Globalization and Health

RESEARCH Open Access

Engagement of non-governmental organisations in moving towards universal health coverage: a scoping review

Arman Sanadgol[1], Leila Doshmangir[1,2*], Reza Majdzadeh[3] and Vladimir Sergeevich Gordeev[4,5]

Abstract

Background: Developing essential health services through non-governmental organisations (NGOs) is an important strategy for progressing towards Universal Health Coverage (UHC), especially in low- and middle-income countries. It is crucial to understand NGOs' role in reaching UHC and the best way to engage them.

Objective: This study reviewed the role of NGOs and their engagement strategies in progress toward UHC.

Method: We systematically reviewed studies from five databases (PubMed, Web of Science (ISI), ProQuest, EMBASE and Scopus) that investigated NGOs interventions in public health-related activities. The quality of the selected studies was assessed using the mixed methods appraisal tool. PRISMA reporting guidelines were followed.

Findings: Seventy-eight studies met the eligibility criteria. NGOs main activities related to service and population coverage and used different strategies to progress towards UHC. To ensure services coverage, NGOs provided adequate and competent human resources, necessary health equipment and facilities, and provided public health and health care services strategies. To achieve population coverage, they provided services to vulnerable groups through community participation. Most studies were conducted in middle-income countries. Overall, the quality of the reported evidence was good. The main funding sources of NGOs were self-financing and grants from the government, international organisations, and donors.

Conclusion: NGOs can play a significant role in the country's progress towards UHC along with the government and other key health players. The government should use strategies and interventions in supporting NGOs, accelerating their movement toward UHC.

Keywords: Non-governmental organisations, Universal health coverage, Health system, Health policy and systems research, Engagement strategy

* Correspondence: Doshmangirl@tbzmed.ac.ir
[1]Department of Health Policy & Management, Tabriz Health Services Management Research Center, School of Management&Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran
[2]Social Determinants of Health Research Center, Tabriz Univerisity of Medical Sciences, Tabriz, Iran
Full list of author information is available at the end of the article

© The Author(s). 2021 **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

Background

Health systems must be sufficiently efficient in population, service and financial coverage to achieve sustainable Universal Health Coverage (UHC) [1]. Much of the health policy debate currently focuses on achieving the 2030 Sustainable Development Agenda, essential for UHC. Progress towards UHC is one of the essential tools for improving health and well-being in the coming years [2]. According to WHO, UHC means that all people have access to the health services they need, when and where they need them, without financial hardship. It includes the full range of essential health services, from health promotion to prevention, treatment, rehabilitation, and palliative care [3].

However, despite injecting financial resources into health systems, many counties still face difficulties in progress towards UHC and did not provide preventive and curative health care services [4–9]. In many low- and middle-income countries (LMICs), the challenge of adequate provision of quality care to all who needs it becomes even more apparent, as all available human resources for health (both public and private) are required to achieve this goal. However, it is time to change how we look and think about health issues and health services provision if we want to achieve health attainment and well-being for all [2].

Given the inclusion of UHC in global health programs, new attention has been paid to heterogeneous groups of non-governmental organisations (NGOs) in health services provision and how they can help achieve public health goals. The term “NGO” usually refers to any non-profit voluntary group of global citizens who work locally, nationally and internationally for various cultural, social, charitable, and professional purposes [10]. Different alternative terms can describe NGOs, including voluntary, non-profit, grassroots organisations, and local groups. However, regardless of the term used, at the heart of civil society, NGOs are recognised as one of the most important and best tools for dealing with global issues such as the environment, peace and poverty [11, 12].

NGO’s role in the health sector has also changed in recent years, and significant emphasis has been placed on NGO contracts for service delivery [13]. In LMICs, NGOs play a significant role in financing and providing health care services, and the use of NGOs in advancing public health goals is increasingly common [14]. In some areas, NGOs seem to be the best tool for developing essential health services and are part of the strategy to achieve UHC [15]. NGOs are uniquely committed to providing health services in sparsely populated areas globally, mainly through their active participation in providing health services directly through the ancillary factors of supply [16]. Many governments partnered with NGOs, recognising their significant and often dominant role in providing health services in LMICs [15, 17–19]. Proponents of formal government interaction with NGOs argue that they operate extensively, even in remote and rural areas, and are more accountable than their public-sector counterparts [14]. Governments can also hold NGOs responsible for adhering to standards and achieving results, improving their service quality [20].

There are transparent and established links between governments and NGOs in many countries, while their relationship is ambiguous in others. This uncertainty can have adverse effects for both NGOs and governments, leading to service duplication and competition. Overall, there is mixed evidence regarding NGOs’ participation in health services provision in LMICs, their impact on the quality of service, and related direct out-of-pocket costs, ranging from positive to mild or weak effects [21–24]. Hence, this study aimed to review NGOs’ role and their engagement strategies in moving toward UHC.

Methods

Our scoping review followed the Preferred Reporting Items for Systematic reviews and Meta-Analyses protocol, an extension for Scoping Reviews (PRISMA-ScR) (shown in Appendix S1) [25]. Our primary research question was “What is the role of NGOs in achieving the goals of UHC in various contexts?”. More specifically, we focused on the role of NGOs in moving towards UHC based on the three dimensions (population, service and financial coverage) and engagement strategies they used to achieve the goal.

Inclusion and exclusion criteria

We included studies that investigated NGOs interventions in public health-related activities and UHC. The language of publications was restricted to English, and there was no time limit. Summaries, posters, letters to the editor, reviews, commentaries and opinion pieces were included in the review.

Data sources and search

We searched five databases (PubMed, Web of Science (ISI), ProQuest, EMBASE and Scopus) from December 2019 to August 2020. To ensure the literature review’s comprehensiveness, we manually searched for references in the included articles. The complete search strategy can be found in Appendix S2.

Study selection and data extraction

Results from the bibliographic databases were merged, and duplicates were removed. Two reviewers (LD and AS) independently screened the search results by title,

abstract and full text. Disagreements were resolved by discussion and consensus. We extracted the following information from the studies included in the review, i.e., first author, country and date, study type and design, data collection method, quality appraisal, intervention(s), and NGOs' role based on the UHC cube dimensions. Relevant information from retrieved articles was extracted for a narrative synthesis by both reviewers.

Quality appraisal

The quality of the selected papers was assessed using the mixed methods appraisal tool (MMAT) [26]. The MMAT is effective as it is designed to appraise the most common types of empirical studies, including qualitative, quantitative and mixed-methods studies [27]. The MMAT is based on constructionist theory and has already been used by more than 100 systematic mixed study reviews. Two researchers (LD, AS) independently appraised the included studies using MMAT. The differences in the researchers' appraisals were resolved by discussion (more details in Appendix S3).

Synthesis of results

We synthesised results using directed content analysis and categorised findings based on the UHC cube's dimensions (i.e., population, service and financial coverage). Identified items were coded into sub-themes using deductive reasoning. The primary categorisation of recommended codes was determined using available research concerning NGOs' engagement in moving toward UHC.

Results

Selection of sources of evidence

The results of the screening process are shown in Fig. 1. Of 7540 studies, 5514 studies were screened by title and abstract for possible inclusion in the review. The full text of 484 articles was obtained and assessed for eligibility. An additional five studies were identified through manual search. Seventy-five studies met the eligibility criteria and were included in the final review. The main reasons for exclusion were a lack of focus in studies on relevant UHC dimensions, which focused on interventions not related to the health system.

Characteristics of sources of evidence

Studies were conducted in 51 countries and five regions (Eastern and Central Europe, sub-Saharan Africa, South and Southeast Asia, the Caribbean and Latin America). Four studies were conducted in high-income countries, ten in upper-middle-income countries, 19 in LMICs, and 18 in low-income countries (Table 1).

Synthesis of results

Based on the three dimensions of the UHC cube (population, service and financial coverage), eight sub-themes related to NGOs' participation and strategies in achieving UHC were identified (Fig. 2).

Services coverage

One of the factors influencing NGOs' participation in achieving UHC is service coverage. NGOs ensured service coverage by providing necessary equipment and health facilities, human resources, and public health and health care services. All 75 studies focused on NGOs' services coverage [28–102], of which 22 studies were related to human resources, 27 studies focused on health equipment and facilities, and 68 studies related to public health or health care services as strategies for NGOs engagement.

Population coverage

In many countries, the poor still have limited access to basic health care. NGOs increased population access to health services, particularly for vulnerable and poor or people with a specific disease, by using strategies and interventions through community participation. Seventy-three studies focused on population coverage [29–102] by NGO's participation. Out of this, 18 focused on population coverage through community participation, and 69 studies explicitly related to service provision for vulnerable and poor or patients with a specific disease.

Financial coverage

Protecting people from financial hardship was implemented by supporting them through several strategies, including free or low-cost health care services provision, implementing insurance plans or providing subsidies or loans. Twenty-nine studies focused on the third dimension of UHC, the financial coverage [30–96]. Of these studies, 21 stated that NGOs provided free services, and three reported that NGOs provided insurance plans. Seven studies focused on NGOs offering to subside or provide loans to their covered population. The detailed findings of all included studies are presented in Table 2.

