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'Scaling-up is a craft not a science': Catalysing scale-up of health innovations in Ethiopia, India and Nigeria



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ABSTRACT

Donors and other development partners commonly introduce innovative practices and technologies to improve health in low and middle income countries. Yet many innovations that are effective in improving health and survival are slow to be translated into policy and implemented at scale. Understanding the factors influencing scale-up is important. We conducted a qualitative study involving 150 semi-structured interviews with government, development partners, civil society organisations and externally funded implementers, professional associations and academic institutions in 2012/13 to explore scale-up of innovative interventions targeting mothers and newborns in Ethiopia, the Indian state of Uttar Pradesh and the six states of northeast Nigeria, which are settings with high burdens of maternal and neonatal mortality. Interviews were analysed using a common analytic framework developed for cross-country comparison and themes were coded using Nvivo. We found that programme implementers across the three settings require multiple steps to catalyse scale-up. Advocating for government to adopt and finance health innovations requires: designing scalable innovations; embedding scale-up in programme design and allocating time and resources; building implementer capacity to catalyse scale-up; adopting effective approaches to advocacy; presenting strong evidence to support government decision making; involving government in programme design; invoking policy champions and networks; strengthening harmonisation among external programmes; aligning innovations with health systems and priorities. Other steps include: supporting government to develop policies and programmes and strengthening health systems and staff; promoting community uptake by involving media, community leaders, mobilisation teams and role models. We conclude that scale-up has no magic bullet solution – implementers must embrace multiple activities, and require substantial support from donors and governments in doing so.

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1. Introduction

There is growing attention on how to build on the achievements of the Millennium Development Goals after 2015. In the field of health this means continuing to improve the effectiveness of health policies and programmes and to extend their reach to the maximum number of beneficiaries. Donors and other development partners commonly introduce innovative practices and technologies to improve health in low and middle income countries. Yet many effective innovations are slow to be translated into policy and implemented at scale. Understanding the factors influencing scale-

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up is clearly important (Paina and Peters, 2011; Yamey, 2012; Sgaier et al., 2013; Gawande, 2013).

There are multiple meanings of 'scale-up' including increasing financial, human or capital programme inputs and increasing programme reach to benefit greater numbers of people over wider geographical areas (Mangham and Hanson, 2010). We define scale-up as: '... an increase in the coverage of health interventions that have been tested in pilot and experimental projects in order to benefit more people ...' (Mangham and Hanson, 2010:2 after Simmons et al., 2007). There is an extensive literature on the factors influencing lack of or limited adoption and scale-up of innovations in health and other sectors. Factors include the features of an innovation such as its simplicity, comparative advantage and whether benefits can be observed (Fajans et al., 2006; WHO and ExpandNet, 2009, 2010, 2011; Simmons et al., 2010). The characteristics, needs and attitudes of potential adopters – the 'receiving environment' – influence their willingness or ability to accept new practices or technologies, and 'change agents' such as policy champions and community opinion leaders can influence government adoption, and community acceptance of an innovation (Ryan and Gross, 1943; Rogers, 1962; Greenhalgh et al., 2004; Fajans et al., 2006; Cooley and Kohl, 2006; Dearing, 2008; WHO and ExpandNet, 2009, 2010, 2011; Linn et al., 2010; Simmons et al., 2010; Yamey, 2011; Bradley et al., 2012). The political, economic and social contexts within which innovations are introduced are important. Decision makers' values, ideas and ideologies often shape health priorities and which policies and programmes are adopted or rejected, and decisions are inevitably constrained by financial resources and influenced by prevailing social attitudes (Cooley and Kohl, 2006; Shiffman, 2010; Linn et al., 2010; WHO and ExpandNet, 2009, 2010, 2011). Different actors have different levels of power to influence policy decisions, including the power of civil society advocates to make demands of governments (Sabatier and Jenkins-Smith, 1993; Walt and Gilson, 1994; Cooley and Kohl, 2006; Shiffman, 2010; Harmer et al., 2013). There are aspects of health systems that enable or constrain the delivery of innovations at scale including health workers' training and attitudes, and the strength of supply chains and supervision systems (Hanson et al., 2003; Fajans et al., 2006; Simmons et al., 2007; Mangham and Hanson, 2010; WHO and ExpandNet, 2010; Simmons et al., 2010). Community uptake of an innovation may be influenced by sociocultural values and norms, health beliefs and practices, while access may be constrained by economic, geographical and bureaucratic barriers (Cooley and Kohl, 2006; Fajans et al., 2006; Gilson and Schneider, 2007).

While there is a rich conceptual literature, few empirical studies of the adoption, scale-up and diffusion of innovative practices and technologies have focussed on low- and middle-income countries. We conducted a qualitative study to explore scale-up of innovative maternal and newborn health (MNH) interventions targeting mothers and newborns within poor, vulnerable populations in Ethiopia, the Indian state of Uttar Pradesh and the six states of northeast Nigeria, which are settings with some of the highest burdens of maternal and neonatal mortality in the world. Our aim was to identify the key activities that implementers of externally funded MNH and other health programmes can adopt to catalyse scale-up of their innovations beyond their intervention districts.

2. Methods

Informed by the above literature our study aimed to capture the key activities we expected externally funded implementers to adopt in an effort to catalyse scale-up as follows:

- Designing scalable innovations;
- Planning scale-up;

- Persuading government to accept, adopt and finance innovations at scale;
- Supporting and enabling government to implement innovations at scale;
- Promoting community acceptance and uptake of innovations.

