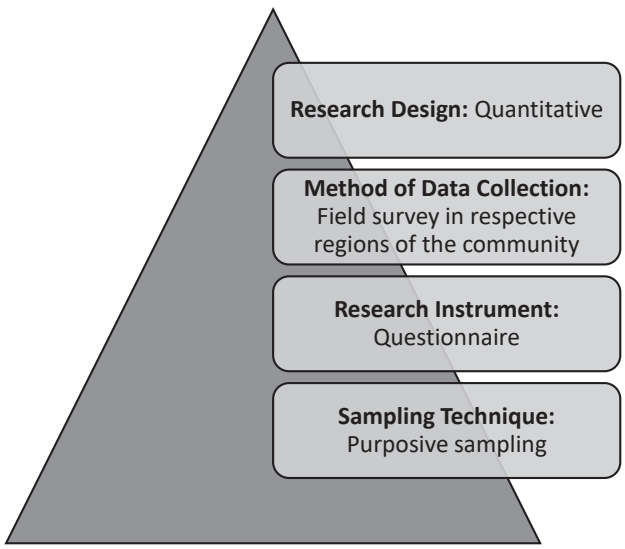

Figure 2. Study design

Geographical area

The study was conducted in three districts of Pakistan (rural areas), namely Islamabad, Lahore and Mardan. Where Islamabad is the capital of the country, Lahore is the capital of Punjab, and Mardan is situated in another province of Pakistan.

Research instrument

In the present study, the researchers administered a survey questionnaire that was used as a research instrument to collect quantitative data. This questionnaire was prepared with the help of an extensive literature review and WHO guidelines to analyse the quality-of-service parameters. This survey instrument contained twenty-four questions, such as socio-demographic variables, basic services by NGOs, maternal health care, child health care, awareness-raising and capacity building, using frequency and a Likert scale. The research tool can be found in the supplementary material.

Ethical consideration

The respondents of the study were the beneficiaries of these CHCs in the rural areas of the above three districts. This manuscript is a part of a Master's thesis, and ethical approval was granted by the Board of Faculty, Faculty of Social Sciences (BoF, FSS), International Islamic University, Pakistan. Additionally, during the survey, informed consent was signed by each respondent.

Data collection procedure

The time frame of the study was from August 2014, to February 2016. The process of data collection was started with a team of CHCs and local health committees approaching the beneficiaries. The author was personally accompanied by the local Lady Health Workers (LHWs) while visiting each house. During the fieldwork, health committees were also asked to invite individuals, both males and females, to share their experiences with CHCs and to express their level of satisfaction with the performance of services. Each respondent took between 20–30 minutes to give their responses. The number of respondents included in the study totalled 398, who lived in the rural areas of the aforementioned districts where they receive their treatment through CHCs and services provided by NGOs. Information was collected through the survey to learn about the respondent's opinions concerning different health care providers.

Results and analysis

This section shows the results regarding the provision and utilization of healthcare services and facilities provided by NGOs to rural communities, which do not have access to BHUs, CHCs or any other private health dispensary. The data shows that a high number of beneficiaries (75.9%) receive care through mobile health units. Mobile health units are customised vehicles that travel to the heart of both urban and rural communities providing prevention and health care services where people live and work. Furthermore, Community Health Workers and Lady Health Workers (CHWs and LHWs) regularly visit households for maternal and child health care. Usually, CHWs have regular visits to designated households to follow the monthly plans of

Table 1. Primary Health Services (*n* = 398)

No	Categories	Always	Sometimes	Rarely	Never
A	Public opinion on the availability of staff in the community health centre				
1	Medical Doctor	93.4% (*n* = 373)	6.6% (*n* = 25)	–	–
2	Lady Health Worker	84.4% (*n* = 336)	15.6% (*n* = 62)	–	–
3	Dispenser	80.4% (*n* = 320)	19.6% (*n* = 78)	–	–
4	Community Health Workers	80.2% (*n* = 319)	19.8% (*n* = 79)	–	–
5	Nurse	81.9% (*n* = 326)	10.8% (*n* = 43)	7.3% (*n* = 29)	–

