RESEARCH ARTICLE

Linkages between public and non-government sectors in healthcare: a case study from Uttar Pradesh, India

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Abstract

Background: Effective utilization of collaborative Non-governmental organization (NGO)-public health system linkages in pluralistic health systems of developing countries can substantially improve equity and quality of services.

Objective: The study explores level and types of linkages between public health sector and NGOs in Uttar Pradesh, an underprivileged state of India, using a social science model for the first time. It also identifies gaps and challenges for effective linkage.

Methods: Two NGOs were selected as case studies. Data collection included semi-structured in-depth interviews with senior staff and review of records and reporting formats.

Results: Formal linkages of NGOs with the public health system related to registration, participation in district level meetings, workforce linkages and sharing information on Government supported programmes. Challenges included limited data sharing, participation in planning and limited monitoring of regulatory compliances.

Discussion: Linkage between public health system and NGOs in Uttar Pradesh was moderate, marked by frequent interaction and some reciprocity in information and resource flows, but weak participation in policy and planning. The type of linkage could be described as '*complementarity*', entailing information and resource sharing but not joint action.

Conclusion: Stronger linkage is required for sustained and systematic collaboration, with joint planning, implementation and evaluation.

Keywords: Non-governmental organizations; public health system; linkages; engagement; India.

Introduction

Implementation of maternal and child health (MCH) programmes in low resource settings of developing countries typically involves multiple interventions by both government as well as non-governmental organizations (NGOs) and intergovernmental organizations (IGOs). While NGOs are nationally registered bodies, IGOs are multilateral organizations established by treaties and working with national governments on areas of common interest (Harvard Law School, 2012). In this study, we have used NGO as a broad term for any non-governmental non-profit organization, including local, national and international NGOs as well as IGOs with service delivery models. Within the pluralistic health systems in many developing countries, NGOs have emerged as important providers of social services and key partners in development, complementing and supplementing the public sector by their flexibility, innovation and access to the most vulnerable and marginalized communities in need of social services (Haque, 2002; Agg 2006). However, the effect of NGOs on MCH outcomes is generally localized, while government efforts are large scale but may have limited impact (Edwards and Hulme, 1995). In order to improve outcomes at scale, it is important that NGOs develop and maintain appropriate linkages with the wider public health system and align their activities with the overall national and regional goals (Edwards and Hulme, 1995).

India is among the countries according very high priority to improving MCH outcomes through programmes for improving availability and access to MCH care. India has a policy encouraging NGOs towards such efforts, linking with the voluntary sector to improve efficiency and reach of services (Government of India, 2012). The policy on NGOs, formulated in 2007, acknowledges them as partners in development and specifies rules of engaging them and also making them accountable without affecting their autonomy. The policy also encourages state

governments to evolve multi-stakeholder models of development, involving NGOs particularly at the grassroots level (Planning Commission, Government of India, 2012).

Health expenditure by NGOs in 2004-05 was about 3.8% of total health expenditure in India (Government of India, 2009). External flows to health sector NGOs constituted 21% of total health expenditure, about a fifth of these funds flowing into MCH and family welfare (Government of India, 2009).

NGOs are greatly dependent on linkages with local administration, provincial government, other NGOs and also private providers for their effective day-to-day functioning. Strong linkages also enhance their participation in planning, decision making and evaluation of programmes. Informing policy on strengthening such linkages requires an understanding of the nature of existing NGO - public health system linkages and avenues of interaction that can potentially serve to expand these linkages.

The relationship of NGOs with Government has been analysed and classified in social science research (Coston, 1998). In this paper the analysis of linkages is based on Coston's (1994) adaptation of a typology for analysing Government-NGO linkages, defining five levels of linkage: (1) *Autonomy* – no interaction or Government control over local organization resources; (2) *Low* linkage with little interaction; (3) *Moderate* linkage with some but regular interaction; (4) *High* linkage with much interaction and some reciprocity (some control by local organizations over their resource flows); (5) *Direction* – heavy interaction controlled by government (Coston, 1998). These levels of linkage correspond to eight types of linkage – (i) repression, (ii) rivalry, (iii) competition, (iv) contracting, (v) third-party government, (vi) cooperation; (vii)

complementarity and (viii) collaboration (Coston, 1998). This model was selected for our study as it classifies linkages into well-defined categories and provides clear operational definitions of the concepts.

For the purpose of our study, this typology has been suitably adapted to make it more representative of the health sector, more specifically linkages between the NGO and public health system (Table 1). While Coston's model was designed to reflect the extent of Government control over NGOs, our adaptation modifies the typology to explain the level of linkages rather than the extent of control. The linkages have been classified into four levels (no linkage, low, moderate and high) and six types (repression, rivalry, competition, cooperation, complementarity and collaboration). Here we explore the following research questions: (1) what are the level and types of linkages between the public sector and NGOs? (2) What are the gaps and challenges that exist for effective linkage between the two sectors?