Based on these activities we developed a topic guide that was piloted in Addis Ababa by researchers from Ethiopia, India, Nigeria and the UK, and minor adaptations were made to reflect country contexts. Between July 2012 and April 2013 we conducted fifty semi-structured interviews in each of the three settings with purposively selected stakeholders representing government, development partner agencies, civil society organisations including externally funded MNH implementers, professional associations and academic institutions. All interviewees had a role in the field of MNH or in-depth knowledge of issues surrounding the scaling-up of MNH innovations. Interviewees included: directors and managers, programme officers and coordinators, technical advisors, and research and evaluation officers.

Our interviews focussed on ways externally funded implementers – civil society and academic organisations funded by bilateral and philanthropic donors including the Bill & Melinda Gates Foundation – develop, deliver, evaluate and position for scale-up relatively small scale MNH-related 'innovations', which we define as approaches that are new in a particular programme context with the aim of improving MNH. Some of these innovations promote community behaviour change such as demand for new products, services or approaches, while others aim to enhance coverage, quality, efficiency and equitable delivery of existing government MNH services in rural settings. Illustrative examples are given in Box 1.

The interviews were conducted by NS, RD, DB, AW and FF and other researchers trained in qualitative methods using the topic guides. Respondents gave informed consent before interviews which took place in private spaces to maintain confidentiality. Sound recordings were used to capture interview data. Expanded field notes (Halcombe and Davidson, 2006) were written soon after each interview consisting of detailed notes organised under analytic themes including quotes to illustrate interviewees' voices. Data capture and analysis occurred concurrently, with interviewers noting interpretations and emerging hypotheses for further exploration in subsequent interviews.

The analysis involved multiple stages: 1) NS, DW, FW, RD and DB attended an analysis workshop in London in December 2012 where emerging findings were reviewed and jointly agreed, and a

Box 1

Examples of innovative technologies and practices.

- Increasing capacity, broadening roles and incentivising frontline workers including community health workers and traditional birth attendants
- Introducing tools to enhance frontline worker performance including communications materials, mobile phone technologies and quality assurance measures
- Strengthening healthcare referral systems to increase facility deliveries through introducing emergency transport schemes, an MNH call centre and strengthening the role of community health workers and traditional birth attendants in making referrals
- Strengthening community structures to raise awareness, promote behaviour change and make decisions locally

common analytic framework was developed for cross-country comparison; 2) NS and DW systematically analysed the expanded field notes using Nvivo Version 10, adopting a framework approach (see Pope and Mays, 2000) whereby *a priori* and emerging themes were coded; 3) themes were then tabulated using the common analytic framework; 4) the paper was drafted by NS and reviewed by all authors to confirm the findings are accurately and coherently presented; 5) findings were presented to interviewees and other country stakeholders in India, Nigeria and Ethiopia and research briefings were produced summarising study messages.

Interviewers were professionally trained qualitative researchers who understood the importance of capturing interviewees' perspectives rather than their own. Interviewees were all professionals, with many in senior positions, although the power differentials between them and the interviewers were limited. Our investigator triangulation approach whereby interpretations were compared and agreed among the researchers (Seale, 2004) enhanced our confidence in the results reported: multiple researchers contributed to each set of expanded field notes, and our analysis workshop meant interpretations and cross-country comparisons were jointly agreed. While externally funded implementers often reflected positively on their work the fact that we sought perspectives of individuals from different organisations and our relatively large qualitative sample meant we are confident we are presenting a balanced account. Our selected interviewees represent a range of relevant organisations which enabled us to compare viewpoints and triangulate the data by cross-checking interviewees' accounts. Indeed, we found considerable consistency between interviewees' views. In this paper we draw out the most important themes commonly agreed among the different constituencies of interviewees, and point to major differences between countries.

Ethical approval for IDEAS was granted by: the London School of Hygiene and Tropical Medicine Ethics Committee; the Ethiopian Federal Ministry of Science and Technology together with IRB approval for Amhara, Oromia, SNNP and Tigray regions; SPECT-ERB in India; the Nigerian National Health Research Ethics Committee and Gombe State of Nigeria Ministry of Health Headquarters.

3. Results

Based on the themes emerging from our 150 interviews we identified key activities externally funded implementers adopted to catalyse scale-up as follows:

- designing scalable innovations;
- planning for scale-up by:
 - embedding scale-up in programme design;
 - building implementer capacity to catalyse scale-up;
- persuading government to accept, adopt and finance innovations at scale through:
 - adopting effective approaches to advocacy;
 - presenting evidence;
 - involving government;
 - invoking policy champions and networks;
 - harmonisation;
 - policy alignment;

- supporting and enabling government to scale-up; and
- promoting community acceptance and uptake of MNH innovations.

The following sections explore each of these activities in turn.

3.1. Designing scalable innovations

Respondents identified multiple attributes of innovations that increased the prospects of government adoption and community uptake at scale (Table 1). They stressed how central it was to get an innovation right, making it critical to allocate enough time to

Table 1
Attributes of scalable health innovations.