Critical appraisal within sources of evidence

The research included 32 qualitative, 29 quantitative, and ten mixed methods studies. Table 3 displays the MMAT quality scores of each included study. Quality appraisal was not done for four papers (three papers were narrative reviews and one paper was a commentary).

Discussion

We systematically reviewed studies that explored the role of NGOs and their engagement strategies in moving

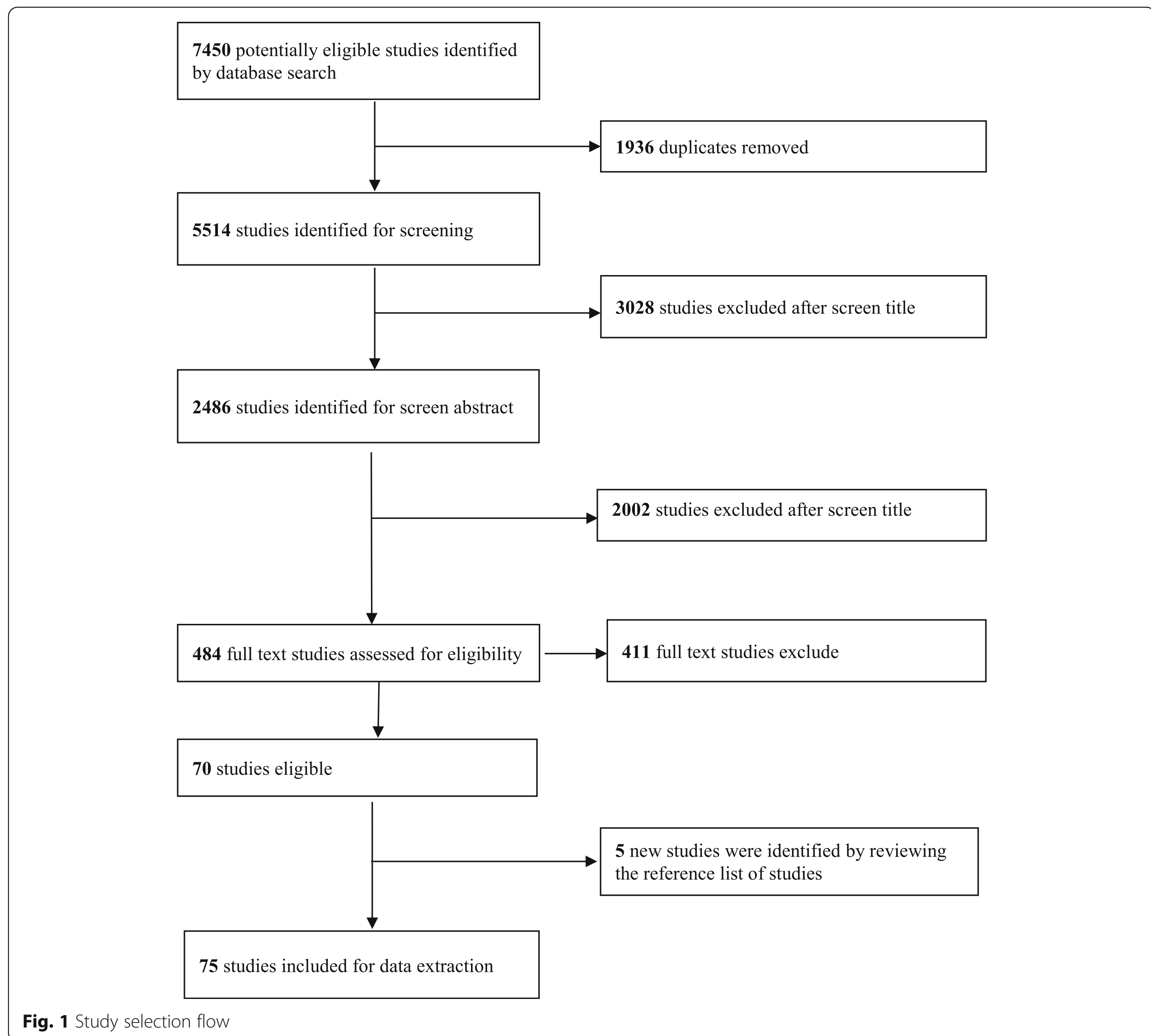

Fig. 1 Study selection flow

toward UHC. Based on our findings, NGOs have tried to fill in the gaps in health services provision for years. They are increasingly stepping up as healthcare providers, pursuing similar goals, but the government's inefficiency and resource constraints limit their participation [43]. We discuss our main findings using the UHC cube dimensions.

Service coverage

NGOs provided qualified personnel for health care services and used a combination of external and internal incentives (including non-financial incentives) to motivate their employees. For example, it was shown that the decision-making, organisational vision, mission and strategy, skills and abilities of NGOs staff positively affect NGOs' productivity in providing health services [28, 31, 103, 104]. NGOs have improved and promoted the health of their communities through the establishment of primary health centres, laboratory service, training community health workers to screen for and manage chronic hypertension, providing maternal and newborn health services, providing medical services for children with cancers, providing mental health services through community-based rehabilitation, prevention and treatment groups received growth monitoring, referrals to public health facilities, home-based counselling and providing mid-day meals for primary school students and adolescents [34, 51, 70, 71, 74, 91, 93, 95, 96, 99]. For example, in Bangladesh, NGOs provided clinical education, vaccination, reproductive health (antenatal and postnatal care, skilled birth attendance, breastfeeding prevalence, contraceptive prevalence, sexually transmitted

Table 1 Study characteristics

First author (reference no)	Country, date and type	Study design	Data collection method	MMAT score	Intervention(s)
Yagub, A. I. [28]	Sudan, 2015/ LI	Mix method	Documentation/ observation, recordings and open interviews	*****	Providing health services for vulnerable people
Albis, M. L. F. [29]	Bangladesh, 2019/ LMI	Survey	Questionnaire	****	Providing primary health services to poor urban communities
Amirkhanian, Y. A. [30]	Central and Eastern Europe, 2004	Qualitative study	In-depth interviews	*****	Providing prevention, education and other services for people with AIDS
Bechange, S. [31]	Uganda, 2010/ LI	Mixed methods	Document review and analysis, observation, in-depth interviews, a structured questionnaire, and conceptual events	*****	Providing HIV / AIDS health services to people vulnerable to HIV / AIDS
Ejaz, I. [32]	Pakistan, 2011/ LMI	Qualitative study	Document review and in-depth interviews	*****	Providing health education, health promotion and health services to the community
Mercer, M. A. [33]	Timor-Leste, 2014/ LMI	Qualitative study	In-depth explanation	**	Providing health services to a traumatised population
Wamai, R. G [34]	Kenya and Ethiopia, 2008/ LMI, LI	Qualitative study	In-depth explanation	***	NGOs provide public and health services (treatment, prevention and rehabilitation), HIV/AIDS and reproductive health services to urban areas
Mercer, A [35]	Bangladesh, 2004/ LMI	Review	Review of report	***	Providing clinical education, vaccination, reproductive health and child health services to the poorest people
Mercer, A [36]	Bangladesh, 2006/ LMI	Survey	Structured interviews	****	Providing reproductive health services in rural areas among the poor and needy in 12 areas
De Maio, G. [37]	Italy, 2014/ HI	Descriptive study	Routine program data.	****	Providing inpatient and outpatient services to the homeless
De Souza, R. [38]	India, 2009/ LMI	Qualitative study	Analyse documents, in-depth interviews	*****	Organising sex workers in the slums of Bangalore, India, for HIV/AIDS prevention
Dhingra, R. [39]	India, 2001/ LMI	Qualitative study	N/A	**	Financing the provision of preventive and curative services through community-based health insurance programs for the Indian population
Franco, M. M. R. [40]	Mexico, 2019/ UMI	Quantitative retrospective analysis	Records	*****	Providing pharmaceutical and chemical subsidies to hematopoietic cell transplant patients
Gellert G. A [41]	1996	Qualitative study	Review of report	**	Providing medical services and prevention of tobacco-related diseases, infectious and epidemic diseases, maternal mortality and women's health for the poorest people
Ghosh, S. C. [42]	Bangladesh, 2011/ LMI	Mix method	Pre-tested questionnaire and focus group discussions	*****	Establishing toilets in rural areas to improve their health.
Gilson, L. [43]	Ghana India Malawi Mexico Nepal Pakistan PNG South Africa Tanzania Uganda, 1994/ LMI, LI, UMI,	Narrative review	N/A	N/A	Providing health service, facilities and community participation
Gomez-Jauregui, J. [44]	Mexico, 2004/ UMI	Qualitative study	In-depth interview	*****	Providing reproductive health services for rural area
Heard, A [45]	India, 2011/ LMI	Mix method	Questionnaires/ interview and focus group discussion	*****	Providing essential health services in remote areas.
Holland, C. E. [46]	Cameroon, 2015/ LMI	Cross-sectional survey	Structurer questioner	*****	Providing AIDS/HIV services to NGOs for men who have sex with men (MSM)
Khan, J. A.	Bangladesh, 2017/ LMI	Survey	Self-reported	*****	Providing services to mothers, infants and