Methods

This study was carried out between July-September 2012 in Uttar Pradesh (UP), the most populous state of India with 199.5 million population as per the latest Census in 2011. UP is also one of the most underprivileged states, with MMR of 359 per hundred thousand and IMR of 61 per thousand live births (Office of the Registrar General and Census Commissioner, India, 2011a; 2011b). The study was part of a larger grant for evaluation of interventions supported by the funders in the state of UP.

We used a descriptive, cross-sectional design with mixed qualitative methods to triangulate findings, including key informant interviews, participant observations and document reviews of organizational records pertaining to process documentation, monitoring and reporting.

*Official permission and consultation***:** We met with senior state government officials of the state National Health Mission (NHM) to explain the study significance and objectives and obtain their permission to conduct the study. We also welcomed their suggestions on the study area and organizations that could be analysed. The study plan was finalized on the basis of their inputs and approval.

District selection: We selected two districts - Sitapur and Unnao - in close consultation with the state Government officials, from a list of districts typically representative of the state and health system. The criteria were as follows: (i) variability in governance, health and development indicators; (ii) geographically non-contiguous, to minimize cross-influence, and (iii) convenience of access for ease of field research (Table 2).

Scoping visit: We conducted an initial scoping visit to UP, using a team of four researchers, to identify potential NGO participants and key informants based on their role at state and district (field) levels. The structure of the health system, linkages between Central, state and local levels and the various schemes in operation were also identified.

Selection of NGO case studies: The two NGO case studies were selected on the following considerations – (a) they must be active in field implementation of MCH programmes in both the selected districts; (b) they must be of contrasting scale, one preferably an international and the other an Indian NGO. A complete listing of NGOs working on MCH projects in the selected districts was carried out. Based on our criteria two organizations – one multilateral (UNICEF) and one national (Vatsalya) - were purposively selected as case studies for detailed analysis. In the case of UNICEF, we focused on implementation of the Social Mobilization Network or SM-Net, a programme on intensifying polio and routine immunization in designated 'high risk areas' in districts, with rigorous coverage, follow-up and demand generation activities. UNICEF's role in this programme was like a service delivery organization, training and deploying a network of mobilizers at the district and sub-district levels, and following up with close supervision and monitoring. (Coates, Waisbord, Awale, Solomon and Dey, 2013). For this reason, we included UNICEF as a case study, even though an IGO, and just to maintain consistency we will henceforth refer to it as 'NGO'.

In-depth interviews: We conducted four semi-structured in-depth interviews using in the two NGOs with a senior functionary at the state level and programme functionary at the district level, after obtaining verbal consent. The interviews were conducted using topic guides to understand the organisation's structure and functions, activities, monitoring and supervision systems, data available and linkages with the public health system.

Participant observation: Participant observation of field programme implementation was conducted at field sites of both organizations. Detailed notes were taken on the observations pertaining to all activities and interactions between staff and public health system.

Record review: The team collected and reviewed records and reporting formats from the two NGOs, such as annual reports, donor reports, field data collection formats and process documentation to understand the nature, quality and utilization of data collected by the NGOs.

Data analysis: Data was analyzed manually using a framework approach, utilizing both *a priori* and emerging themes. Initially, a list of *a priori* themes was prepared based on the areas of enquiry of the interview topic guides. The interview notes were accordingly tabulated and any emerging themes were also added. In the synthesis, data from participant observations and document reviews was combined with the interview data in order to triangulate the findings. The combined data was finally categorized on the basis of Coston's model to identify the level and type of Government-NGO linkage observed in the case studies.

Ethics: Ethical approval for the study was obtained in the UK from the LSHTM Observational/ Interventions Ethics Committee and in India from the independent review board of SPECT-ERB and the Health Ministry Screening Committee.

Results

NGO efforts in MCH in UP

On account of its poverty and large population base, UP is a priority state for large international funding complementing state efforts on MCH. WHO and UNICEF have implemented a number of MCH and reproductive health strategies and programmes in the state since 1948, when they started functioning in India (World Health Organization India, 2015). The US Agency for International Development (USAID) supported 'The Innovations in Family Planning Services' project in 1992 introduced innovative approaches in family planning. (Futures Group International, 2012). The World Bank-assisted UP Health Systems Development Project (UPHSDP) from 2000 to 2005, focused on improvements in physical infrastructure and human resources of public health facilities. The Bill and Melinda Gates Foundation (BMGF) is also investing significantly in the state since the last decade, on programmes to expand demand for MCH services, improve coverage and quality and assist implementation of the state's reproductive, maternal, child and adolescent health strategy (BMGF, 2015).