Relevant & important	<input type="radio"/> Addresses important and/or visible health problems/needs
Effective & advantageous	<input type="radio"/> Impacts positively on communities' health
	<input type="radio"/> Has a comparative advantage over other innovations
Observable benefits	<input type="radio"/> Benefits and health impacts are visible
	<input type="radio"/> Benefits are easily demonstrated through evidence
Acceptable to health workers & communities	<input type="radio"/> Culturally acceptable to sociocultural norms, religions, language, health beliefs and practices
	<input type="radio"/> Appropriately branded using ideas and language meaningful to users
	<input type="radio"/> Seen as being owned by communities
	<input type="radio"/> Works with existing community structures and actors including village committees and traditional birth attendants
	<input type="radio"/> Benefits and incentivises health workers
	<input type="radio"/> Does not burden health workers by adding to their workload or making them more accountable for failure
Simple & low cost	<input type="radio"/> Simple/convenient to use and easily understood by health workers and communities
	<input type="radio"/> Low cost to implement at scale and/or cost effective
	<input type="radio"/> Low human resource inputs required
	<input type="radio"/> Places no/minimal cost burden on user communities
Aligned & harmonised	<input type="radio"/> Builds on and aligns with existing government health systems
	<input type="radio"/> Addresses needs/fills gaps in government health programmes
Adaptable	<input type="radio"/> Coordinates with other donor programmes
	<input type="radio"/> Adaptable to different geographical, socio-economic and cultural contexts
Sustainable	<input type="radio"/> Adaptable to different health systems contexts
	<input type="radio"/> Avoids/has low recurrent costs
	<input type="radio"/> Includes local income generating schemes

incubate good ideas, and evaluate and refine innovations or identify the most scalable elements of an innovation. However it is difficult to design innovations with all of these attributes – compromises are inevitable: *'When you say something was successful, it does not imply that it was perfect'* reflected a civil society interviewee in Uttar Pradesh. Interviewees described challenges in addressing socio-cultural norms such as hegemonic gender relations and the Indian caste system, often making it easier to stimulate community acceptance of technologies than behaviour change. Others described a tension between developing high quality innovations – 'boutique projects' requiring considerable effort, time and financial resources – and simple, low cost innovations attractive to resource-conscious government decision makers. A civil society interviewee in India said: *'In order to look good we invest so many resources ... but after the project ends it's the end of everything. You cannot have a programme that's so resource intensive!'*

3.2. Planning for catalysing scale-up

3.2.1. Embedding scale-up in programme design: *'... do your homework first before implementing a programme'*

Respondents acknowledged the importance of embedding catalysing scale-up within programme design, although they accepted that this is often more of an afterthought than well-integrated within programmes; indeed thinking on scale-up evolves over a programme's life. Interviewees talked of the importance of having an advocacy plan detailing methods and timing of advocacy, who in government to advocate to and plans for communicating evidence.

Donors and implementers therefore need to allocate financial, human and technical resources to catalysing scale-up, without which implementers inevitably concentrate on core programmatic deliverables. Interviewees argued that donors should financially incentivise implementers. An Indian academic explained: *'... donors should set aside funding and tell the grantees that 30% you will invest in ... scaling-up ... But you have to let them know because without that they will look for their next grant'*. Others stressed the importance of allocating sufficient time – *'For scale-up it takes time – two, three years minimum'* according to an Ethiopian development partner – but accepted this is often overlooked or underestimated, as short-term grants to achieve ambitious programmatic deliverables are the norm. An academic in India described this commonly experienced frustration: *'So many times the idea is just at its tipping point of becoming scaled-up when the donors pull out'*.

According to our interviewees assessing the political climate, policy priorities, government systems, institutions and procedures is an important early activity for implementers. This helps to inform plans for catalysing scale-up, maximise alignment between innovations and country priorities and systems and anticipate institutional blockages within government systems. A researcher in Nigeria said: *'Politics, perceptions and power ... we don't want to knowingly run afoul of these things!'*. Stakeholder analyses can help identify allies (and potential rivals) – influencers of government policy such as UN agencies in Ethiopia, and traditional rulers of northeast Nigeria – and key government officials to engage. According to a Nigerian civil society interviewee: *'... as an external person [you need] to do a little stakeholder mapping – know who your allies are – preach to them, empower them, make them understand, see the evidence, share your vision ...'*

Finally, respondents pointed to the value of understanding the attitudes, priorities and motivations of health workers and communities to inform the development of scalable innovations, as a Nigerian government interviewee acknowledged: *'...most programmes are imposed on people without asking or knowing what they really want ... No matter how well-thought out such programmes are, they will fail'*.

3.2.2. Building implementer capacity to catalyse scale-up: *'having technical strength and knowledge'*

Our respondents agreed that not all programme implementers have the same capacity to catalyse scale-up regardless of the scalability of the innovations they developed, and that donors should take steps to build implementers' capacity for catalysing scale-up. Respondents listed several capacities as important in enabling implementer efforts to catalyse scale-up (Table 2).

3.3. Persuading government to accept, adopt and finance MNH innovations at scale

Interviewees in the three settings stressed that federal or state governments are the main potential 'owners' of innovations at scale as they have the legitimacy and resources to do so. Bilateral donors on the other hand do not have sufficient finances individually to scale-up innovations. While the Indian private health sector is huge, and is recognised as having substantial potential in scaling innovations, at the time of the interviews efforts to invoke this sector were in their infancy. A development partner speaking about India said: *'Ultimately the owner of scale-up is going to be the government – the receiving environment. The buy-in and ownership within that institution is important'*. Hence, interviewees emphasised the importance of persuading and enabling government to scale innovations through effective advocacy and communication of evidence, involving government, invoking policy champions and networks, and harmonisation and alignment. The following sections explore each of these activities in turn.

3.3.1. Adopting effective approaches to advocacy: *'it's a lot of discussion isn't it?'*

Interviewees identified multiple advocacy methods they had used to persuade government to adopt and finance MNH innovations at scale including: panel discussions with officials; presenting at public meetings or conferences; promoting their work at development partners' fora; inviting government to project review meetings; presenting evidence in reports and journals; producing brochures and newsletters; and project websites and social media. Some interviewees acknowledged that exploiting personal connections to lobby government could also be important, as an Indian academic confided: *'This is India – work happens over tea, coffee and dinners ...'*

A widely accepted reality was that substantial time, effort and determination are needed: an important principle is 'continual advocacy' – early and ongoing advocacy, and repeating advocacy as government administrations and officials change over time. An implementer in Ethiopia said: *'... use some sort of dialogue ... to influence decisions more than anything else ...'*, while a development partner speaking about Nigeria said: *'I think it's a lot of discussion isn't it? It requires spending a lot of time with the relevant people, sitting down and exposure and discussion ...'*. Advocacy is usually required at multiple levels of government. In Nigeria interviewees

Table 2
Implementer capacity for catalysing scale-up.