Table 1 Study characteristics *(Continued)*

First author (reference no)	Country, date and type	Study design	Data collection method	MMAT score	Intervention(s)
[47]					children, prevention and health care
Khodayari-Zarnaq, R. [48]	Iran, 2019/ UMI	Qualitative study	Semi-structured, in-depth qualitative interviews	*****	Establishing and equipping hospitals, supplying medicine and treatment to the poor, financial support for orphans, providing loans to the poor, awareness, training vulnerable groups
Maclure, R. [49]	Burkina Faso, 1995/ LI	Case study	Interview	***	Two NGOs providing first-aid clinics, maternities, and midwife lodgings for providing services for maternal health and child survival
Manna, A. [50]	India, 2019/ LMI	Qualitative study	Interview	**	Using cell phones to communicate with cancer patients
Mehta, P. [51]	India, 2013/ LMI	Cross-sectional	Questionnaire	***	Providing medical services for children with cancers
Momoh, G. T. [52]	Nigeria, 2015/ LMI	Quasi experimental	Semi-structured questionnaire/ in-depth interview	*****	Strengthen the capacity of 12 NGOs in the field of support and policy related to the emphasis on reproductive health issues
Mugisha F [53]	Uganda, 2005/ LI	Qualitative study	Semi-structured individual interviews	*****	Providing reproductive health services
Mukherjee S [54]	India, 2017/ LMI	Descriptive study	Case Studies, semi-structured interviews and unstructured observation/ literature review	*****	Providing community participation
Nguyen, N. [55]	Low- and middle-income countries, 2014	Online survey	Questionnaire	*****	Providing clinical services to cardiovascular programs
Perry, H. [56]	28 countries such as Bangladesh Bolivia Burkina Faso Burundi Cambodia, 2015/ LI, LMI, UMI, HI and Fragile	Qualitative study	N/A	**	Providing maternal, neonatal, and child health services
Perry, H. [57]	28 countries such as Bangladesh Bolivia Burkina Faso Burundi Cambodia, 2015/ LI, LMI, UMI, HI and Fragile	Qualitative study	Review of project Evaluations, presentations at global health conferences, and peer-reviewed publications	***	Providing maternal, neonatal, and child health services
Piotrowicz M [58]	Poland, 2013/ HI	Qualitative study	N/A	*****	
Ricca, J. [59]	Sub-Saharan Africa, South and Southeast Asia and the Caribbean, 2014	Mix method	Structure interview and questioner	*****	NGO projects implementing community-based intervention packages to child mortality
Ui, S. [60]	Cambodia, 2010/ UMI	Descriptive quantitative study	Self-administered questionnaire forms	****	Community participation at health centres in rural
Wu, F. S. [61]	China, 2005/ UMI	Commentary	N/A	N/A	Providing HIV/AIDS prevention
Abdelmoneium, A. O. A. [62]	Sudan, 2010/ LI	Qualitative study	In-depth explanation	*****	Providing for separate provision of services to adolescent mothers
Ahmed, N. [63]	Sudan, 2019/ LI	Qualitative study	In-depth explanation	*****	Providing free vaccinations to children
Kelly, Jeffrey A. [64]	Africa, Central/Eastern Europe and Central Asia, Latin America and the Caribbean, 2006	Qualitative study	In-depth interviews	*****	African NGOs most likely to use peer education and community awareness events; Eastern European NGOs most likely to offer needle exchange; Latin

Table 1 Study characteristics *(Continued)*

First author (reference no)	Country, date and type	Study design	Data collection method	MMAT score	Intervention(s)
					American NGOs to have resource centres and offer risk reduction programmes; and Caribbean organisations to use mass education approaches
Mercer, M. A. [65]	Uganda, India, Brazil, Swaziland, Thailand, Zambia and Kenya, 1991/ LI, LMI, HI	Qualitative study	In-depth explanation	***	Providing educational materials to specific groups, peer education, experimental drugs, counselling and healthcare to people with AIDS
Ambrosini, M. [66]	Italy, 2015/ HI	Case studies	Observation, analysing documents and interviewing	*****	Providing free health care to irregular immigrants
Ament, J. D. [67]	Bolivia, 2014/ LMI	Cross-sectional	Questionnaires/ Interview	*****	Support for spinal procedures
Andrade, M. [68]	Brazil, 2018/ UMI	Non-randomised trial	N/A	*****	Providing diagnostic mammography and biopsies as well as anatomo-histopathological and immunohistochemical analysis
Bader, F. [69]	Jordan, 2009/ UMI	Survey	Interviews	*****	Providing mental health services for displaced Iraqis
Baig, M. B. [70]	India, 2014/ LMI	mixed method	Semi-structured questionnaire/ Interview	*****	Providing primary health centres services
Baqui, A. H. [71]	India, 2008/ LMI	Quasi-experimental study	Questionnaire	*****	Providing maternal and newborn health services
Barzin, Y. [72]	Vietnam, 2012/ LMI	Qualitative study	Interview	*****	Providing health services
Cancedda, C. [73]	Sierra Leone, 2016/ Fragile	Qualitative study	Peer-reviewed publications and after-action reports	****	Provide 17 health facilities in 4 regions and establish two laboratories and employ 800 community health workers to fight Ebola virus disease
Chanani, S. [74]	India, 2019/ LMI	Cross-sectional	Android smartphones and the CommCare mobile application	*****	Providing prevention and treatment services, groups received growth monitoring, referrals to public health facilities, and home-based counselling
Devadasan, N. [75]	India, 2012/ LMI	Cross-sectional survey	interview	*****	Insuring poor people through NGOs
Edward, A. [76]	Afghanistan, 2015/ Fragile	mixed-method	Key informant interviews, focus group discussions / Structured interviews	*****	NGOs provide comprehensive training for community health workers
Ferguson, J. L. [77]	Australia, 2018 / HI	Qualitative study	N/A	***	Providing facilitating diversion from hospitalisation (step-up) and providing residential support services following discharge from the hospital (step down).
Fiorini, G. [78]	Italy, 2016/ HI	Cross-sectional	Anatomical therapeutic chemical	*****	Drug dispensation by a non–governmental organisation providing free medical assistance to undocumented migrants in Milan
Gilbert, H. [79].	Mozambique and Kenya, 2011/ LI And LMI	Qualitative study	N/A	***	Providing HIV/AIDS awareness, HIV/AIDS prevention, access to HIV healthcare services and the provision of treatment
Heinmüller, R. [80]	Mali, 2012/ LI	Time series	Routine data recorded	****	Dispensing free care to under-fives for cases of malaria that covered a rapid diagnostic test and a course of artemisinin-based combination therapy through Medicines Sans Frontiers
Huff-Rousselle, M. [81]	Cambodia, 2001/ LMI	Survey	Questionnaire	****	Providing reproductive health services by an NGO clinic

Table 1 Study characteristics *(Continued)*

First author (reference no)	Country, date and type	Study design	Data collection method	MMAT score	Intervention(s)
Mahyiuob Al-Honahi, H. Y. [82]	Yemen, 2010/ Fragile	Descriptive observational study	Pre- and post-intervention surveys	****	Finding and case holding activities by the national TB control programme staff
Matousek, A. C. [83]	Haiti, 2015/ LI	Cross-sectional	Record	***	Providing equitable surgical care in rural Haiti through free care available for the poorest by two NGO hospital
Mukherjee, J. S. [84]	Haiti, 2007/ LI	Mixed method	Structured Interviews/Open-ended questions	***	Zanmi Lasante (NGO) has recruited, trained and financed a large cadre of community health workers to provide such linkages between communities and health centres in rural Haiti
Nunns, D. [85]	Nepal, 2011/ LMI	Country case study	N/A	***	Providing reproductive health care for
Odindo, M. A. [86]	Kenya, 2008/ LMI	Descriptive cross-sectional	Interview	*****	Providing awareness, outreach, counselling, testing, treatment, advocacy, home-based care, assistance to the orphans and legal issues.
Oleribe, O. O. [87]	Nigeria, 2018/ LMI	Cross-sectional	N/A	***	Providing HIV testing and counselling, disclosure of results, post-test counselling and healthy lifestyle education and, distribution of free male condoms and Information, Education and Communication material
Oseji, M [88]	Nigeria, 2014/ LMI	Review	Various publications, reports, public presentations and policy documents	N/A	Providing advocacy, awareness creation, and sensitisation programmes on reproductive health using behaviour change communication materials.
Ridde, V. [89]	Burkina Faso, 2012/ LI	Qualitative study	Interviews and focus group discussions	*****	Providing free HIV treatment and services
Ron, A. [90]	Guatemala and Philippines, 1999/ UMI And LMI	Case two countries study	N/A	***	Providing community health insurance schemes in rural populations
Sankaran, S. [91]	India, 2017/ LMI	Qualitative study	N/A	****	Training community health workers to screen for and manage chronic hypertension
Sarwar, M. R. [92]	Bangladesh, 2015/ LMI	Case studies	N/A	****	Providing maternal and child health and distribution of a micronutrient food supplement
Sharma, A. K [93]	India, 2010/ LMI	Randomised control trial	N/A	****	Providing mid-day meals for primary school students
Singh, M. M [94]	India, 2015/ LMI	Descriptive	Interview	****	Providing care home for PLHA
Singh, V. [95]	India, 2017/ LMI	Quasi-experimental	N/A	****	Providing services delivered by community-based nutrition and health care providers (anganwadi workers and auxiliary nurse midwives)
Sivakumar, T. [96]	India, 2019/ LMI	Cross-sectional descriptive	N/A	****	Providing mental health services through Community Based Rehabilitation
Soe, K. T [97]	Myanmar, 2017/ Fragile	Cross-sectional descriptive	Routine data	*****	Providing community-based TB care to hard-to-reach populations
Solomon, Y. [98]	Mali, 2008/ LI	Mix method	Observation	*****	Providing primary health care
Thomas, R. [99]	India, 2013/ LMI	Cross-sectional descriptive	Routine data	*****	Providing three meals a day