Profile of NGOs selected as case studies

UNICEF is the largest United Nations organization in India with offices in 13 states, working towards strengthening public health delivery to achieve system-set targets around maternal, newborn and child health goals (UNICEF, n.d.). Within UP, UNICEF aims to support and strengthen the state's healthcare network. UNICEF's newborn and child health activities include support to the state's immunization coverage, diarrhoea management programme and newborn intensive care units (The IDEAS Project, 2012). In maternal health UNICEF focuses on preventing maternal anaemia, early marriage and pregnancies among girls and expansion of

institutional delivery by strengthening the capacity of first referral units in handling obstetric emergencies in five districts and supporting the incentive programme for institutional deliveries called Janani Suraksha Yojana (Dhankani, 2010).

Vatsalya was established in Lucknow in 1995, primarily to work against female foeticide, which remains its primary mission. Gradually its portfolio expanded to cover other health services, particularly health and nutrition of adolescent girls. Currently Vatsalya's projects focus on prevention of female foeticide, child nutrition, community based newborn care and maternal and adolescent health. Specific to MCH, Vatsalya is implementing projects on maternal and child nutrition, newborn care, job aids to help community health workers in antenatal and postnatal counselling, and community education on MCH services including pregnancy registration, antenatal care, immunization and family planning. These projects are funded by multiple donors like Micronutrient Initiatives, Catholic Relief Services and Plan (Vatsalya, n.d.). Its approach is a combination of advocacy, capacity building (of health workers and community based NGOs), service delivery and research.

Their innovative district level model on addressing anaemia among adolescent girls, called the Saloni programme, was later adopted and scaled up to the entire state by the State NHM. Saloni targets 10-19 year old girls with health education, nutritional counselling, deworming and iron supplementation. (The IDEAS project, 2012; Vatsalya, n.d.)

Vatsalya operates at a relatively small scale, in six districts of UP. It's 2013-14 budget was around INR 7.3 million ($116,000) (Vatsalya, 2014). Vatsalya's scope is limited to improving

behavioural practices in health and gender, especially curbing female foeticide and demonstrating workable models addressing health imbalances in populations.

Aligning with the state's priority, both organizations are mandated to work in the rural, particularly remote blocks of the districts, and among poor and disadvantaged social groups.

Findings on levels and types of linkages between the Public health and NGO sector

Elements of NGO--Public health system linkages

Regulation: NGOs in India can be of three types: (i) societies registered with the respective State Office of Registrar of Societies as non-profit entities, governed by the Societies Registration Act of 1860 (a national Act with state--specific amendments); (ii) public charitable trusts, usually constituted around property, like land and buildings, governed by the Indian Trusts Act 1882, and (iii) private non-profit company, governed by the Indian Companies Act, 1956. Non-profit companies can be constituted to promote arts, science, commerce and other such interests. However, any profits or other income earned are to be used to promote objectives of the company and not paid as dividend to its members. For registered societies, annual sharing of financial and managerial reports is mandatory for renewal of registration (NGOs India, 2015). Vatsalya is a society registered in UP and has to apply for renewal at the Registrar Office every five years, when financial and operational reports are scrutinized. UNICEF, being a multilateral entity and part of the United Nations, does not have to follow these regulations.

Joint planning and review: Both formal and non-formal forums are used for information sharing and participation in planning and review, between NGOs and public health system. Under a formal institutional mechanism, UNICEF's annual plans are reviewed and vetted by the national government. Similarly at the state level too annual work plans are jointly prepared,

approved and reviewed every quarter. This ensures aligning of UNICEF activities with government priorities and implementation in close consultation with the government. The UNICEF also on its part helps state governments develop state plans of action in relevant areas.

At the state level, the 'Health Partner's Forum' (HPF), convened by the State Government, brings all NGO partners working on public health to meet every quarter and share good practices, get feedback and participate in developing district--specific action plans. Both UNICEF and Vatsalya participate in HPF meetings to share their experiences and learn from other partners (Table 3). Though initially envisaged by a senior bureaucrat, the Forum lost priority amidst unearthing of financial irregularities in utilization of NHM funds in the state in 2010 and the investigation that followed (Sharda, 2012). With a change of government in the state in 2013, the new Government took interest particularly to identify models that can be scaled up through the new NHM funds that arrived soon after. The Government is now actively using the HPF in monitoring NGO activities, reviewing progress and identifying strategies that can be scaled up.

At the district level, the District Health Society has been constituted under the NHM for joint planning, review and inter-sector coordination in implementation. Members include district administration, senior health functionaries, NGOs, private for--profit providers and other Government departments like women and child development, education and public works. Both UNICEF and Vatsalya participate in District Health Society meetings as district level NGO partners. The district administration requests their inputs on district health issues as required. UNICEF supports the district NHM staff closely for preparing the annual programme implementation plans under NHM.

Other forums for information sharing: Occasional one—to--one interactions are sought by both NGOs at state and district levels to inform senior public health officials of progress and seek resolution of any issues that may arise. Dissemination or advocacy events with Government participation serve a similar purpose. These interactions are largely initiated by the NGOs. The UNICEF Health Director meets with the State NHM Mission Director occasionally to apprise him of any issues in UNICEF programmes that may require his intervention. Similarly, the Vatsalya chief functionary meets senior health officials informally to maintain their acquaintance.