Table 1. Primary Health Services (*n* = 398)					
No	**Categories**	**Always**	**Sometimes**	**Rarely**	**Never**
B	**Status of medicines, medical equipment, referral system and health points**				
1	Medicines	80.4% (*n* = 320)	19.6% (*n* = 78)	–	–
2	Ambulance service	83.9% (*n* = 334)	11.8% (*n* = 47)	4.3% (*n* = 17)	–
3	Medical equipment for laboratory tests	86.4% (*n* = 344)	13.6% (*n* = 54)	–	–
4	Referral system to recommend patients	78.9% (*n* = 314)	16.6% (*n* = 66)	2.8% (*n* = 11)	1.8% (*n* = 07)
5	Establishment of health points	65.8% (*n* = 262)	31.2% (*n* = 124)	–	3.0% (*n* = 12)
C	**Opinion regarding the availability of rooms at community health centre, such as for patient examination**				
1	Patient examination	91.7% (*n* = 365)	8.3% (*n* = 33)	–	–
2	Dispenser	76.4% (*n* = 304)	23.1% (*n* = 92)	0.5% (*n* = 2)	–
3	Patient ward	79.9% (*n* = 318)	20.1% (*n* = 80)	–	–
4	Examination lab	75.6% (*n* = 301)	24.4% (*n* = 97)	–	–
5	Room for consultation with doctor	81.7% (*n* = 325)	18.3% (*n* = 73)	–	–
D	**Capacity building of core members of communities, health committees and general health education**				
1	Training concerning patient refusal cases	88.7% (353)	6.5% (26)	4.8% (19)	–
2	Training of health committees on health role/support groups	76.9% (306)	23.1% (92)	–	–
3	Training of general community on health education	63.1% (251)	35.7% (142)	0.3% (1)	1.0% (4)

Source: Primary research data.

the CHCs. The data shows that a high number (74.4%) state that CHWs visited their home frequently to provide guidance regarding maternal health, child nutrition and information concerning upcoming vaccination schedules.

Table 1 shows the results of the availability of staff, such as doctors, lady health workers, medical assistants, community health workers and nurses at health centres. The community health centre has health staff at CHCs in eight regions. A majority (93.4%) responded that a doctor is always available for treatment and guidance regarding public health issues at the CHCs; 84.4% stated that LHWs are also hired from the local communities for the provision of health education and, particularly, female health. Furthermore, for patient communication and distribution of medicines, dispenser staff are also available, and 80.4% of the respondents stated a positive opinion regarding their availability at health centres. Dispensers play a significant role in guiding patients regarding how to take drugs and in ensuring compliance with drug therapy, whereas nurses are also close to patients to guide them in care management, to monitor patient health and to keep records.

The data further depicts results regarding the availability of facility rooms, such as a patient examination rooms, dispenser rooms, patient wards, examination laboratories and doctors' consulting rooms. The majority of the beneficiaries (91.7%) reported that these community health centres have separate rooms to facilitate and examine patients, such as patient examination rooms (76.4%), dispenser rooms, patient wards for normal patient casualties, examination laboratories, and the availability of doctors' consulting rooms, taking the ease of doctors and privacy rights of patients into consideration. The main concern behind having separate rooms is to make the patients, doctors and staff comfortable, as well as to run the procedures conveniently and efficiently.

Table 1 further portrays the primary health care services, such as the availability of medicines, 24-hour ambulance services, medical equipment for laboratory tests, referral systems to recommend patients to other hospitals and the establishment of health points in cases where no health sub-unit is available. In response to these categories, the majority of these beneficiaries (80.4%) reported that medicines were always available at the community health centre at subsidised rates, while 19.6% stated that all types of medicines are 'sometimes' available. It is interesting to add here that these CHCs provide services to the local public when organising short visits to these communities with medical personnel, including paramedics and medical technicians, to the required site. The purpose of these visits is to provide first response medical aid and close monitoring of patients on their way to a nearby hospital or emergency room. The majority of the population (83.9%) responded that ambulance services are always available twenty-four hours/seven days a week to the communities for the transportation of patients to other hospitals in cities.

Medical equipment for laboratory testing at CHCs is usually available for medical tests. The results show that a high percentage of the population (86.4%) reported that medical equipment for laboratory tests at a community health centre is always available during their visits. The data also explains that a majority of the respondents (78.9%) were of the view that the referral system of CHCs is strong for the purpose of recommending patients to public or advanced hospitals in cases of serious conditions or further treatments.

The data regarding primary health care services, such as established health units in remote areas where there is a lack of health services, shows that more than half of the respondents (65.8%) were participating or familiar with units providing health services in their areas. The purpose of these health points is to support the local communities concerning health concerns.

Furthermore, it also reports the results of capacity building of core members, health committees and health education in community. A majority of the respondents (88.7%) always attended training on health education and learned how to handle patient refusal cases, 6.5% occasionally participated, and the further 4.8% rarely participated in training on patient refusal cases for health sustainability. It should be added that capacity building is a major role of non-governmental organizations, aimed at improving human skills of different types in intervention communities [8]. NGOs have trained numerous individuals in the community in capacity building and community sustainability. Therefore, a majority of the respondents (76.9%) played a part in health committees and the development of support groups, and 23.1% occasionally participated in health roles and responsibilities at a community level. In addition, more than half (63.1%) always attended training on health education and public awareness on chronic diseases to gain and learn about

Table 2a. Independent *t*-Test for the means of the variables									
Variables	Levene's Test for equality of variances		*t*-Test for equality of means						
	F	Sig.	*T*	*df*	Sig. (2-tailed)	Mean difference	Std. error difference	95% Confidence interval of the difference	
								Lower	Upper
Availability of CHCs	32.788	.000	-3.216	396	.001	-.566	.176	-.911	-.220
			-2.308	87.813	.023	-.566	.245	-1.053	-.079
Raising awareness	56.338	.000	4.536	396	.000	1.690	.373	.958	2.423
			6.108	190.898	.000	1.690	.277	1.144	2.236
Capacity building	7.081	.008	2.902	396	.004	.408	.141	.132	.685
			3.419	145.762	.001	.408	.119	.172	.644
Services at CHCs	3.476	.063	2.158	396	.031	.547	.254	.049	1.046
			2.657	157.847	.009	.547	.206	.141	.954

Table 2b. Regression analysis for predicting community health care					
Model	Unstandardised coefficients		Standardised coefficients	*t*	Sig.
	B	Std. Error	Beta		
Child health care	.439	.051	.325	8.682	.000
Capacity building	.626	.056	.499	11.272	.000
Availability of CHCs staff	.131	.045	.134	2.880	.004
Visits and raising awareness by CHWs	.061	.025	.097	2.475	.014
(Constant)	3.253	1.267		2.567	.011
Adjusted *R* Square =.506			*F* = 51.743		
Number of observations = 398					

dealing with emergency situations, while 35.7% of the respondents occasionally attended training on health education.

The regression analysis in Table 2 was performed to explain the variance of availability of services at CHCs in the rural areas of the three mentioned regions. The findings confirm that CHCs are the main source for providing child health care (t = 8.682, p < .001, β =.325, $R2$ =.506). Community Health Centres also facilitate capacity building of staff and community health workers (t = 11.272, p < .001, β =.499, $R2$ =.506). The third model focuses on the availability of staff (t = 2.880, p < .001, β = .134, $R2$ = .506). The fourth variable concentrates on visits by community health workers to share knowledge and awareness (t = 2.475, p < .001, β = .097, $R2$ = .506).

Discussions

In a number of previous studies, different areas have been discussed to show the progress of NGO programmes in rural areas of Pakistan. This is the first study that has been conducted in the three multiple regions. As can be seen from the results of the study, a majority of the population in these rural areas are satisfied and are receiving multiple services from community health centres, such as maternal health care, child nutrition, capacity building and awareness-raising. The beneficiaries have been living in these rural areas for a long period of time and receiving services from CHCs on first aid and health consultancies. These sub-health units are a provision of the community health care program, such as community screening camps and schools screening camps; the purpose of these camps is to engage the local community, society and schools to learn about health issues. The results in Table 1 show that a majority (87.2%) are frequently using the health services from community screening camps, which are useful for learning about health issues, such as childhood vaccination, and inviting doctors from government hospitals for advice and treatment. It can also be seen that, with the support of CHCs, local communities (village health committees) independently organized school health awareness programmes at various schools with information concerning children's health concerns. In a previous study, it was found that health camps in rural areas created by NGOs are an increasingly popular model of short-term medical care in Nepal [8]. The maternal mortality ratio in Pakistan remains high at 276 per 100,000 live births (175 in urban areas and 319 in rural areas), with a mother dying as a result of giving birth every twenty minutes [9]. It is also important to have regular visits by community health workers for individuals to learn regarding maternal and child health care. CHWs or LHWs already regularly visit households for maternal and child health care to promote awareness of health protection. Usually, CHWs have regular visits to designated households to follow their monthly plans. The data show that beneficiaries of CHCs report a high level of satisfaction (74.4%) and state that CHWs visited their home frequently, or at least on a monthly basis. Supporting these results, a similar study by Gogia and Sachdev shows that home visits by LHWs or CHWs for antennal and neonatal care, together with mobilisation activities, are associated with reduced mortality and stillbirth in South Asia [10].

In addition, awareness-raising programmes, such as health sessions, discussions on health concerns and organising the International Health Day, are useful for a health education programme in the communities. In Table 2, the results show that health sessions, jointly organised by community development organisations or village development organisations, remain supportive in establishing health norms and create opportunities in rural communities for organising and expanding the CHCs services at a larger level. It is a positive indicator that, while organising International Health Days, more than half of the participants (66.6%) always participated in order to learn more and gain information on public health issues. Keeping in view the above discussion, Bhutta and colleagues report that, in Thailand, village health volunteers are recognised as an international model for community-based health programmes, and are acclaimed as a global success by the World Health Organization [11, 12]. Furthermore, the results indicate that a greater value of respondents (71.6%) were supportive to this initiative, which plays a vital role in health education. The fourth part of Table 2 concludes the importance of the 'health awareness walk', and

the results show that a higher percentage of responses (77.9%) stated that the general public is in favour of the health awareness walk. In a previous empirical study by von Lieres and colleagues, it was found that self-help group meetings were an effective avenue for the promotion of health awareness inside communities [13].

NGOs make multiple contributions to uplift communities at a grassroots level [14, 15]. An example of this is community health centres providing services to develop community members training and capacity building. In Table 1, the results indicate the capacity building of core members, health committees and health education through the platform of CHCs. The purpose of this training is to increase their capacities toward health education, sensitisations on vaccination, and organising health camps for awareness-raising. This indicates that the majority of the respondents (88.7%) always attended training on health education, and how to handle patient refusal cases and develop access to health centres. NGOs have trained community individuals in capacity building and community sustainability. A study conducted in the Yunnan Province, China, added that community-led development programmes improve capacities broadly categorised as developing 'attitudes and attitudes', 'developing and strengthening relationships', 'building collaboration with stakeholders' and 'generating material and instrumental capacities' among individuals [16].

Furthermore, the present study finds that NGOs provide primary health services, such as the availability of medicines, ambulance services, medical equipment for laboratory tests and referral systems to recommend patients, and are not limited to the establishment of health initiaitves. In Table 1, the majority of these beneficiaries (80.4%) report that when they need medicines, CHCs always facilitate the availability of medicines from multinational companies. In addition, a majority of the responses of the population (83.9%) said that the ambulance service is always available, twenty-four hours a day/seven days a week, to the communities for the transportation of patients to other hospitals in the cities.

Moreover, NGOs support the government and local communities in their health care, and in the provision of health care services. Similarly, NGOs play a vital role in delivering health services to vulnerable populations in low profile areas [17, 18]. However, the results in Table 2a explain the variance of the availability of services in CHCs. The findings confirm that CHCs are a normal assumption to provide child health care (t = 8.682, p < .001, β = .325, $R2$ = .506). Another major indicator is to provide capacity building of the staff and community health workers (t = 11.272, p < .001, β =.499, $R2$ =.506). This indicates the positive contributions of NGOs in the provision of health care services to these regions.

Conclusion

The study concludes that basic primary and health care services are necessary in less developed rural areas. This plays an important role in the provision of health care services to the public in rural areas where the availability of secondary and tertiary health care services is extremely limited. The results of the regression model show that the capacity building of staff and community health workers facilitates the provision of services (t = 11.272, p < .001, β =.499, $R2$ =.506). It was also found that these health centres are a priority to the public in achieving quality health services and gaining awareness and assessment regarding health. The presented study shows that the respondents participate in community and school screening camps for their health-related issues. In short, it is concluded that community centres, and non-governmental organisations are the only sources of health care services for communities in rural areas. The study suggests that for future public-private arrangements in Pakistan health systems, it would be desirable to carry out a mapping of the areas where the government needs support from national and international NGOs.

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References

1. Negahban A, Maleki M, Abbassian A. Policies and laws related to the integration of traditional and complementary medicine into the Iranian health system based on the WHO definition: a document analysis. *J Edu Hea Pro* 2019; 8, doi: 10.4103/jehp.jehp_321_19.
2. World Health Organization. *The world health report 2000: health systems: improving performance.* Geneva: WHO; 2020.
3. Shaikh BT, Rabbani F. The district health system: a challenge that remains. *East Medi Hea J* 2004; 10(1–2): 208–214.
4. Jamison DT, Breman JG, Measham AR, et al., eds. Priorities in Health. Washington (DC): The International Bank for Reconstruction and Development / The World Bank; 2006. Chapter 7, Pillars of the Health System. Available from URL: https://www.ncbi.nlm.nih.gov/books/NBK10265
5. Mohammad YJ, Vertejee S, Gulzar S, et al. Community health nursing clinical teaching models practiced in undergraduate nursing programme at a private university in Pakistan. *JPMA* 2019. Available from URL: https://www.jpma.org.pk/PdfDownload/9306.
6. Kujawska-Danecka H, Nowicka-Sauer K, Hajduk A, et al. The prevalence of depression symptoms and other mental disorders among patients aged 65 years and older – screening in the rural community. *Fam Med Prim Care Rev* 2016; 18(3): 274–277, doi: 10.5114/fmpcr/63646.
7. Godefay H, Kinsman J, Admasu K, et al. Can innovative ambulance transport avert pregnancy-related deaths? One-year operational assessment in Ethiopia. *J Glob Health* 2016; 6(1): 010410, doi: 10.7189/jogh.06.010410.
8. Citrin D. The anatomy of ephemeral healthcare: "health camps" and short-term medical Voluntourism in remote Nepal. *Studies in Nepali History and Society* 2010; 15(1): 27–72.
9. Sarfraz M, Hamid S. Challenges in delivery of skilled maternal care – experiences of community midwives in Pakistan. *BMC Pregnancy Childbirth* 2021; 21: 287, doi: 10.1186/s12884-021-03762-0.
10. Gogia S, Sachdev HS. Home visits by community health workers to prevent neonatal deaths in developing countries: a systematic review. Bulletin of the World Health Organization 2010. Available from URL: https://www.scielosp.org/article/bwho/2010.v88n9/658-666/en/.
11. Bhutta ZA, Lassi ZS, Pariyo G, et al. Global experience of community health workers for delivery of health related millennium development goals: a systematic review, country case studies, and recommendations for integration into national health systems. *Global Health Workforce Alliance* 2010; 1(249): 61.
12. World Health Organization. Role of village health volunteers in avian influenza surveillance in Thailand. New Delhi: Regional office for South-East Asia. Available from URL: https://apps.who.int/iris/handle/10665/205876.
13. von Lieres JS, Abraham AK, Raveendran R. How effectively do community health workers spread health awareness via women's self-help groups in rural India? *Malaysian Journal of Public Health Medicine* 2020; 20(Special 1): 299–304.

14. O'Leary S. Grassroots accountability promises in rights-based approaches to development: The role of transformative monitoring and evaluation in NGOs. *Accounting, Organizations and Society* 2017; 63C: 21–41.
15. Hamidzadeh Y, Hashemiparast M, Hassankhani H, et al. Local-level challenges to implementing health education programs in rural settings: a qualitative study. *Fam Med Prim Care Rev* 2019; 21(1): 30—4, doi: 10.5114/fmpcr.2019.82976.
16. Moreno JM, Noguchi LM, Harder MK. Understanding the process of community capacity-building: A case study of two programs in Yunnan Province, China. *World Development* 2017; 97C: 122–137, doi: 10.1016/j.worlddev.2017.04.005.
17. Pfeiffer J, Chapman RR. NGOs, austerity, and universal health coverage in Mozambique. *Globalization and Health* 2019; 15(1): 1–6, doi: 10.1186/s12992-019-0520-8.
18. Schurer JM, Fowler K, Rafferty E, et al. Equity for health delivery: Opportunity costs and benefits among Community Health Workers in Rwanda. *PLoS ONE* 2020; 15(9): e0236255, doi: 10.1371/journal.pone.0236255.

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