Table 1 Study characteristics *(Continued)*

First author (reference no)	Country, date and type	Study design	Data collection method	MMAT score	Intervention(s)
van de Vijver, S. [100]	Kenya, 2013/ LMI	Qualitative study	Previous studies and intervention project and comprehensive literature review	*****	Providing cardiovascular prevention for slums of Nairobi
Wandwalo, E. [101]	Tanzania, 2004/ LMI	Mix method	In-depth interview/ Hospital files and cards, referral forms and laboratory registers	*****	Providing voluntary counselling and testing for HIV, diagnosis and treatment of TB, referral and follow up of patients and suspects, home-based care, psycho-logical support and training
Zachariah, R. [102]	Malawi, 2004/ LMI	Qualitative study	N/A	*****	Providing additional staff, supplementary drugs including antiretroviral drugs, technical assistance and infrastructure development

TB tuberculosis, *HIV* human immunodeficiency virus, *AIDS* acquired immune deficiency syndrome, *NGO* non-profit organisation, *LI* low-income, *LMI* low- and middle-income, *UMI* upper-middle-income, *HI* high-income, *PLHA* People Living with HIV/AIDS

infections), child and infants health services (child diarrhoea), acute respiratory infection and HIV/AIDS awareness [29, 35, 36, 47]. In India, an NGO was contracted to deliver basic health services, including simple curative care, referral for more complex cases, identification and registration of pregnant women, perinatal care, referral for a complicated pregnancy or high-risk births, essential child health care, assistance with immunisation and other national programmes, and the conduct of health camps for outreach and health education provided [45].

Many NGOs offer a wide range of HIV/AIDS-related services. For example, in Central and Eastern Europe, NGO programs often targeted injecting drug users, and activities included needle exchange, HIV prevention education, services for people with AIDS, and the distribution of educational materials [30, 64]. In Uganda, NGOs provided health services such as educational materials, peer education, experimental drugs, counselling and healthcare to people with AIDS [31, 65]. In Ethiopia, Kenya and Mozambique, NGOs provided HIV/AIDS health services in clinics, raised HIV/AIDS awareness, participated in HIV/AIDS prevention, ensured access to HIV healthcare services, and provided treatment [34, 79]. NGOs provided clinical and family planning services in India, organised health awareness camps, and campaigned for immunisation and HIV/AIDS awareness [105].

Population coverage

In many countries, the poor still have limited access to essential health care, and NGOs are increasing access to health services because of their ability to design population-based projects. NGOs are also in a position to implement prevention programs with the potential to reach vulnerable social populations, and the use of innovative approaches such as the caregiver approach can be a promising alternative to existing strategies to provide critical health care to disadvantaged communities [29, 30, 32, 56]. NGOs have sought to fill a gap in the Pakistani public sector due to a lack of healthcare providers' access. East Timor and Sudan are examples of post-crisis countries in which NGOs efforts in the first

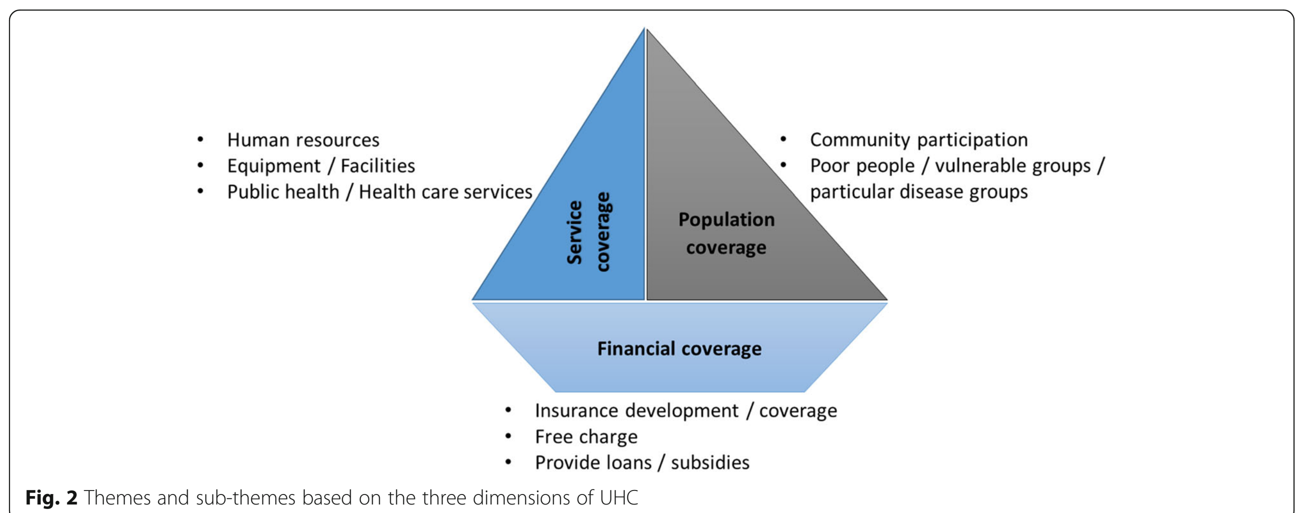

Fig. 2 Themes and sub-themes based on the three dimensions of UHC

Table 2 NGOs participation based on the UHC cube and NGOs financing source

First author (reference no)	NGOs participation base on the UHC cube								NGOs financing source		
	Service coverage			Population coverage		Financial coverage					
	Human resource	Equipment/ Facilities	Public health/ Health care service	Community participation	Poor people/ Need people/ vulnerable groups/ special disease	Insurance development/ coverage	Free charge	Providing loans/ subsidies	Government	International organization	Self-financing/ donor subsidies
Yagub, A. I. [28]	*	*	*	*	*					*	
Albis, M. L. F. [29]	*	*	*		*				*		
Amirkhanian, Y. A. [30]		*	*	*	*		*		*	*	*
Bechange, S. [31]	*			*							*
Ejaz, I. [32]	*	*	*		*						
Mercer, M. A. [33]			*		*						
Wamai, R. G [34]		*	*		*			*	*		
Mercer, A [35]		*	*		*		*		*	*	
Mercer, A [36]		*	*		*		*		*	*	
De Maio, G. [37]		*	*		*		*			*	
De Souza, R. [38]			*	*	*						
Dhingra, R. [39]		*	*		*	*					
Franco, M. M. R. [40]		*	*		*			*	*		
Gellert G. A [41]			*	*	*						
Ghosh, S. C. [42]		*			*			*			
Gilson, L. [43]	*	*	*	*	*		*		*	*	*
Gomez-Jauregui, J.			*		*				*	*	

Table 2 NGOs participation based on the UHC cube and NGOs financing source *(Continued)*

First author (reference no)	NGOs participation base on the UHC cube							NGOs financing source	
	Service coverage			Population coverage		Financial coverage			
[44]									
Heard, A [45]	*		*		*	*		*	
Holland, C. E. [46]	*		*	*	*	*			
Khan, J. A. [47]			*		*	*	*		
Khodayari-Zarnaq, R. [48]	*	*	*		*		*	*	
Maclure, R. [49]			*	*	*				*
Manna, A. [50]	*		*		*	*			
Mehta, P. [51]	*		*		*	*			
Momoh, G. T. [52]	*		*	*	*				
Mugisha F [53]			*		*				
Mukherjee S [54]			*	*					
Nguyen, N. [55]			*		*				
Perry, H. [56]			*	*	*				
Perry, H. [57]			*	*	*				
Piotrowicz M [58]			*			*		*	
Ricca, J. [59]			*	*	*				
Ui, S. [60]		*	*	*	*				
Wu, F. S. [61]	*		*		*				
Abdelmoneium, A. O. A.	*	*	*		*	*		*	

Table 2 NGOs participation based on the UHC cube and NGOs financing source *(Continued)*

First author (reference no)	NGOs participation base on the UHC cube								NGOs financing source		
	Service coverage			Population coverage		Financial coverage					
[62]											
Ahmed, N. [63]			*		*		*		*		
Kelly, Jeffrey A. [64]			*	*	*		*		*	*	*
Mercer, M. A. [65]			*		*						
Ambrosini, M. [66]		*	*	*	*		*				
Ament, J. D. [67]			*		*			*			*
Andrade, M. [68]			*		*						
Bader, F. [69]			*		*						
Baig, M. B. [70]		*	*		*						
Baqui, A. H. [71]			*		*						
Barzin, Y. [72]			*		*		*				
Cancedda, C. [73]	*	*	*		*						
Chanani, S. [74]			*		*		*		*		
Devadasan, N. [75]			*		*	*					
Edward, A. [76]	*			*							
Ferguson, J. L. [77]			*								
Fiorini, G. [78]			*		*		*				
Gilbert, H. [79]			*		*						
Heinmüller, R. [80]	*		*		*		*				