Workforce linkages: Both NGOs maintain workforce linkages with the public health system, through capacity building, technical assistance, mentoring or field coordination. Nodal staff from UNICEF is placed at the state health department for coordination and day-to-day support as required. Consultants placed in state and divisional offices also provide technical support to respective offices on a daily basis. At the district level, UNICEF conducts occasional trainings of Medical Officers and Auxiliary Nurse and Midwives and also mentors community health workers known as Accredited Social Health Activists (ASHA) to improve their skills. Vatsalya also provides support to district public health staff for program implementation, including sharing field data or other information, facilitating field visits or convening meetings with community health workers. Table 3 summarizes the contact opportunities that help maintain linkages between UNICEF and Vatsalya and different levels of Government.

Implementation linkages: Direct support to MCH programme implementation is more important at the field level, with day—to--day coordination tasks, as both NGOs were essentially supporting Government programmes. Both UNICEF and Vatsalya work closely at the field level with ASHAs and nutrition workers (Anganwadi worker) for beneficiary targeting and programme implementation. UNICEF field staff holds weekly meetings with ASHAs and Anganwadi

Workers to coordinate immunization sessions. NGOs also formally approach the Chief Medical Officer of the district to resolve any issues that may arise at the district level. At the state level, implementation linkages were mostly limited to obtaining permissions or seeking any other facilitation of field implementation.

Monitoring and reporting / Data sharing: Both UNICEF and Vatsalya record programme data meticulously on a regular basis to meet monitoring and reporting requirements. These include financial and management records, inputs and coverage data, and reports for all activities and research. For example, under the Saloni programme, Vatsalya maintains separate registers for recording data on number of adolescent girls covered under awareness generation activities (such as education sessions by health workers with adolescent girls at schools) and number of iron tablets distributed. It also records observations during meetings with community members (such as in health camps or outreach visits) or beneficiaries on a checklist. UNICEF, under its support to the Polio and Routine Immunization programmes, shares immunization data with the State Government to strengthen the public immunization database and to enable review of progress in implementation. As Government supplies are utilized in all programmes being implemented by the two organizations, the Government also maintains records of commodities supplied to the NGOs, such as vaccines, supplements or deworming tablets.

Data maintained by the NGOs, such as on eligible population, inputs and coverage is subject to strict monitoring, supervision and results based management (Table 4). Rigorous training also ensures that community level workers are proficient in data collection and maintenance, regularly validating and updating their records. Review of records revealed that the

records maintained by field staff at the district level of both NGOs were more detailed and complete than routine data collected by field level public health workers.

Challenges in effective linkage between Government and NGOs

Limited data sharing: Some data is transferred to the public health system from the NGOs, while other data sharing is negligible. Data relating to implementation of public health programmes, such as the number of children immunized, or women given three antenatal check-ups, is transferred to and utilized by the public health system. But similar data relating to other donor-funded programmes is left out and not utilized for planning purposes. For example, UNICEF data on immunization performance is integrated with the public health information system and is utilized for planning. Records of High Risk Areas are shared with community health workers to help improve coverage of target populations. However, there is no formal system of reciprocal data flow to help align NGO planning with public health priorities. Vatsalya requests informal sharing of micro plans from district level nutrition officers to integrate their own implementation plans with system-defined targets. This exchange and utilization of data between public and NGO sectors is largely informal, dependent on the will of the health officials and donors.

Limited NGO participation in planning: While forums like HPF and District Health Society are reportedly being utilized for planning, it is not clear as to whether NGOs participate as equal stakeholders to the government.

Limited monitoring regulatory compliance: A challenge in realizing effective linkage is the lack of monitoring regulatory compliance. Annual submission of financial and management

reports by NGOs for regulatory compliance are not being enforced. The common practice is of submitting these only at the time of registration renewal, which is after every 5 years. Enforcing compliance is difficult in the current setup on account of poor record maintenance and follow—up of NGOs by the government.

Both case studies show that NGOs strive to maintain close links with the public sector; the linkage is complementary in nature, being mutually beneficial to both parties, as the NGO programmes are closely associated with ongoing public health programmes. However, there are some differences in the way both the NGOs link with the public health system, that are contingent upon their size, funding and scale of operations.

Being a multilateral agency, UNICEF does not need to be registered at the State level. Its funding is independent, with no financial or management reporting to the State. It also has the mandate to work closely with the government, with much more intensive interaction and closer linkages with the State Government. Vatsalya on the other hand, is a national NGO, and is registered with the State Government. It depends on donor funded projects. Institutional and financial processes are subject to scrutiny by donors as well as the State Government. Linkages with the public health system are more limited, with the State playing a dominant role.