- **Staff capacity.** Staff with expertise and dedicated time for evaluation, advocacy and communication.
- **Technical capacity.** A strong track record for effective delivery and producing trustworthy evidence.
- **Reputation.** A reputation for integrity and sincerity rather than being financially orientated.
- **Leadership.** Charismatic leaders able to convince decision makers.
- **Networks.** Strong relationships with the government and other actors.
- **Grant size and length.** Implementers with larger, longer grants have more influence.

described the need for separate advocacy efforts within each state reflecting state autonomy to set priorities and budgets. This was also true in India where states translate the federal government's National Rural Health Mission (NRHM) into state Programme Implementation Plans. Interviewees in Ethiopia explained that if an innovation is a new technology, vaccine or medication and/or requires changes in national legislation they first approach federal government, whereas expanding programmes accepted by federal government required targeting relevant Regional Health Bureaus.

The extent to which implementers can challenge government varies between the three countries. Interviewees felt the Uttar Pradesh and northeast Nigerian state governments increasingly respond to civil society in shaping policy decisions – ‘naming and shaming’ as a Nigerian development partner remarked. Civil society pressure was reported as having influenced recent increases in Nigerian Government resources for MNH and other health programmes. The Ethiopian Government on the other hand maintains tighter control over policy decisions: ‘Maintaining a good relationship with the government is primarily important’, according to a civil society interviewee. Indeed, as discussed below, in all three settings involving government in different stages of an externally funded programme was seen as crucial rather than acting as a critical advocate.

3.3.2. Evidence for catalysing scale-up: ‘well presented information makes a humungous impact’

The success of advocacy is enhanced if it is supported by evidence: interviewees agreed that while evidence cannot guarantee scale-up, lack of strong evidence makes it unlikely government will adopt an innovation. Key considerations are: types of evidence; strength of evidence; communication of evidence; and a government's use of evidence in decision making.

It is commonly expected that externally funded implementers conduct quantitative surveys to test innovation outcomes and impacts. Our interviewees stressed, however, that presenting additional types of quantitative and qualitative evidence strengthens implementers' case for scale-up and gives government a stronger basis for making informed decisions about what to scale and how (see Table 3 for examples).

The willingness of decision makers to consider evidence depends on perceptions of its quality. A government interviewee in Nigeria explained: ‘If evidence is derived through due process and is reliable it influences policy positively’. It is important that implementers show their evidence is based on a robust methodology and rigorous data collection and analysis: ‘Evaluation is so critical that it's immoral to think of scaling-up without a robust evaluation exercise’, according to a researcher in India. Nevertheless, producing

strong evidence can be a challenge: implementers acknowledged the difficulties attributing outcomes to specific components of complex, multi-layered programmes in large, changing geographical settings. Further, despite qualitative evidence being recognised as a useful complement to quantitative, invariably the latter is privileged by government officials as more valid than the former: ‘... know your audience ... if I am presenting to commissioners for health I better have my statistics, my pie charts, my bar diagrams ...’ according to a Nigerian researcher.

Interviewees emphasised that evidence should be seen as unbiased by interests, but acknowledged that implementers were under pressure to showcase success, as a development partner speaking about India explained: ‘Evidence should be unbiased – implementers doing self evaluation and giving a positive picture get taken with a pinch of salt ...’. Implementers' reputations for technical competence and integrity reinforces the trustworthiness of their evidence: ‘They are highly credited for their baseline study ... and highly accepted and referred by both the government and implementing partners ...’ an interviewee from an Ethiopian civil society organisation shared. Several implementers worked with academic institutions or consultants to strengthen their monitoring and evaluation capacity or commissioned external evaluators since this carries more weight than internal evaluation.

Our respondents identified important principles for communicating evidence. Presenting simple, short, powerful messages using methods and language appropriate to the audience was deemed essential: ‘... well written, well presented information makes a humungous impact on decision making!’ an Indian expert explained. While interviewees stressed the importance of disseminating evidence widely at different levels of government a targeted approach can be critical – presenting evidence to officials with authority to act. An implementer in India felt that failing to do this was problematic: ‘The dissemination meeting wasn't well attended by people who would be able to take this forward ... not by very high level people ...’. Other interviewees argued that communicating evidence to civil society organisations could empower them to make demands on government to adopt and finance innovations. This appears to be an increasingly realistic prospect in Nigeria and India, although less so in Ethiopia where civil society is weaker. A civil society interviewee in Nigeria commented: ‘The democratic space is now open for [civil society] to speak on issues unlike in the past’.

Alignment and harmonisation are important principles to adopt when using evidence to catalyse scale-up. Alignment involves ensuring evidence fits closely with government indicators since this signals how an innovation helps achieve targets, as a development partner in Nigeria explained: ‘... the ministry wants to see the results – how the innovation can contribute to the ministry and the health sector ...’. It is also critical to synchronise communication with annual policy and budget decision making cycles, and to respond to changes in government priorities. Harmonisation – meaning coordination among external donors and implementers – is also important but not always practiced as an Ethiopian expert explained: ‘... everyone says mine is the best! ... organisations boldly try to make their innovations accepted ...’.