Table 2 NGOs participation based on the UHC cube and NGOs financing source *(Continued)*

First author (reference no)	NGOs participation base on the UHC cube								NGOs financing source
	Service coverage			Population coverage		Financial coverage			
Huff-Rousselle, M. [81]		*	*						
Mahyiuob Al-Honahi, H. Y. [82]			*		*				
Matousek, A. C. [83]		*	*		*		*		
Mukherjee, J. S. [84]	*				*				
Nunns, D. [85]	*	*	*		*				*
Odindo, M. A. [86]			*		*				
Oleribe, O. O. [87]		*			*				
Oseji, M [88]			*		*				
Ridde, V. [89]			*		*		*		*
Ron, A. [90]					*	*			
Sankaran, S. [91]	*		*		*				
Sarwar, M. R. [92]		*	*		*				
Sharma, A. K [93]			*		*				
Singh, M. M [94]		*	*		*				
Singh, V. [95]	*		*		*				
Sivakumar, T. [96]			*		*			*	
Soe, K. T [97]	*	*	*		*				
Solomon, Y. [98]	*	*	*	*	*				

Table 2 NGOs participation based on the UHC cube and NGOs financing source *(Continued)*

First author (reference no)	NGOs participation base on the UHC cube					NGOs financing source
	Service coverage			Population coverage	Financial coverage	
Thomas, R. [99]			*	*		
Van de Vijver, S. [100]			*	*		
Wandwalo, E. [101]			*	*		
Zachariah, R. [102]	*	*	*	*		

Table 3 Study design and methodological appraisal scores of included records

MMAT score Study design	20% *	40% **	60% ***	80% ****	100% *****	Total
Qualitative	–	5	8	3	16	32
Quantitative	–	–	3	10	16	29
Mixed method	–	–	1	–	9	10
Total	–	6	13	14	41	71

place to assist the affected people were vital. In Bangladesh, NGO partnerships with the government have resulted in relatively high coverage for reproductive and child health services and reduced infant and child mortality. The main focus of NGOs in Italy was mainly on the homeless and immigrants, including immigrant and indigenous homeless, irregular immigrants, undocumented migrants and migrant populations with HIV/AIDS [28, 32, 33, 35, 37, 66, 78, 106].

Community mobilisation is a factor that increases the positive impact of prevention programs, such as HIV. NGOs that manage health care facilities and created health care projects made significant efforts to involve the community in providing health care. NGOs involved members of at-risk communities in the social activities of the community [28, 30]. Using social networks to reach men who have sex with men, they connected more significant numbers of the population to effective HIV interventions, which will improve health outcomes and the success of Ugandan AIDS/HIV NGOs public projects that largely depends on the NGO network [31, 46].

Overall, NGOs' strengths can be found in their desire to provide quality service and service in relatively remote areas. Establishing NGOs in LMICs with complex medical procedures, such as hematopoietic stem-cell transplantation, is also essential for disadvantaged populations [40, 107]. Even those without health expertise and limited resources can effectively promote and facilitate community participation in health centre management. Such NGOs' roles are critically important for sustainable health development and should be further recognised and supported [60]. Strengthening community capacity as community mobilisation can help increase awareness, demand and utilisation of health services and local people's involvement in project planning, implementation, and evaluation [31, 54].

Financial coverage

UHC is a key priority set out by the WHO and the United Nations General Assembly [108, 109]. Social health insurance (SHI) schemes, one mechanism to achieve UHC, has become increasingly crucial in LMICs as they work to achieve this goal. To ensure comprehensive health insurance coverage for a broad population at a reasonable cost, SHI schemes are generally designed so that individuals pay into a central fund, either indirectly through taxes or directly through wage-based contributions, and receive a set package of subsidised health services through accredited providers [108, 110, 111]. However, because specific populations cannot afford any financial contribution through taxes or direct payments, many countries created hybrid SHI systems in which government funds cover these population groups [112].

Reducing health costs is one of the most critical dimensions of UHC, and NGOs can reduce the poor's financial burden through their programs [40, 50]. For example, the participation of NGOs in Indian health insurance schemes stems from the following reasons. First, in India, private spending is about two-thirds of health care costs. Second, the quality of available health care for the Indian people is poor. Third, India's health insurance coverage is limited, especially among those working outside the formal sector [39]. Using new strategies (e.g., telephone communication in palliative care) can reduce patients' financial problems. NGOs can help patients through drug subsidies and chemotherapy in very costly diseases such as hematopoietic stem-cell transplantation. In India, an NGO organised all community health insurance (CHI) schemes which increased access to health care and reduced out-of-pocket payments [75]. In Sudan, NGOs provided free vaccinations to children. In Bangladesh, NGOs established accessible toilets or provided loans in rural areas to improve their health. In Italy, NGOs providing free health care to irregular immigrants [42, 63, 66].

Overall, NGOs need sustained financial support to implement their plans and programs. A decentralised approach to a country's political structure can lead to NGOs' financial stability and productive cooperation between NGOs and the government [44, 53]. NGOs can provide financial resources themselves using a variety of strategies, including international and charitable foundations, international aid organisations, local government, foreign governments, business activity, tax exemptions, tax subsidies, and donors [28, 30, 31, 33, 40, 43–46, 48, 53, 113, 114]. In countries where HIV/AIDS prevention NGOs are active, but extensive national government financial support is lacking, NGOs' secured funding and resources enabled access to prevention, treatment, and improved HIV care [30, 46]. However, not all NGOs successfully reach their goals, especially when they face a two-track problem of building efficient service delivery to meet current needs and taking on the long-term state-building tasks that assist in establishing durable, local delivery systems, especially when such mechanisms are lacking [115].

Limitations

Due to the subject's extent, our study was limited to published papers only and excluded grey literature, which could limit our review's scope. Nonetheless, we accessed the quality of published studies and included all types of studies (i.e., qualitative, quantitative, and mixed-methods), which allowed for a comprehensive overview.

Conclusion

Significant reforms in the health system are needed to achieve UHC, but governments cannot do it alone. Accounting for possible strengths and capabilities of NGOs and sharing their resources is a potential way to reach UHC. Despite the critical role of NGOs in health services delivery, relatively little is still known about how they can engage these organisations to achieve UHC goals. NGOs could play a pivotal role in moving towards UHC alongside the government and other groups or organisations. Understanding NGOs' role and contributing to attaining UHC is critical, especially in the local context. Governments need to consider systematic and fundamental strategies for engaging NGOs towards public health goals to move towards UHC. Given the creation and expansion of health services and global attention to UHC, NGOs' presence can improve financial support and improve the status of services provided to the poor and marginalised areas.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12992-021-00778-1.

Additional file 1. Appendix 1: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist. Appendix 2: Full search strategy with results. Appendix3: Quality assessment of selected studies.

Acknowledgements

This study is part of Ph.D. thesis in the School of Management & Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran. The authors express their gratitude to Tabriz University of Medical Sciences for supporting this study.

Disclosure statement

The authors declare that they have no competing interests.

Authors' contributions

LD designed the study, provided the supervision and participated in drafting and finalising the manuscript. AS extracted the data, performed the analysis and participated in drafting the manuscript. RM critically revised the manuscript for important intellectual content. VSG contributed to categorising findings, developing the study framework, and critically reviewing the manuscript. All authors read and approved the final manuscript.

Funding

The study was funded by Tabriz University of Medical Sciences, Tabriz, Iran (Grant No: 64241).

Availability of data and materials

The data are openly available upon request from the corresponding author.

Declarations

Ethics approval and consent to participate

The ethics committee approved this study of Tabriz University of Medical Sciences (Approval No: IR.TBZMED.REC.1399.370).

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Author details

[1]Department of Health Policy & Management, Tabriz Health Services Management Research Center, School of Management&Medical Informatics, Tabriz University of Medical Sciences, Tabriz, Iran. [2]Social Determinants of Health Research Center, Tabriz Univerisity of Medical Sciences, Tabriz, Iran. [3]CenterCommunity Based Participatory Research Center and Knowledge Utilization Research Center, Tehran Univerisity of Medical Sciences, Tehran, Iran. [4]Wolfson Institute of Population Health, Queen Mary University of London, London, UK. [5]Department of Infectious Disease Epidemiology, London School of Hygiene & Tropical Medicine, London, UK.