Discussion

Through this study, Coston's model of Government--NGO linkages is being adapted and applied in MCH research for the first time. Findings from the case studies show that there is *moderate* level of linkage between public health system and NGOs in UP, at both district and state levels. The linkages are marked by frequent interaction and some level of reciprocity in

terms of information and resource flows. However, though there are forums for interaction, NGO participation in policy and planning is weak, and there is no evidence of joint action. Since NGOs in India are not registered with the Health department we did not look into the extent of Government control in our analysis.

The type of linkage could be described as one of '*complementarity*', which entails information and resource sharing (including government grants and contracts) but not joint action (Coston, 1998). UNICEF works with the public health system at all levels to strengthen and support it, and Vatsalya aligns its planning and implementation with it too. The public health system utilizes their strengths of technical competency and access to vulnerable groups in improving programme outreach and quality. Yet clearly, it is the dominant partner, with the NGOs proactively striving to maintain formal and informal linkages as they cannot operate without State permission, and require the State Government's intervention to resolve any implementation issues. Linkage with the public health system also has potential positive effects for NGOs because of their need for (a) resources and (b) cooperative implementation of programmes in alignment with public health system (Coston, 1998). Complementarity entails potential NGO participation in planning and policy making. Both NGO case studies have different linkages in this regard -- while UNICEF is closely involved in supporting the State Government in policy and planning, Vatsalya's involvement is limited to participation in HPF and some technical committees.

What drives these linkages between NGOs and public health system? In a relationship where the government is in a dominant position, NGOs seek improved linkages with the public health system for several reasons. They aspire to maintain positive relations with the regulator and to facilitate permissions wherever required. Since their work is aligned closely with public

health system, better cooperation and coordination with public health personnel at all levels is an essential requirement. Highlighting positive outcomes to the Government also increases the possibility of scaling up of successful strategies, winning future public contracts and participation in policy making and planning. In an evaluation of NGO--operated projects for vulnerable children in five African countries, strong partnership with national and local Governments was identified as a key factor for sustainability (Rosenberg, Hartwig and Merson, 2008). Large scale contracting to NGOs is employed as a strategy by governments to capitalize on the resource efficiency and quality advantages offered by NGOs (Gilson, Sen, Mohammad and Mujinja, 1994, World Health Organization, 2000).

The public health system also maintains linkages with NGOs for different reasons. The Government seeks periodic information from NGOs for regulatory compliance. This is required by both Federal governments as lawmakers and regulators of foreign funding, and state governments as law enforcers. Historically, access to remote and vulnerable populations and foreign funding by NGOs has been of concern to federal Governments (Gilson *et al.*, 1994). In Africa, donor funding on HIV/AIDS was channelled largely through NGOs, often at the cost of local health systems (World Health Organization, 2000). Governments increasingly push for closer scrutiny of NGO funding, geographical reach and activities.

Close association of NGOs in programme implementation provides the advantages of better access to vulnerable groups or difficult areas and innovative strategies to help accelerate progress towards public health goals. Engaging NGOs for improving programme coverage, demand and quality is now a well-established strategy in several developing countries, such as Tanzania, Bangladesh, South Africa, Pakistan and India (Haque 2002; Pfeiffer *et al*. 2008;

Rosenberg *et al*. 2008; Ejaz *et al*. 2011; Heard *et al*. 2011; Nxumalo, Goudge and Thomas, 2013). For example, the Government of Bangladesh proactively engaged with NGOs in improving the coverage of vulnerable groups under its tuberculosis control programme (Zafar Ullah, Newell, Ahmed, Hyder and Islam, 2006). Technical assistance by NGOs helps improve productivity and skills of public health staff as well as facilitate implementation. Information sharing by NGOs helps in identification of different innovative strategies that can be scaled up by the government for greater effect.

Limitations & recommendations

A more diverse exploration of NGO-public health system linkages in UP could have been carried out. However, we feel that this typology of NGO-public health system linkages could be used effectively to assess linkages and identify areas requiring modification and improvement. Our approach could help government to identify areas which need more investment to improve NGO linkages.

Collaborative linkages with NGOs, if utilized effectively, can lead to improved equity and quality of services leading to improved MCH outcomes (Baliga, Raghuveera, Prabhu, Shenoy and Rajeev, 2006; Ejaz *et al.*, 2011). Research also advocates strong Government coordination of NGOs for responsive services aligned with public health goals (Gilson *et al*., 1994). It also corroborates WHO's call for governments in pluralistic health systems to fulfil their 'stewardship' function by improving engagement and inclusive planning with the diverse providers to enhance benefits to the community (World Health Organization, 2000). NGO linkages can be best utilized for health system improvement if there is horizontal and vertical integration of the NGOs with the public health system and among themselves (Malena, 1997).

However, our findings highlight the lack of a structured engagement strategy with NGOs by the public health system that inhibits the effective utilization of existing linkages. In order to standardize the NGO--public health system relationship, a statutory forum would improve interaction and collaborative functioning. Also, the process would need complete mapping of the NGOs operating in the state health sector. The UP Government commissioned an evaluation of NGOs in health sector in the state, but there is no evidence of whether the data was utilized (Heard *et al*., 2011).