Despite the belief that evidence is critical, our interviewees acknowledged the political nature of decision making such as politicians' largesse to those who elected them or supporting policies that attract more votes. A Nigerian government interviewee said that: ‘... when an individual is appointed into political positions or elected into political offices ... he wants to please his ring of friends and associates – that makes decision making not quite representative’, and an Indian civil society interviewee explained: ‘... policies are not always made based on evidence ... sometimes huge decisions are made within an hour ...’. Sensitivities about evidence that contradicts government are also an issue. ‘That's a real problem – they withhold

Table 3
Types of evidence for catalysing scale-up.

- **Quantitative evidence demonstrating outcomes and impacts.** According to a Nigerian academic: ‘You must be able to show that the package you are trying to sell has actually worked ... improvement in the lives of women and children ...’
- **Evidence on costs of implementing innovations/cost effectiveness/estimated costs of scale-up.** A civil society interviewee in India explained that this is critical: ‘When it's required to take it to scale, government first asks what is the cost?’
- **Qualitative process data and operational lessons.** As an Ethiopian development partner said: ‘What is needed is more evidence on how to implement programmes – operational level evidence’
- **Mapping and needs/gaps assessments.** An implementer in Ethiopia explained: ‘... we have to show the magnitude and seriousness of the problem ...’
- **First hand evidence.** Site visits and documentary films to engender emotional buy-in and help decision makers appreciate realities on the ground.
- **Benchmarking international best practices from programmes in other countries**

data ..., according to a development partner in Ethiopia, while an Indian civil society interviewee said: *'If the data doesn't favour them they become defensive'*. Unsurprisingly views varied about the extent to which evidence informs government decision making – and interviewees pointed to variations across the states/regions of Nigeria, India and Ethiopia and between government administrations and individuals. Short falls in the use of evidence were explained by political interests, limited government capacity to use evidence, problems of low quality, poorly communicated evidence and weak alignment and harmonisation of evidence.

3.3.3. Involving government: *'they must be part of it'*

Interviewees stressed the importance of early and ongoing government involvement in planning and designing programmes and monitoring and evaluation activities through regular meetings, site visits and sharing strategies and plans. An Indian implementer said: *'Starting from the planning phase itself regular updating is the key. Take their inputs and slowly they get convinced when they see progress ...'*. Our interviewees said that creating good relationships with individual officials is vital since trust and confidence in externally funded programme enhances the likelihood of government ownership. Working with government also helps align innovations with government policies, programmes and systems. A civil society interviewee in Ethiopia clarified why this is important: *'... involving decision makers in every step ... dialogue with them so that they believe in it thereby creating ownership ... creating trust by filling gaps, producing results and supporting their initiatives ...'*

However there can be difficulties in involving government. Pressures to rapidly implement a project means that there is a temptation to cut corners, although as a researcher in India explained this may not pay dividends: *'... what they actually mean is they hold meetings in the capital city, in the hotels ... the tokenistic approach to [government] involvement ... doesn't work'*. Moreover, changes in government administrations and reshuffling and attrition of ministers and bureaucrats means that new relationships need to be sought over the course of a programme, as another Indian researcher explained: *'... how many mission directors changed in Uttar Pradesh, how many district directors changed in UP? What does government buy-in imply?'*

3.3.4. Policy champions and networks: *'those who have the ear of decision makers ...'*

Interviewees agreed that invoking policy champions can strengthen advocacy for innovation scale-up and raise the profile of MNH issues. Champions include senior officials within federal, state or local government, legislators, 'first ladies' and 'boundary spanners' (individuals linking government, civil society and other organisations). One implementer explained their organisation's work benefited from the patronage of the Ethiopian President and support of the Prime Minister, while an expert explained: *'... policy change requires champions from government ... usually change happens when it comes from within the system rather than outside ...'*. A Nigerian civil society organisation interviewee underlined the benefits of powerful government champions: *'... you find you hardly need push ... they will be the ones who will drive the process for you ...'*

Networking and alliance building with UN agencies and donors, influential civil society organisations, professional associations, academic institutions, sensitised mass media and celebrities can leverage support for an innovation or raise political attention. A development partner in Ethiopia explained that this was valuable if the implementer has limited capacity for advocacy: *'I don't think [the grantee is] capable of influencing policy. So there's the question of whether they can feed into other [actors] who can'*. Community leaders can act as powerful allies, especially in northeast Nigeria. A

visit by Bill Gates solidified state governors' commitments and fostered traditional rulers' support, which was significant since their endorsement of a health programme affects state government decisions and community acceptance. An implementer explained that the charismatic Emir of Kaltungo, a local leader, has substantial interest in and influence over health issues in the region: *'If he didn't buy into it they wouldn't be doing all those things'*.

3.3.5. Harmonisation: *'the issue of competition is crazy!'*

Poor harmonisation among development agencies and implementers fuelled by competing interests and priorities, competition for donor funding and pressure to attribute outcomes to programmatic efforts was described by our interviewees as an important challenge to scale-up: *'the more fragmented we are the less successful we will be'* a development partner in India acknowledged. Robust efforts at donor coordination in Ethiopia, and increasingly in Uttar Pradesh, are not matched by those in Nigeria where a civil society interviewee described federal and state ministries' leadership over development agencies as limited: *'... the federal government should be in the driving seat to coordinate all development work, but ... cannot say 'no' to funding ...'*

Interviewees agreed that better harmonisation through engagement in government-led partner coordination mechanisms, including federal and regional level Technical Working Groups in Ethiopia, the Partners' Forum in Uttar Pradesh and the Nigerian Core Technical Committee of the National Partnership for Maternal, Newborn and Child Health, underpinned efforts at catalysing scale-up. Engaging in such mechanisms can help government to strategically coordinate and deploy innovations funded by different donors at scale. A government interviewee explained that government leadership is strong in Ethiopia: *'All plans are discussed with partners and we put together an action plan'*, and a development partner agreed: *'The government is very good a balkanising us – there is very little overlap ...'*