Received: 5 June 2021 Accepted: 14 October 2021
Published online: 16 November 2021

References

1. Vega J. Universal health coverage: the post-2015 development agenda. Lancet. 2013;381(9862):179–80. https://doi.org/10.1016/S0140-6736(13)60062-8.
2. Kleinert S, Horton R. From universal health coverage to right care for health. Lancet. 2017;390:101.
3. World Health Organization. Universal Health Coverage. Access in https://www.who.int/health-topics/universal-health-coverage#tab=tab_1. Access date: 10 Sept 2021.
4. Laokri S, Weil O, Drabo KM, Dembelé SM, Kafando B, Dujardin B. Removal of user fees no guarantee of universal health coverage: observations from Burkina Faso. Bull World Health Organ. 2013;91(4):277–82. https://doi.org/10.2471/BLT.12.110015.
5. Pannarunothai S, Patmasiriwat D, Srithamrongsawat S. Universal health coverage in Thailand: ideas for reform and policy struggling. Health Policy. 2004;68(1):17–30. https://doi.org/10.1016/S0168-8510(03)00024-1.
6. Reeves A, McKee M, Stuckler D. The attack on universal health coverage in Europe: recession, austerity and unmet needs. Eur J Pub Health. 2015;25(3):364–5. https://doi.org/10.1093/eurpub/ckv040.
7. Tangcharoensathien V, Patcharanarumol W, Ir P, Aljunid SM, Mukti AG, Akkhavong K, et al. Health-financing reforms in Southeast Asia: challenges in achieving universal coverage. Lancet. 2011;377(9768):863–73. https://doi.org/10.1016/S0140-6736(10)61890-9.
8. Saleh SS, Alameddine MS, Natafgi NM, Mataria A, Sabri B, Nasher J, et al. The path towards universal health coverage in the Arab uprising countries Tunisia, Egypt, Libya, and Yemen. Lancet. 2014;383(9914):368–81. https://doi.org/10.1016/S0140-6736(13)62339-9.
9. Wang J-Y, Wang C-Y, Juang S-Y, Huang K-Y, Chou P, Chen C-W, et al. Low socioeconomic status increases short-term mortality of acute myocardial infarction despite universal health coverage. Int J Cardiol. 2014;172(1):82–7. https://doi.org/10.1016/j.ijcard.2013.12.082.
10. Zahedi M. The role of NGOs in sustainable development. Tehran: Maziar [In Persian]; 2009.
11. Pazhoh G. Handbook for NGOs. 1st ed; 2002.
12. Fox JA, Fox JA, Brown LD. The struggle for accountability: the World Bank, NGOs, and grassroots movements. California: MIT press; 1998. https://EconPapers.repec.org/RePEc:mtp:titles:0262561174.
13. Perrot J. Different approaches to contracting in health systems. Bull World Health Organ. 2006;84(11):859–66.
14. Whyle EB, Olivier J. Models of public-private engagement for health services delivery and financing in southern Africa: a systematic review. Health Policy Plan. 2016;31(10):1515–29. https://doi.org/10.1093/heapol/czw075.

15. Lepine A, Chandrashekar S, Shetty G, Vickerman P, Bradley J, Alary M, et al. What determines HIV prevention costs at scale? Evidence from the Avahan Programme in India. Health Econ. 2016;25(Suppl 1):67–82. https://doi.org/10.1002/hec.3296.
16. Olson G. Civil society: an essential partner for universal health coverage; 2017.
17. Kitutu FE, Mayora C, Johansson EW, Peterson S, Wamani H, Bigdeli M, et al. Health system effects of implementing integrated community case management (iCCM) intervention in private retail drug shops in South Western Uganda: a qualitative study. BMJ Glob Health. 2017;2(Suppl 3): e000334. https://doi.org/10.1136/bmjgh-2017-000334.
18. Lagarde M, Palmer N. The impact of contracting out on health outcomes and use of health services in low and middle-income countries. Cochrane Database Syst Rev. 2009;(4):CD008133. https://doi.org/10.1002/14651858.CD008133.
19. Peters DH, Mirchandani GG, Hansen PM. Strategies for engaging the private sector in sexual and reproductive health: how effective are they? Health Policy Plan. 2004;19(Suppl 1):i5–i21. https://doi.org/10.1093/heapol/czh041.
20. Rao KD, Paina L, Ingabire M-G, Shroff ZC. Contracting non-state providers for universal health coverage: learnings from Africa, Asia, and Eastern Europe. Int J Equity Health. 2018;17(1):127. https://doi.org/10.1186/s12939-018-0846-5.
21. Odendaal WA, Ward K, Uneke J, Uro-Chukwu H, Chitama D, Balakrishna Y, et al. Contracting out to improve the use of clinical health services and health outcomes in low- and middle-income countries. Cochrane Database Syst Rev. 2018;4:Cd008133. https://doi.org/10.1002/14651858.CD007136.pub2.
22. Koehlmoos TP, Gazi R, Hossain SS, Zaman K. The effect of social franchising on access to and quality of health services in low- and middle-income countries. Cochrane Database Syst Rev. 2009;(1):Cd007136.
23. Shah NM, Brieger WR, Peters DH. Can interventions improve health services from informal private providers in low and middle-income countries?: a comprehensive review of the literature. Health Policy Plan. 2011;26(4):275–87. https://doi.org/10.1093/heapol/czq074.
24. Loevinsohn B, Harding A. Buying results? Contracting for health service delivery in developing countries. Lancet. 2005;366(9486):676–81. https://doi.org/10.1016/S0140-6736(05)67140-1.
25. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. Ann Intern Med. 2018;169(7):467–73. https://doi.org/10.7326/M18-0850.
26. Hong QN, Pluye P, Fàbregues S, Bartlett G, Boardman F, Cargo M, et al. Mixed methods appraisal tool (MMAT), version 2018. Registration of copyright; 2018. p. 1148552.
27. Stretton T, Cochrane T, Narayan V. Exploring mobile mixed reality in healthcare higher education: a systematic review. Res Learn Technol. 2018; 26:2131.
28. Yagub AI, Mtshali K. The role of non-governmental organisations in providing curative health services in North Darfur state, Sudan. Afr Health Sci. 2015;15(3):1049–55. https://doi.org/10.4314/ahs.v15i3.48.
29. Albis MLF, Bhadra SK, Chin B. Impact evaluation of contracting primary health care services in urban Bangladesh. BMC Health Serv Res. 2019;19(1): 1–12. https://doi.org/10.1186/s12913-019-4406-5.
30. Amirkhanian YA, Kelly J, Benotsch EG, Somlai AM, Brown KD, Opgenorth K. HIV prevention nongovernmental organisations in central and Eastern Europe: programs, resources and challenges. Cent Eur J Public Health. 2004; 12(1):12–8.
31. Bechange S. Retracted: determinants of project success among HIV/AIDS nongovernmental organisations (NGOs) in Rakai, Uganda. Int J Health Plann Manag. 2010;25(3):215–30. https://doi.org/10.1002/hpm.1025.
32. Ejaz I, Shaikh BT, Rizvi N. NGOs and government partnership for health systems strengthening: a qualitative study presenting viewpoints of government, NGOs and donors in Pakistan. BMC Health Serv Res. 2011;11(1): 1–7. https://doi.org/10.1186/1472-6963-11-122.
33. Mercer MA, Thompson SM, De Araujo RM. The role of international NGOs in health systems strengthening: the case of timor-leste. Int J Health Serv. 2014;44(2):323–35. https://doi.org/10.2190/HS.44.2.i.
34. Wamai RG. Reforming health systems: the role of NGOs in decentralisation–lessons from Kenya and Ethiopia. Baltimore: International society for thirdsector research; 2008.
35. Mercer A, Khan MH, Daulatuzzaman M, Reid J. Effectiveness of an NGO primary health care programme in rural Bangladesh: evidence from the management information system. Health Policy Plan. 2004;19(4):187–98. https://doi.org/10.1093/heapol/czh024.
36. Mercer A, Uddin N, Huq NL, Haseen F, Khan MH, Larson CP. Validating neonatal mortality and use of NGO reproductive health outreach services in rural Bangladesh. Stud Fam Plan. 2006;37(2):111–22. https://doi.org/10.1111/j.1728-4465.2006.00090.x.
37. De Maio G, Van den Bergh R, Garelli S, Maccagno B, Raddi F, Stefanizzi A, et al. Reaching out to the forgotten: providing access to medical care for the homeless in Italy. Int Health. 2014;6(2):93–8. https://doi.org/10.1093/inthealth/ihu002.
38. De Souza R. Creating "communicative spaces": a case of NGO community organising for HIV/AIDS prevention. Health Commun. 2009;24(8):692–702. https://doi.org/10.1080/10410230903264006.
39. Dhingra R. NGOs and health insurance schemes in India. Health Popul Perspect Issues. 2001;24(4):206–17.
40. Rivera Franco MM, Leon RE. Importance of nongovernmental organisations for the establishment of a successful hematopoietic stem-cell transplantation program in a developing country. J Glob Oncol. 2018;4:1–8. https://doi.org/10.1200/JGO.17.00091.
41. Gellert GA. Non-governmental organisations in international health: past successes, future challenges. Int J Health Plann Manag. 1996;11(1):19–31. https://doi.org/10.1002/(SICI)1099-1751(199601)11:1<19::AID-HPM412>3.0.CO;2-#.
42. Ghosh S, Karim F, Ali A, Arif T, editors. The role of NGOs in improving sanitation status in the rural areas of Bangladesh: challenges and expectations. Loughborough: 35th WEDC International Conference; 2011.
43. Gilson L, Sen PD, Mohammed S, Mujinja P. The potential of health sector non-governmental organisations: policy options. Health Policy Plan. 1994; 9(1):14–24. https://doi.org/10.1093/heapol/9.1.14.
44. Gómez-Jauregui J. The feasibility of government partnerships with NGOs in the reproductive health field in Mexico. Reprod Health Matters. 2004;12(24): 42–55. https://doi.org/10.1016/S0968-8080(04)24146-5.
45. Heard A, Awasthi MK, Ali J, Shukla N, Forsberg BC. Predicting performance in contracting of basic health care to NGOs: experience from large-scale contracting in Uttar Pradesh, India. Health Policy Plan. 2011;26(suppl_1):i13–i9.
46. Holland CE, Papworth E, Billong SC, Kassegne S, Petitbon F, Mondoleba V, et al. Access to HIV services at non-governmental and community-based organisations among men who have sex with men (MSM) in Cameroon: an integrated biological and behavioral surveillance analysis. PLoS One. 2015; 10(4):e0122881. https://doi.org/10.1371/journal.pone.0122881.
47. Khan JA, Ahmed S, MacLennan M, Sarker AR, Sultana M, Rahman H. Benefit incidence analysis of healthcare in Bangladesh–equity matters for universal health coverage. Health Policy Plan. 2017;32(3):359–65. https://doi.org/10.1093/heapol/czw131.
48. Khodayari-Zarnaq R, Kakemam E, Arab-Zozani M, Rasouli J, Sokhanvar M. Participation of Iranian non-governmental organisations in health policy-making; barriers and strategies for development. Int J Health Governance. 2020;25(1):46–56. https://doi.org/10.1108/IJHG-07-2019-0056.
49. Maclure R. Primary health care and donor dependency: a case study of nongovernment assistance in Burkina Faso. Int J Health Serv. 1995;25(3): 539–58. https://doi.org/10.2190/X4E7-P8LN-3NHR-B6GF.
50. Mandal N. Telephonic communication in palliative care for better management of terminal cancer patients in rural India: An NGO based approach. Ann Oncol. 2019;30:ix144–ix5.
51. Mehta P, Sharma S, Shah R, Holey B, Makwana G, Sharma R, et al. Improvement in paediatric cancer survival in a developing country through collaboration with non governmental organizations. Indian Journal of Hematology and Blood Transfusion. 2013;29(4):331.
52. Momoh GT, Oluwasanu MM, Oduola OL, Delano GE, Ladipo OA. Outcome of a reproductive health advocacy mentoring intervention for staff of selected non-governmental organisations in Nigeria. BMC Health Serv Res. 2015;15(1):1–9. https://doi.org/10.1186/s12913-015-0975-0.
53. Mugisha F, Birungi H, Askew I. Are reproductive health NGOs in Uganda able to engage in the health SWAp? Int J Health Plann Manag. 2005;20(3): 227–38. https://doi.org/10.1002/hpm.811.
54. Mukherjee S, Rashmi C. NGOs role in community–based monitoring of primary health care services for Dalit women in urban slums. Rupkatha J Interdiscip Stud Humanit. 2017;9(1):250–62. https://doi.org/10.21659/rupkatha.v9n1.26.