An under-utilized area of government engagement is with donor agencies, in order to align donor--funded programmes with state priorities and help facilitate compliance with the public sector's data sharing requirements. Ideally, formalization of an engagement strategy and its piloting at a sample district level for a fixed duration would help demonstrate the effectiveness of such a forum, its practicability and advantages at the ground level.

Based on Coston's model, a recommended engagement strategy of 'high' level of linkage between NGOs and public health system would include information and resource sharing, joint action or implementation and participation in policy and planning, all within a favourable policy environment. Information sharing in the health sector at both state and district levels is critical for evaluating MCH programmes as well as designing effective policies or interventions (Sood, Burger, Yoong, Kopf and Spreng, 2011). Resource sharing is largely from the government to NGOs as financial assistance for improved reach and quality of MCH services (Sood *et al*., 2011). NGO participation in health policy and planning at the macro (state) and micro (district) levels is pivotal in enabling effective joint action and alignment of health goals of the implementing partners (Wamai, 2008). Last but not the least, a favourable health policy

environment at the State level is needed to realize this high level of linkage. Brazil gives a good example of health policy favouring strong interactions and productive engagement of all stakeholders in terms of social participation, regulation, auditing, monitoring, and evaluation (Victora et al., 2011). The High Level Expert Group on Universal Health Coverage in India has also recommended enhanced role of the private health sector, both for--profit and non-profit, in delivering universal healthcare (Public Health Foundation of India, 2011). Its role is seen as complementary to the public health system primarily in fulfilling service guarantees through innovations and ensuring competitive quality benchmarks (Public Health Foundation of India, 2011). To achieve this, the Expert Group has recommended a broader engagement model with the private sector (both for--profit and non-profit) through strong regulation, accreditation, supervisory frameworks, and controlled input deployment along with careful tracking of outcomes (Public Health Foundation of India, 2011).

Conclusion

The case studies highlight existing linkages between public and NGO sectors in UP. We found a moderate level of collaborative NGO--public health system linkage, using an adaptation of Coston's model. NGOs and health system are linked through regulation, joint planning and review through forums like HPF, information sharing, workforce and implementation linkages and data sharing. NGOs are significant partners of the Government in the effort to improve MCH in pluralistic health systems of developing countries like India. Strong linkages between NGOs and the Government would help improve service coverage and outcomes through collaborative functioning. For joint planning, implementation and evaluation, public health and NGO sectors need to be more strongly integrated through a formal system for sustained and systematic collaboration. Both the public health system and NGOs would gain from this. .In Bangladesh, for example, government--NGO collaboration in tuberculosis control was successful in improving the coverage, quality and sustainability of the programme (Zafar Ullah *et al*., 2006). In UP itself, a study successfully demonstrated that NGO facilitation of the government's community--based health programme improved the equity of maternal and newborn health in rural areas (Baqui et al., 2008).

NGOs can thus be valuable partners of the public health system in achieving its MCH goals. Understanding the extent of NGO-government linkages is crucial to identify areas that need strengthening to increase collaboration and coordinated efforts. Towards this end, a study is currently underway in a state of India to create a platform to bring the public and private sectors together for formal data sharing and enabling utilization of data for decision making.

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References

1. Agg, C. (2006). *Trends in government support for non-governmental organizations. Is the "Golden Age" of the NGO behind us?* Geneva: United Nations Research Institute for Social Development.

2. Baliga, S.B., Raghuveera, K., Prabhu, B.V., Shenoy, R. & Rajeev, A. (2006). Scaling up of facility based neonatal care – a district health system experience. *J Trop Pediatr*, 53, 107-12. doi: 10.1093/tropej/fml072.

3. Baqui, A.H., Rosecrans, A.M., Williams, E.K., Agrawal, P.K., Ahmed, S., Darmstadt, G.L., … Santosham, M. (2008). NGO facilitation of a government community-based maternal and neonatal health programme in rural India: improvements in equity. *Health Policy Plann*, 23, 234-43. doi: 10.1093/heapol/czn012.

4. BMGF. (2015). Our work in India. Retrieved from http://www.gatesfoundation.org/What-We-Do/Global-Policy/Regional-Offices/Our-Work-in-India

5. Coates, E.A., Waisbord, S., Awale, J., Solomon, R. and Dey, R. (2013). Successful polio eradication in Uttar Pradesh, India: the pivotal contribution of the Social Mobilization Network, an NGO/UNICEF collaboration. *Global Health: Science and Practice*, 1, 68-83. doi: 10.9745/GHSP-D-12-00018.

6. Coston, J.M. (1998). A model and typology of Government-NGO relationships. *Nonprofit and Voluntary Sector Quarterly*, 27, 358-82.