Embracing partnership mechanisms may also encourage development partners to collectively put forward the best innovations rather than, as is commonly the case, competing for government attention: *'... it's our moral and ethical duty to work together ... we have to go beyond our little thing and make sure that we're asking for common asks ...'* argued an Indian civil society interviewee. Such structures may serve as a conduit for implementers' technical inputs in support of government scale-up efforts as an Ethiopian implementer explained: *'We are at the table when it comes to maternal and newborn child health activities'*. They also have the potential to promote lesson sharing among external partners, meaning new innovations can build on learning from other programmes. An Indian civil society interviewee argued for greater harmonisation among externally funded programmes: *'People in India are not combining their expertise ... instead of wasting time reinventing the wheel we need to come together ...'*

Interviewees pointed out that partnerships and joint working arrangements with other implementers, development partners, universities and professional associations is advantageous to scale-up: partners could be called on for technical inputs, capacity building, training and other resources. An Ethiopian civil society interviewee said: *'Generally the source of influence and power of an actor is partnership!'*

3.3.6. Policy alignment: *'so long as it contributes to their vote bank they will be receptive ...'*

Aligning innovations with government priorities, policy frameworks and targets such as India's NRHM and corresponding state Programme Implementation Plans, the Health Extension Programme and Health Sector Development Programme IV in Ethiopia and the National Strategic Health Development Plan in Nigeria is

seen by interviewees as critical to government adopting an innovation. A development partner in Ethiopia explained: ‘... if it's in line with their vision and structure and helping to achieve what they want to achieve it will be most likely accepted ...’. Moreover, framing of innovations as serving political ideas and interests can attract government attention, because, as a Nigerian civil society interviewee explained: ‘Every government wants to come back for a second term and it's good if you can make them believe that if they deliver on this they have the chance of being popular and re-elected ...’. Nevertheless policy alignment was not without its difficulties: changes in government administrations and in policy strategies mean externally funded programmes can struggle to remain relevant. An Ethiopia civil society interviewee said: ‘... by the time you are to scale it up the programme may not be a priority for the government ...’.

Many externally funded innovations included in the study work within and aim to strengthen existing health systems, which interviewees described as enhancing government commitment to scale-up: ‘... it's not creating parallel systems but rather helping the system to do it more innovatively and efficiently so that it can function even after we withdraw,’ said a civil society interviewee in Nigeria. Nevertheless old debates persist about working within or outside government systems, with interviewees sharing their frustrations about delays and lack of progress while working within health systems fraught with bureaucracy and corruption, weak human resources, poor infrastructure, and dysfunctional information and logistics systems, making it tempting to work outside government systems in order to show results within relatively short grant periods. Speaking about India a development partner said: ‘... we try to scale-up things through a broken system. It's difficult to succeed in that context’.

3.4. Supporting government to implement MNH innovations at scale

The above sections explored ways externally funded implementers have sought to *persuade* government to accept, adopt and finance the scale-up of MNH innovations. There are also ways they have *supported* government to implement innovations at scale. Several implementers in the three countries act as technical partners to support government to formulate and implement policies and programmes at scale, and their evidence is valuable for informing government about how to do so. Inputs include drafting and developing policy strategies, guidelines, tools, protocols, manuals and training curricula jointly with government. A development partner speaking about Ethiopia explained: ‘I don't know that the grantees have played much of a role in kick starting or leading scale-up but they've certainly been quick at the table and part of discussions in shaping what looks right’. Interviewees described implementer efforts to strengthen the capacity of government staff involved in scaling innovations and health systems more broadly including decision making processes, policy and regulatory environments, management and human resource systems, financial management and using evidence. A researcher in Nigeria explained that an important way to catalyse scale-up is to strengthen government: ‘You have to at least do some capacity building with those you want to work with ...’.

Supporting government to scale-up innovations was something interviewees described as particularly important in Ethiopia where nongovernmental partners are expected to position themselves as ‘trusted partners’ within government set parameters. As a development partner explained the role of externally funded implementers is to be responsive: ‘... it's best to start with programmes identified by government ... nowadays it's not acceptable ... to start a small programme, pilot it, see its outcome and scale it up ...’. Indeed it is common for government to invite development partners and implementers to contribute financial and technical resources to

scaling health programmes. Another development partner shared how an Ethiopian Ministry of Health-led programme scaled up an externally financed MNH innovation:

... a good example is neonatal sepsis management. Good evidence was coming from SNNP region: it is doable and was initially implemented by Save the Children. The Ministry with UNICEF came up with new policy and guidelines on neonatal sepsis management to be implemented all over the country ... the Ministry of Health said this is what we want to do and invited other partners to support the programme ...

3.5. Promoting community acceptance and uptake of MNH innovations

The diffusion of innovations between communities without government intervention – the ‘ripple effect’ – was described by interviewees as one way to catalyse scale-up beyond implementer programme areas. This may involve working with community ‘opinion leaders’ – individuals and organisations able to precipitate the diffusion of ideas – including community groups, women's groups, traditional and religious leaders, churches and mosques. In northeast Nigeria the endorsement of traditional authority is an essential prerequisite for community acceptance of a programme: ‘Working with traditional rulers and religious groups is very important: these are the groups that make it work at community level ...’.

Stimulating the diffusion of innovations through mass and local media and by word of mouth has also been effective in some cases. Some grants established community mobilisation teams to improve relationships between communities and health professionals, or trained role models to spread ideas, an approach described by a Nigerian civil society interviewee: ‘Teach the communities the basics, how to carry the message and spread the knowledge ... using the strategy of “each one teaching one”’. According to our interviewees the way an innovation is introduced influences its uptake: unlike top-down programmes, community participation helps sustain and spread innovations after a project is complete.

4. Discussion

Our study supports and adds depth to the literature on scale-up and diffusion of innovations. Existing literature highlights the

Box 2

Key activities to catalyse scale-up.

- Designing innovations for scale
- Integrating scale-up within programme plans
- Building organisational capacity
- Advocating effectively with government decision makers
- Generating and communicating strong evidence
- Ensuring government involvement throughout a project
- Invoking policy champions and networks of allies
- Aligning with government systems, policies, priorities and targets
- Harmonising efforts with other development partners and implementers
- Supporting and building the capacity of government for scale-up
- Working with community leaders, media and others to stimulate diffusion of innovations among communities

importance of designing scalable innovations, assessing the context, building support and increasing capacity of user organisations, partnership working and promoting spontaneous scale-up among users and communities (Cooley and Kohl, 2006; Simmons et al., 2007; WHO and ExpandNet, 2009, 2010, 2011; Bradley et al., 2012). Our data suggest that these, and indeed other steps, can be taken by implementers to catalyse scale-up (Box 2). We found that time, money, coordination and context are critical, cross cutting issues. Externally funded implementers need time, energy and determination to undertake the multiple activities required to catalyse scale-up. Hence, implementers and donors should ensure efforts to catalyse scale-up are written into programme timelines, and that staff time is dedicated for scale-up related work. Yet implementers face time constraints and challenges. Longer grants are better geared for scale-up since there is more time for programmes to mature and for implementers to advocate and support government. However donors and implementers are usually constrained by short two to three year grants that are expected to show rapid results and many of our interviewees called for longer, more predictable funding, without which impacts are likely to be small-scale and temporary at best.

Money is critical to scale-up. Government funding for MNH is reported as growing in the three countries – in no small part fostered by Millennium Development Goals (MDGs) Four and Five (reducing child and maternal mortality). However in Nigeria, primary healthcare is a low government priority and is constructed as a donor responsibility making government reluctant to commit finances to scale-up. Moreover, government's financial pledges are not always kept and implementation is hampered by the security crisis in the northeast states. The situation is more positive in India and Ethiopia. Substantial new funding is available in Uttar Pradesh through the NRHM programme, while the Ethiopian Government's Health Extension Programme provides fertile ground for scaling select innovations with donor funding. But there are challenges and tensions relating to money. In all three settings limited finances inevitably constrain government's ability to scale innovations, and implementers often compete for attention: low-cost innovations have more chance of government acceptability, especially if evidence of their costs can be presented. Implementers are torn between concentrating financial and other resources on 'boutique projects' to impress their donors, and developing simple, low cost innovations – which are likely to involve compromises over quality and scope. Pressure to achieve core programme deliverables means that if catalysing scale-up is not an explicit deliverable, implementers are unlikely to put energy into it. Indeed, it may be in their interests not to jeopardise future funding by handing over innovations to government.

Partner coordination mechanisms are emerging as spaces to strengthen government oversight and coordination of externally funded programmes, foster improved harmonisation and promote evidence sharing. These are important underpinnings of efforts to catalyse scale-up – especially in terms of externally funded programmes sharing learning about effective innovation designs that make better use of limited time and money available. While there are signs the coordination mechanisms in the three settings are leading to improvements, they are relatively new and untested, and our respondents criticised them for struggling to improve information sharing very significantly. Aligning innovations with government priorities, targets and systems is critical to scale-up. Yet implementers and donors are acutely aware of the compromises this may involve. The benefits of involving government are offset by potential delay, and working within 'broken' government systems means implementers may struggle to show tangible results in short timeframes. Implementers therefore need to assess and respond to the realities of political decision making when they plan for

catalysing scale-up. In the words of an interviewee in India: *'Scaling-up is a craft rather than a science – political rather than technical'*.

Contexts within which innovations are introduced are important (Cooley and Kohl, 2006; WHO and ExpandNet, 2009, 2010, 2011; Simmons et al., 2010; Linn et al., 2010). A benefit of our study is that it compares three country contexts and reveals a number of contextual differences that have implications for scale-up. In northeast Nigeria, where security remains a critical problem, health is considered the domain of development partners, and state governments are open to donor programmes provided they are supported by funding. In Ethiopia while the government is highly dependent on external funding it strongly coordinates external partners who need to closely involve government in all stages of a programme. Uttar Pradesh on the other hand has substantial funding for rural healthcare through the NRHM – external partners' roles tend to be limited to technical support, although the state government is reported as open to new ideas and partnership working.

Our study has a number of limitations. We simplify complexity and provide only a snapshot in time in rapidly changing settings. The study elicited certain decision makers' perspectives but not those of implementers or beneficiaries or other decision makers who may have offered contrasting perspectives. We were unable to measure or rank the importance of the different activities to catalyse scale-up. A follow-up study in 2014 will explore a number of case study innovations in depth and assess the relative importance of different activities to catalyse scale-up.

5. Conclusion

There is no magic bullet solution – implementers need to embrace most if not all of the activities summarised in Box 2 to catalyse innovation scale-up. What is clear is that catalysing scale-up requires substantial effort and commitment not just from implementers but from donors that need to finance and support implementer capacity to catalyse scale-up, insist implementers embed scale-up plans within programmes and financially enable and incentivise implementers through longer grants. Government commitment is also vital: governments need to work closely with externally funded implementers to maximise relevance, value and scalability of innovations, and strengthen coordination mechanisms to elicit partners' inputs and technical support, and for exchanging and capturing valuable learning.

Global declarations and initiatives such as the Paris Declaration of Aid Effectiveness and the International Health Partnership signal global resolve to improve aid effectiveness. The Nigerian and Ethiopian Governments are International Health Partnership signatories, as are most development partners supporting MNH programmes in those countries. Adhering to the principles of aid effectiveness – more predictable, longer term aid commitments, improving harmonisation and alignment and better government ownership of externally funded programmes – is likely to strengthen efforts of implementers, donors and governments to catalyse scale-up.

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References

- Bradley, E., Curry, L., Taylor, L., Wood Pallas, S., Talbert-Slagle, K., Yuan, C., Fox, A., Minhas, D., Ciccone, D., Berg, D., Perez-Escamilla, R., 2012. A model for scale-up of family health innovations in low-income and middle-income settings: a mixed methods study. *BMJ Open* 2 (4), 1–12.
- Cooley, L., Kohl, R., 2006. Scaling up – from Vision to Large-scale Change: a Management Framework for Practitioners. Management Services International, Arlington.
- Dearing, J., 2008. Evolution of diffusion and dissemination theory. *J. Public Health Manag. Pract.* 14 (2), 99–108.
- Fajans, P., Simmons, R., Ghiron, L., 2006. Helping public sector health systems innovate: the strategic approach for strengthening reproductive policies and programs. *Am. J. Public Health* 96, 435–440.
- Gawande, A., July 29, 2013. Slow ideas. *New Yorker*.
- Gilson, L., Schneider, H., 2007. Understanding health service access: concepts and experience. *Glob. Forum Update Res. Health* 4, 28–32.
- Greenhalgh, T., Robert, G., MacFarlane, F., Bate, P., Kyriakidou, O., 2004. Diffusion of innovations in service organisations: systematic review and recommendations. *Milbank Q.* 82 (4), 581–629.
- Halcombe, E., Davidson, P., 2006. Is verbatim transcription of interview data always necessary? *Appl. Nurs. Res.* 19 (1), 38–42.
- Hanson, K., Ranson, K., Oliveira-Cruz, V., Mills, A., 2003. Expanding access to priority health interventions: a framework for understanding the constraints to scaling up. *J. Int. Dev.* 15, 1–14.
- Harmer, A., Spicer, N., Bogdan, D., Chkhatrashvili, K., Murzalieva, G., Rukhadze, N., Samiev, A., 2013. Has global fund support of civil society advocacy in the Former Soviet Union established meaningful engagement or ‘a lot of jabber about nothing’? *Health Policy Plan.* 28 (3), 299–308.
- Linn, J., Hartmann, A., Kharas, H., Kohl, R., Massler, B., 2010. Scaling up the Fight against Rural Poverty: an Institutional Review of IFAD’s Approach. Brookings Institution, Washington. Global Economy and Development Working Paper 43.
- Mangham, L., Hanson, K., 2010. Scaling up in international health: what are the key issues? *Health Policy Plan.* 25, 85–96.
- Paina, L., Peters, D., 2011. Understanding pathways for scaling up health services through the lens of complex adaptive systems. *Health Policy Plan.* 27 (5), 365–373.
- Pope, C., Mays, N., 2000. *Analyzing Qualitative Research in Health Care*. Wiley-Blackwell, London.
- Rogers, E., 1962. *Diffusion of Innovations*. Free Press, Glencoe.
- Ryan, R., Gross, N., 1943. The diffusion of hybrid seed corn in two Iowa communities. *Rural. Sociol.* 8 (1), 15–24.
- Sabatier, P., Jenkins-Smith, H., 1993. *Policy Change and Learning: an Advocacy Coalition Approach*. Westview Press, Boulder, CO.
- Seale, C., 2004. *Researching Society and Culture*. Sage, London.
- Sgaier, A., Ramakrishnan, A., Dhingra, N., Wadhvani, A., Alexander, A., Bennett, S., Bhalla, A., Kumta, S., Jayaram, M., Gupta, P., Piot, P., Bertozzi, S., Anthony, J., 2013. How the Avahan HIV prevention program transitioned from the Gates Foundation to the Government of India. *Health Aff.* 32 (7), 1265–1273.
- Shiffman, J., 2010. Issue attention in global health: the case of newborn survival. *Lancet* 375, 2045–2049.
- Simmons, R., Fajans, P., Ghiron, L., 2007. *Scaling up Health Service Delivery: From Pilot Innovations to Policies and Programmes*. World Health Organization, Geneva.
- Simmons, R., Fajans, P., Ghiron, L., Johnson, B., 2010. *Managing scaling up*. In: Cash, R., Chowdhury, A., Smith, G., Ahmed, F. (Eds.), *From One to Many: Scaling up Health Programs in Low Income Countries*. University Press Limited of Dhaka, Bangladesh.
- Walt, G., Gilson, L., 1994. Reforming the health sector in developing countries: the central role of policy analysis. *Health Policy Plan.* 9, 353–370.
- World Health Organization, ExpandNet, 2009. *Practical Guidance for Scaling up Health Service Innovations*. WHO, Geneva.
- World Health Organization, ExpandNet, 2010. *Nine Steps for Developing a Scaling-up Strategy*. WHO, Geneva.
- World Health Organization, ExpandNet, 2011. *Beginning with the End in Mind: Planning Pilot Projects and Other Programmatic Research for Successful Scaling up*. WHO, Geneva.
- Yamey, G., 2011. Scaling up global health interventions: a proposed framework for success. *PLoS Med.* 8 (6).
- Yamey, G., 2012. What are the barriers to scaling up health interventions in low and middle income countries? A qualitative study of academic leaders in implementation science. *Glob. Health* 8 (11).