55. Nguyen N, Jacobs JP, Dearani JA, Weinstein S, Novick WM, Jacobs ML, et al. Survey of nongovernmental organisations providing pediatric cardiovascular care in low-and middle-income countries. World J Pediatr Congenit Heart Surg. 2014;5(2):248–55. https://doi.org/10.1177/2150135113514458.
56. Perry H, Morrow M, Borger S, Weiss J, DeCoster M, Davis T, et al. Care groups I: an innovative community-based strategy for improving maternal, neonatal, and child health in resource-constrained settings. Glob Health Sci Pract. 2015;3(3):358–69.
57. Perry H, Morrow M, Davis T, Borger S, Weiss J, DeCoster M, et al. Care groups II: a summary of the child survival outcomes achieved using volunteer community health workers in resource-constrained settings. Glob Health Sci Pract. 2015;3(3):370–81.
58. Piotrowicz M, Cianciara D. The role of non-governmental organizations in the social and the health system. Przegl Epidemiol. 2013;67(1):69–74, 151.
59. Ricca J, Kureshy N, LeBan K, Prosnitz D, Ryan L. Community-based intervention packages facilitated by NGOs demonstrate plausible evidence for child mortality impact. Health Policy Plan. 2014;29(2):204–16. https://doi.org/10.1093/heapol/czt005.
60. Ui S, Heng L, Yatsuya H, Kawaguichi L, Akashi H, Aoyana A. Strengthening community participation at health centers in rural Cambodia: role of local non-governmental organisations (NGOs). Crit Public Health. 2010;20(1):97–115. https://doi.org/10.1080/09581590902829173.
61. Wu FS. International non-governmental actors in HIV/AIDS prevention in China. Cell Res. 2005;15(11):919–22. https://doi.org/10.1038/sj.cr.7290369.
62. Abdelmoneium AO. Policy and practice: non-governmental organisations and the health delivery system for displaced children in Khartoum, Sudan. Child Abuse Rev. 2010;19(3):203–17. https://doi.org/10.1002/car.1081.
63. Ahmed N, DeRoeck D, Sadr-Azodi N. Private sector engagement and contributions to immunisation service delivery and coverage in Sudan. BMJ Glob Health. 2019;4(2):e001414. https://doi.org/10.1136/bmjgh-2019-001414.
64. Kelly JA, Somlai AM, Benotsch EG, Amirkhanian YA, Fernandez MI, Stevenson L, et al. Programmes, resources, and needs of HIV-prevention nongovernmental organisations (NGOs) in Africa, Central/Eastern Europe and Central Asia, Latin America and the Caribbean. AIDS Care. 2006;18(1):12–21. https://doi.org/10.1080/09540120500101757.
65. Mercer M, Liskin L, Scott S. The role of non-governmental organisations in the global response to AIDS. AIDS Care. 1991;3(3):265–70. https://doi.org/10.1080/09540129108253072.
66. Ambrosini M. NGOs and health services for irregular immigrants in Italy: when the protection of human rights challenges the laws. J Immigr Refug Stud. 2015;13(2):116–34. https://doi.org/10.1080/15562948.2015.1017631.
67. Ament JD, Greene KR, Flores I, Capobianco F, Salas G, Uriona MI, et al. Health impact and economic analysis of NGO-supported neurosurgery in Bolivia. J Neurosurg Spine. 2014;20(4):436–42. https://doi.org/10.3171/2014.1.SPINE1228.
68. Andrade M, Santos T, Andrade L, Oliveira M, Gomes K, Araujo C, et al. Reduction of breast cancer treatment delay as a result of efforts carried out by two Brazilian NGOs. Am Soc Clin Oncol. 2018;4:Supplement 2, 39s-39s.
69. Bader F, Sinha R, Leigh J, Goyal N, Andrews A, Valeeva N, et al. Psychosocial health in displaced Iraqi care-seekers in non-governmental organisation clinics in Amman, Jordan: an unmet need. Prehosp Disaster Med. 2009;24(4):312–20. https://doi.org/10.1017/S1049023X00007032.
70. Baig M, Panda B, Das JK, Chauhan AS. Is public private partnership an effective alternative to government in the provision of primary health care? A case study in Odisha. J Health Manag. 2014;16(1):41–52. https://doi.org/10.1177/0972063413518679.
71. Baqui AH, Rosecrans AM, Williams EK, Agrawal PK, Ahmed S, Darmstadt GL, et al. NGO facilitation of a government community-based maternal and neonatal health programme in rural India: improvements in equity. Health Policy Plan. 2008;23(4):234–43. https://doi.org/10.1093/heapol/czn012.
72. Barzin Y. The role of NGOs in rural Vietnam: a case study and critique. In: Barzin Y, editor. BMC Proceedings; London: Vol. 6, Iss. Suppl 4, 2012. https://doi.org/10.1186/1753-6561-6-S4-P54.
73. Cancedda C, Davis SM, Dierberg KL, Lascher J, Kelly JD, Barrie MB, et al. Strengthening health systems while responding to a health crisis: lessons learned by a nongovernmental organisation during the Ebola virus disease epidemic in Sierra Leone. J Infect Dis. 2016;214(suppl_3):S153–S63.
74. Chanani S, Waingankar A, Shah More N, Pantvaidya S, Fernandez A, Jayaraman A. Effectiveness of NGO-government partnership to prevent and treat child wasting in urban India. Matern Child Nutr. 2019;15:e12706. https://doi.org/10.1111/mcn.12706.
75. Devadasan, N., Criel, B., Van Damme, W. et al. Performance of community health insurance in India: findings from empirical studies. BMC Proc. 2012;6:9. https://doi.org/10.1186/1753-6561-6-S1-P9.
76. Edward A, Branchini C, Aitken I, Roach M, Osei-Bonsu K, Arwal SH. Toward universal coverage in Afghanistan: a multi-stakeholder assessment of capacity investments in the community health worker system. Soc Sci Med. 2015;145:173–83. https://doi.org/10.1016/j.socscimed.2015.06.011.
77. Ferguson J, editor. A non-government organisation and mental health service collaboration for provision of residential comunity-based care. Australian & New Zealand Journal of Psychiatry. 2018;52(S1):3–156. https://doi.org/10.1177/0004867418764980.
78. Fiorini G, Cerri C, Bini S, Rigamonti AE, Perlini S, Marazzi N, et al. The burden of chronic noncommunicable diseases in undocumented migrants: A 1-year survey of drugs dispensation by a non–governmental organisation in Italy. Public Health. 2016;141:26–31. https://doi.org/10.1016/j.puhe.2016.08.009.
79. Gilbert H, Cunliffe A. Non-governmental organisations and the management of HIV and AIDS in refugee camps: A comparison of Marratane camp in Mozambique and Kakuma camp in Kenya. J Contemp Afr Stud. 2011;29(1):63–81. https://doi.org/10.1080/02589001.2011.533061.
80. Heinmüller R, Dembélé YA, Jouquet G, Haddad S, Ridde V. Free healthcare provision with an NGO or by the Malian government - Impact on health center attendance by children under five. Field Actions Science Report. 2013;8:1731. http://journals.openedition.org/factsreports/1731.
81. Huff-Rousselle M, Pickering H. Crossing the public–private sector divide with reproductive health in Cambodia: out-patient services in a local NGO and the national MCH clinic. Int J Health Plann Manag. 2001;16(1):33–46. https://doi.org/10.1002/hpm.609.
82. HY MA-H, Ohkado A, Masui T, Ali-Hussein IA, AN SA-A. A trial to mobilise NGO health volunteers to improve tuberculosis patient care in Sana'a City, Yemen. Kekkaku:[Tuberculosis]. 2010;85(3):159–62.
83. Matousek AC, Matousek SB, Addington SR, Jean-Louis R, Pierre JH, Fils J, et al. The struggle for equity: an examination of surgical services at two NGO hospitals in rural Haiti. World J Surg. 2015;39(9):2191–7. https://doi.org/10.1007/s00268-015-3084-7.
84. Mukherjee JS, Eustache FE. Community health workers as a cornerstone for integrating HIV and primary healthcare. AIDS Care. 2007;19(sup1):73–82.
85. Nunns D. Working with UK-based non-governmental organisations for better reproductive health in Nepal. BJOG Int J Obstet Gynaecol. 2011;118:93–5. https://doi.org/10.1111/j.1471-0528.2011.03117.x.
86. Odindo MA, Mwanthi MA. Role of governmental and non-governmental organisations in mitigation of stigma and discrimination among HIV/AIDS persons in Kibera, Kenya. East Afr J Public Health. 2008;5(1):1–5. https://doi.org/10.4314/eajph.v5i1.38968.
87. Oleribe OO, Aliyu S, Taylor-Robinson SD. Is the prevalence of HIV wrongly estimated in Nigeria? Some insights from a 2017 World AIDS day experience from a Nigerian non-governmental organisation. Pan Afr Med J. 2018;29(1):1–5. https://doi.org/10.11604/pamj.2018.29.119.14868.
88. Oseji M, Ogu R. Community based interventions for the reduction of maternal mortality-the role of professional health associations, non-governmental organisations and community-based organisations in delta state, Nigeria. Niger Postgrad Med J. 2014;21(4):343–9.
89. Ridde V, Somé PA, Pirkle CM. NGO-provided free HIV treatment and services in Burkina Faso: scarcity, therapeutic rationality and unfair process. Int J Equity Health. 2012;11(1):1–9. https://doi.org/10.1186/1475-9276-11-11.
90. Ron A. NGOs in community health insurance schemes: examples from Guatemala and the Philippines. Soc Sci Med. 1999;48(7):939–50. https://doi.org/10.1016/S0277-9536(98)00394-3.
91. Sankaran S, Ravi PS, Wu YE, Shanabogue S, Ashok S, Agnew K, et al. An NGO-implemented community–clinic health worker approach to providing long-term care for hypertension in a remote region of southern India. Glob Health Sci Pract. 2017;5(4):668–77.
92. Sarwar MR. Bangladesh health service delivery: innovative NGO and private sector partnerships. IDS Bull. 2015;46(3):17–28. https://doi.org/10.1111/1759-5436.12141.
93. Sharma A, Singh S, Meena S, Kannan A. Impact of NGO run mid day meal program on nutrition status and growth of primary school children. Indian J Pediatr. 2010;77(7):763–9. https://doi.org/10.1007/s12098-010-0116-z.
94. Singh MM, Garg S, Nath A, Gupta VK. An assessment of felt needs and expectations of people living with HIV/AIDS seeking treatment at NGOs in Delhi, India. Asia Pac J Public Health. 2015;27(2):NP703–NP12. https://doi.org/10.1177/1010539509336669.