7. Dhankani, R. (2010). UNICEF in Uttar Pradesh, India. Retrieved from http://www.unicef.org/india/overview_4299.htm.

8. Edwards, M. and Hulme, D. (1995). Scaling up NGO impacts. *Boiling Point*, 35, 1-3. Retrieved from http://www.dochas.ie/pages/resources/documents/Scaling_Up_NGO_Impact.pdf

9. Ejaz, I., Sheikh, B.T. and Rizvi, N. (2011). NGOs and government partnership for health systems strengthening: A qualitative study presenting viewpoints of government, NGOs and donors in Pakistan. *BMC Health Serv Res*, 11, 122. doi:10.1186/1472-6963-11-122.

10. Futures Group International. (2012). *20 Years of the Innovations in Family Planning Services Project in Uttar Pradesh, India. Experiences, lessons learned and achievements*. New Delhi: Futures Group International.

11. Gilson, L., Sen, P.D., Mohammad, S. and Mujinja, P. (1994). The potential of health sector non-governmental organizations: policy options. *Health Policy Plann*, 9, 14-24. Retrieved from http://heapol.oxfordjournals.org/

12. Government of India, Ministry of Health and Family Welfare (2009). *National health accounts India 2004-05.* New Delhi: Ministry of Health and Family Welfare, Government of India.

13. Government of India, Ministry of Health and Family Welfare (2012). *NRHM-NGO partnership in the twelfth plan. Operational guidelines*. New Delhi: Ministry of Health and Family Welfare, Government of India.

14. Harvard Law School. (2012). Intergovernmental Organizations (IGOs). Retrieved from http://www.law.harvard.edu/current/careers/opia/public-interest-law/public-international/interngovernmental-organizations.html

15. Haque, M.S. (2002). The changing balance of power between the government and NGOs in Bangladesh. *International Political Science Review*, 23, 411-35. doi: 10.1177/0192512102023004006.

16. Heard, A., Awasthi, M.K., Ali, J., Shukla, N. and Forsberg, B.C. (2011). Predicting performance in contracting of basic health care to NGOs: experience from large-scale contracting in Uttar Pradesh, India. *Health Policy Plann*, 26, i13–i19. doi:10.1093/heapol/czr030.

17. Malena, C. (1997). *NGO involvement in World Bank-financed social funds: lessons learned*. Washington DC: The World Bank.

18. Meessen, B., Bigdeli, M., Chheng, K., Decoster, K., Ir, P., Men, C. and Van Damme W. (2011). Composition of pluralistic health systems: how much can we learn from household surveys? An exploration in Cambodia. *Health Policy Plann*, 26, i30–i44. doi:10.1093/heapol/czr026.

19. NGOs India. (2015). NGO Registration Methods. Retrieved from http://www.ngosindia.com/resources/ngo_registration.php

20. Nxumalo, N., Goudge, J. and Thomas, L. (2013). Outreach services to improve access to healthcare in South Africa: lessons from three community health worker programmes. *Glob Health Action*, 6, 19283. doi: 10.3402/gha.v6i0.19283.

21. Office of the Registrar General & Census Commissioner, India. (2011). *Special Bulletin on maternal mortality in India 2007-09*. New Delhi: Office of the Registrar General & Census Commissioner, India.

22. Office of the Registrar General and Census Commissioner, India. (2011). *SRS Bulletin*, 46, 1.

23. Pfeiffer, J., Johnson, W., Fort, M., Shakow, A., Hagopian, A., Gloyd, S. and Gimbel-Sherr, K. (2008). Strengthening health systems in poor countries: a code of conduct for non-governmental organizations. *Am J Public Health*, 98, 2134-40. doi: 10.2105/AJPH.2007.125989.

24. Planning Commission, Government of India. (2012). *Report of the steering committee on voluntary sector for the twelfth five year plan (2012-17)*. New Delhi: Government of India.

25. Public Health Foundation of India (2011). *Report of the High level expert group report on universal health coverage for India*. New Delhi: Public Health Foundation of India.

26. Rosenberg, A., Hartwig, K. and Merson, M. (2008). Government-NGO collaboration and sustainability of orphans and vulnerable children projects in southern Africa. *Evaluation and Program Planning*, 31, 51-60. doi:10.1016/j.evalprogplan.2007.08.005.

27. Sharda S. (2012, June 7). Health Partners Forum to boost NRHM projects in Uttar Pradesh. *The Times of India*. Retrieved from: http://timesofindia.indiatimes.com/city/lucknow/Health-Partners-Forum-to-boost-NRHM-projects-in-Uttar-Pradesh/articleshow/13880722.cms

28. Sood, N., Burger, N., Yoong, J., Kopf, D., Spreng, C. (2011). Firm-level perspectives on public sector engagement with private healthcare providers: survey evidence from Ghana and Kenya. *PLoS ONE*, 6, e27194. doi: 10.1371/journal.pone.0027194.

29. The IDEAS project, London School of Hygiene and Tropical Medicine. (2012). *Data informed platform for health. Feasibility study report. Uttar Pradesh, India*. London: The IDEAS Project.

30. Vatsalya. (http://vatsalya.org.in/)

31. Vatsalya. (2014). *Audit report and consolidated financial statements*. Lucknow: Vatsalya.

32. Victora, C.G., Barret, M.L., do Carmo Leal, M., Monteiro, C.A., Schmidt, M.I., Paim, J., … Barros, F.C. (2011). Health conditions and health-policy innovations in Brazil: the way forward. *Lancet*,377, 2042–53. doi: 10.1016/S0140-6736(11)60055-X.

33. Wamai, R.G. (2008). *Reforming health systems: the role of NGOs in Decentralization – lessons from Kenya and Ethiopia.* Boston: Harvard School of Public Health.

34. World Health Organization (2000). The world health report 2000. Health systems: improving performance. Geneva: World Health Organization.

35. World Health Organization India. (2015). About WHO India. Retrieved from http://www.searo.who.int/india/about/en/

36. Zafar Ullah, A.N., Newell, J.N., Ahmed, J.U., Hyder, M.K.A. and Islam, A. (2006). Government–NGO collaboration: the case of tuberculosis control in Bangladesh. *Health Policy Plann*, 21, 143-55. doi:10.1093/heapol/czj014.

Table 1. Levels and types of government-NGO linkages

Levels	Types
1 -- No linkage	**Repression:** Unfavourable policy (NGOs not permitted to work); No NGOs function **Rivalry:** Few mandated supportive services by NGOs; unfavourable policy; linkages dominated by regulatory checks **Competition**: Unfavourable policy; NGOs seen as unwanted critics or competitors in service delivery & also for foreign funds or local power; though competition may increase client responsiveness by both parties, it may also lead to repression of NGOs
2 -- Low linkage	**Cooperation:** Limited flow of information between the two sectors; Government policy is neutral towards NGOs; possible resource sharing & joint action (NGOs as consultants, contractors, co-financers and implementers)
3 -- Moderate	**Complementarity:** Less than optimal sharing of information &

linkage	resources; Government policy inconclusive; potential NGO participation in policy & planning; technical, financial and geographical balance; relatively specialized role of NGOs as opposed to supplementary or competitive; provision of qualitatively different services by both NGOs & Government
4 -- High linkage	**Collaboration:** Optimal sharing of information & resources; joint action or coproduction resulting in service networks consisting of multiple organizations; favourable Government policy; NGO participation in policy, planning & implementation; mutual benefit strategy; NGO autonomy (symmetrical power relationship)

1 Source: Adapted from model presented by Coston, 1994

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Table 2. Key health and development indicators -- Sitapur and Unnao, UP

Indicators	Unnao	Sitapur
Total Population	3,110,595	4,474,446
Female literacy rate	63.0	53.4
Sex ratio at birth	937	994
Sex ratio (all ages)	888	881
Crude birth rate	21.2	28.0
Total Fertility Rate	3.3	4.4
Institutional deliveries (%)	52.8	42.4
No. of public health facilities	538	622
Percentage villages with public health centres	31	30
Infant mortality rate	58	80
Neonatal mortality rate	36	54
Under five mortality rate	83	116
Maternal Mortality Rate*	346	346

Note: * District level MMR figure is not available therefore sub-regional estimate has been used.

Sources: Annual Health Survey, Uttar Pradesh Factsheet, 2011-12, Office of the Registrar General & Census Commissioner, India, Ministry of Home Affairs; http://www.nlrindia.org

Table 3. Formal contact opportunities between selected NGOs and the public health system

Levels of interaction	**Formal contact opportunities**	
	UNICEF	**VATSALYA**
State Level	• Health Partner's Forum. • Technical support for coordination, planning, and policy making. • Feedback to Government on routine immunization.	• Health Partner's Forum. • Regular meetings with senior State Government officials. • Membership in state committees on health, nutrition and child rights.
District level	• District Health Society / other district health planning meetings.	• District Health Society meeting.
Sub-district (block) level	• Monthly coordination meetings. • Task force meetings of MCH programs. • Monitoring meetings between district and block/community level field staff. • Field monitoring visits • Support in planning ASHA meetings.	• Advisory committee meeting for review and planning. • Task force meetings of MCH programs. • Support in planning ASHA meetings.

Table 4. Supervision systems in NGO case studies

Level of interaction	Supervisory activities	
	UNICEF	**VATSALYA**
State Level	• Annual field observation visits. • Quarterly programme review meetings. • Technical support to district staff. • Daily monitoring during intensified immunization campaigns.	• Quarterly progress reports to donor. • Quarterly programme review meetings.
District level	• Format based reporting from district to state level. • Fortnightly meetings between district, block & field staff. • Monitoring visits by District Mobilizers.	• Format based reporting from district to state level. • Field visits by District Coordinator. • Day-to-day contact with field staff.
Sub-district (block) level	Daily field supervision visits by Block Mobilizers.	Daily field supervision visits by Block Coordinators.