95. Singh V, Ahmed S, Dreyfuss ML, Kiran U, Chaudhery DN, Srivastava VK, et al. Non-governmental organisation facilitation of a community-based nutrition and health program: effect on program exposure and associated infant feeding practices in rural India. PLoS One. 2017;12(9):e0183316. https://doi.org/10.1371/journal.pone.0183316.
96. Sivakumar T, James JW, Basavarajappa C, Parthasarathy R, Kumar CN, Thirthalli J. Impact of community-based rehabilitation for mental illness on 'out of pocket'expenditure in rural South India. Asian J Psychiatr. 2019;44:138–42. https://doi.org/10.1016/j.ajp.2019.07.029.
97. Soe KT, Saw S, van Griensven J, Zhou S, Win L, Chinnakali P, et al. International non-governmental organisations' provision of community-based tuberculosis care for hard-to-reach populations in Myanmar, 2013–2014. Infect Dis Poverty. 2017;6(1):1–7. https://doi.org/10.1186/s40249-017-0285-3.
98. Solomon Y, Ballif-Spanvill B, Ward C, Fuhriman A, Widdision-Jones K. The dynamics of community and NGO partnership: primary health care experiences in rural Mali. Promot Educ. 2008;15(4):32–7. https://doi.org/10.1177/1025382308097696.
99. Thomas R, Srinivasan R, Sudarshan H. Nutritional status of tribal children and adolescents in rural South India: the effect of an NGO delivered nutritional programme. Indian J Pediatr. 2013;80(10):821–5. https://doi.org/10.1007/s12098-013-1098-4.
100. van de Vijver S, Oti S, Cohen Tervaert T, Hankins C, Kyobutungi C, Gomez GB, et al. Introducing a model of cardiovascular prevention in Nairobi's slums by integrating a public health and private-sector approach: the SCALE-UP study. Glob Health Action. 2013;6(1):22510. https://doi.org/10.3402/gha.v6i0.22510.
101. Wandwalo E, Kapalata N, Tarimo E, Corrigan CB, Morkve O. Collaboration between the national tuberculosis programme and a non governmental organisation in TB/HIV care at a district level: experience from Tanzania. Afr Health Sci. 2004;4(2):109–14.
102. Zachariah R, Teck R, Harries A, Humblet P. Implementing joint TB and HIV interventions in a rural district of Malawi: is there a role for an international non-governmental organisation? [unresolved issues]. int J Tuberc Lung Dis. 2004;8(9):1058–64.
103. Bisika T. Health systems strengthening in conflict situations. East Afr J Public Health. 2010;7(3):277–81. https://doi.org/10.4314/eajph.v7i3.64741.
104. Marie-Renée B, Hulme J, Johnson K. Payday, ponchos, and promotions: a qualitative analysis of perspectives from non-governmental organisation programme managers on community health worker motivation and incentives. Hum Resour Health. 2014;12(1):1–9.
105. Tekhre Y, Tiwari V, Khan A. 'NGO-government' partnership for promoting primary health services: A feasibility analysis in Arunachal Pradesh. Health Popul Perspect Issues. 2004;27(4):266–83.
106. Petrosillo N, Colucci A, Luzi AM, Gallo P, Palmieri F. Italian public and non-governmental organisations related to HIV/AIDS infection and migrant populations. Ann Ist Super Sanita. 2004;40(4):433–9.
107. Galway LP, Corbett KK, Zeng L. Where are the NGOs and why? The distribution of health and development NGOs in Bolivia. Glob Health. 2012;8(1):1–13. https://doi.org/10.1186/1744-8603-8-38.
108. World Health Organisation. Sustainable health financing, universal coverage and social health insurance. World Health Assembly Resolution. 2005;58:139–40.
109. World Health Organization. Health systems financing: the path to universal coverage, The World Health report, 2010. Geneva: World Health Organization; https://apps.who.int/iris/handle/10665/44371.
110. Carrin G, James C. Reaching universal coverage via social health insurance: key design features in the transition period. Geneva: World Health Organization; 2004. p. 13.
111. Savedoff WD, de Ferranti D, Smith AL, Fan V. Political and economic aspects of the transition to universal health coverage. Lancet. 2012;380(9845):924–32. https://doi.org/10.1016/S0140-6736(12)61083-6.
112. Aspinall E. Health care and democratisation in Indonesia. Democratisation. 2014;21(5):803–23. https://doi.org/10.1080/13510347.2013.873791.
113. Lasker JN. Global health volunteering; understanding organisational goals. VOLUNTAS. 2016;27(2):574–94. https://doi.org/10.1007/s11266-015-9661-4.
114. Leonard KL, Leonard DK. The political economy of improving health care for the poor in rural Africa: institutional solutions to the principal–agent problem. J Dev Stud. 2004;40(4):50–77. https://doi.org/10.1080/00220380410001673193.
115. Commins S. Treading a delicate path: NGOs in fragile states. Draft London: Save the Children; 2007. Retrieved February 11, 2016, from http://www.alnap.org/resource/9378.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions