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# Engaging communities for increasing immunisation coverage

## What do we know?

July 2015

Scoping  
Paper 3

Health



International  
Initiative for  
Impact Evaluation

## About 3ie

The International Initiative for Impact Evaluation (3ie) is an international grant-making NGO promoting evidence-informed development policies and programmes. We are the global leader in funding and producing high-quality evidence of what works, how, why and at what cost. We believe that better and policy-relevant evidence will make development more effective and improve people's lives.

## 3ie scoping papers

3ie thematic window grant programmes typically start with a consultative process that includes a scoping study identifying the current state of impact-evaluation evidence in a particular sector. Scoping studies identify the promising questions for research synthesis and the priority questions for further impact-evaluation research. They analyse the existing supply of impact-evaluation and systematic-review evidence as well as the demand for such evidence from policymakers and programme managers.

## About this scoping paper

This scoping paper focuses primarily on interventions and programmes that lie at the intersection of immunisation and community engagement approaches. It reviews the different types of community engagement approaches that have been used in the immunisation sector and the types of outcome indicators those studies measure and report on. It also highlights that lessons can be transferred to the immunisation sector from community-based approaches that have been used successfully outside of this sector. The scoping paper is in support of the 3ie evidence programme, *Breaking through stagnation: testing innovative approaches to engaging communities in increasing immunisation coverage*, supported by the Bill & Melinda Gates Foundation. All of the content is the sole responsibility of the authors and does not represent the opinions of 3ie, its donors or its Board of Commissioners. Any errors and omissions are also the sole responsibility of the authors. Any comments or queries should be written to [tw10@3ieimpact.org](mailto:tw10@3ieimpact.org)

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# **Engaging communities for increasing immunisation coverage: what do we know?**

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**3ie Scoping Paper 3**

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## **Executive summary**

### **Objectives**

Substantial progress has been made in improving immunisation coverage for at least the routine vaccines across the world. The proportion of the world's children who receive recommended vaccines, in other words, global vaccination coverage, has remained steady for the past few years. It is estimated that immunisation currently averts at least two to three million deaths every year. However, it is also clear that in some parts of the world, immunisation coverage rates are stagnating or, even worse, declining. An estimated 21.8 million infants worldwide in 2013 were not covered with routine immunisation services, of whom nearly half live in three countries: India, Nigeria and Pakistan. The global community and national governments continue to look for novel ways to improve access to and utilisation of immunisation services to reduce vaccine-preventable deaths.

There is an increasing realisation that communities need to be more than just passive recipients of immunisation services; they need to play a more prominent role and their involvement in planning and delivery of services can improve demand and potentially affect the quality of services. In order to most effectively reach the last mile, health services and their community partners must make special efforts through strong community links to improve access and increase uptake.

Funded by the Bill & Melinda Gates Foundation and led by 3ie, this scoping paper has three main objectives:

1. map the landscape of evidence that shows what works and what doesn't in engaging communities to reverse stagnation and decline in immunisation;
2. draw on evidence from a range of sources and summarise what is already known about community engagement approaches to immunisation; and
3. identify innovative community engagement approaches to increase immunisation coverage.

### **Methods**

The scoping paper focuses primarily on interventions and policies that lie at the intersection of immunisation and community engagement approaches. Four instruments were used to cover the scope of the study: (a) a rapid evidence gap map which identifies and displays existing studies according to what intervention is evaluated and what outcomes are measured; (b) a survey of key stakeholders, including implementers and researchers in the field of immunisation; (c) semi-structured interviews with key experts in immunisation to get their views on opportunities in and challenges to increasing immunisation coverage through community engagement approaches; and (d) evidence profiles that discuss community engagement initiatives in other development sectors.

## Key findings for the scope of future study

- **Insufficient high-quality evidence:** high-quality evidence that can causally relate changes in immunisation coverage to specific programmes and interventions that use community engagement approaches are clearly scarce.
- **Community engagement approaches within the field of immunisation are underused:** it may be possible to successfully engage communities in different types of interventions to tackle potential weak links in the causal chain. But results from our stakeholder survey suggest that communication is currently the most common form of community engagement in immunisation projects.
- **Interventions that are co-managed with communities are likely to be more successful:** other sectors have successfully engaged communities to design, implement and monitor development processes. Co-management, where communities are actively involved in project design, implementation, monitoring and evaluation, is integral to the success of an intervention.
- **There is no one-size-fits-all; contextual factors should inform the design of community engagement approaches:** immunisation, and especially routine immunisation, is part of the national health system in almost all countries. Customising immunisation and taking into account important cultural and contextual influences can address the problem of reaching the last mile. This is where communities can be most engaged. Programmes and interventions need to be designed at the community level and should be more participatory in nature.
- **Implementation and delivery capacity is likely to be a bottleneck:** many responses from expert interviews underscored the need to ensure continuous and consistent engagement for (micro-) planning, awareness creation, and monitoring and surveillance. An overwhelming majority of experts talked about the problems facing beneficiaries at the point where services are delivered. Two main areas where this is likely are: problems with interpersonal communication between the service provider and beneficiaries, and problems related to scheduling, cancellation and lack of supplies.
- **Some technology-based interventions that engage communities might work well (but more evidence is required):** a number of respondents highlighted the role of technology in improving service delivery and tailoring services so that they meet the needs of beneficiary communities.

## Conclusions

Our scoping paper points to the potential key role that a community can and should play in almost all aspects of the causal chain of programmes that aim to increase immunisation coverage in developing countries. This community engagement should

be initiated with communication and demand generation all the way up to service utilisation and monitoring and evaluation. Professional opinion is that programmes co-managed with the community are more likely to be successful than those that are not. However, what comes out forcefully is that there is currently insufficient evidence. Programmes that use these approaches should at the same time also generate evidence to help pilot, plan, deliver and learn more from their experience.

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## Abbreviations and acronyms

BMGF	Bill & Melinda Gates foundation
CDC	Centers for Disease Control and Prevention
CHW	community health worker
CIFF	Children's Investment Fund Foundation
FHI 360	Family Health International
Gavi	Global Alliance for Vaccines and Immunization
IAIM	International Association of Immunization Managers
icddr,b	International Centre for Diarrhoeal Diseases Research, Bangladesh
ICH	Institute of Child Health
IHME	Institute for Health Metrics and Evaluation
JHU	Johns Hopkins University
LSHTM	London School of Hygiene & Tropical Medicine
NATIONAL MOH	National Ministry of Health
NGO	non-governmental organisation
NIH	National Institutes of Health
NORC	National Opinion Research Center at the University of Chicago
PAHO	Pan American Health Organisation
PATH	Program for Appropriate Technology in Health
PSI	Population Services International
RAND	The Research and Development
SCF	Save the Children Foundation
SWISS-TPH	Swiss Tropical and Public Health Institute
UCB	University of California, Berkeley
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
UNU-WIDER	United Nations University World Institute for Development Economics Research
WHO	World Health Organization

## 1. Introduction

Substantial progress has been made in improving routine immunisation coverage across the world. However, it is also clear that a problem of low or stagnating immunisation coverage remains in parts of the developing world, with declines in some areas. In India, DPT3 coverage has remained at 72 per cent for every year from 2009 to 2013, and in neighbouring Pakistan it has fallen from 88 to 79 per cent over the same period. In Uganda, DPT3 rates have hovered around 80 per cent, and in Benin, they have fallen from 79 to 69 per cent. The most precipitous declines have been in the Central African Republic (from 42 per cent to 23 per cent), Myanmar (from 90 per cent to 75 per cent) and Zambia (from 94 per cent to 79 per cent). Furthermore, great disparities in access and uptake occur within countries. In India, the percentage of children who are fully vaccinated ranged from 21 per cent in Nagaland to 81 per cent in Tamil Nadu (International Institute of Population Sciences and Macro International 2007). Low vaccination rates relative to their respective national averages persist in communities that have been historically marginalised. This is driven by multiple factors such as geographic remoteness, lack of transport, poverty and poor education.

The global community and national governments continue to look for novel ways to improve access to and utilisation of immunisation services to reduce preventable deaths. In this paper, we focus on the role of communities in increasing immunisation coverage, reviewing the current involvement of communities in immunisation programmes, and looking at possible ways to enhance this engagement.

It has been suggested that communities need to be more than just passive recipients of immunisation services. A more prominent role for communities with involvement in planning and delivery of services may improve demand and affect the quality of services and increase the chances of reaching the last mile. Vaccination coverage in a community depends both on service factors as well as the degree to which the public understands and trusts the immunisation process (Rainey *et al.* 2011; Favin *et al.* 2012; Jain *et al.* 2015).

Direct involvement of communities can help immunisation programmes increase their coverage and reduce dropout rates (LaFond *et al.* 2014; WHO 2014a). We use the World Health Organization (WHO) definition of community:

the term community refers to a grouping of people by geography (such as village) or choice (such as a religion). The term community emphasises the individuals and groups who should be involved in planning, providing and evaluating immunisation services and includes not only individual community members and leaders, but also community-based social or professional groups and non-governmental organisations (WHO 2014a).

We do note, however, that communities may not be homogenous and that specific activities may be required to reach specific groups within communities.

In late 2014, the International Initiative for Impact Evaluation (3ie) together with the Bill & Melinda Gates Foundation launched a programme entitled [Breaking through stagnation: testing innovative approaches to engaging communities in increasing immunisation coverage](#). The key goals of this programme are to generate new knowledge about what works to engage communities in increasing immunisation coverage; test the feasibility and effectiveness of these approaches; and inform their scale-up.

We define community engagement approaches as those in which the health system engages or partners directly with beneficiary communities to address both supply- and demand-side factors. These factors in turn contribute to under- or non-immunisation.<sup>1</sup> Important aspects of this definition are: (a) the community is actively engaged, as opposed to being simply a community-based intervention; (b) both supply and demand are mentioned; and (c) there is explicit mention of the hardest-to-reach populations.

An earlier literature review commissioned by the Bill & Melinda Gates Foundation suggested the need for clearly understanding the evidence gaps in the area of community engagement approaches and immunisation. This scoping paper draws on a number of evidence sources regarding effective innovative community engagement approaches for increasing immunisation coverage. The study will inform the design of the grants programme to be undertaken in 2015.

## **2. Objectives and approach**

The key objectives of this scoping paper are:

1. to map the landscape of evidence that shows what works and what doesn't while engaging communities to reverse stagnation and decline in immunisation;
2. to draw on evidence from a range of sources and summarise what is already known about community engagement approaches to immunisation; and
3. to identify innovative community engagement approaches to increase immunisation coverage.

The scoping study focuses primarily on interventions and policies that lie at the intersection of immunisation and community engagement approaches (see Figure 1). Four instruments were used to cover the scope of the study:

1. a rapid evidence gap map, which identifies and displays existing studies according to what intervention is evaluated and what outcomes are measured;<sup>2</sup>

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<sup>1</sup> Bill & Melinda Gates Foundation. Community engagement to strengthen routine immunisation: lessons for improving immunisation coverage from a literature review and landscape analysis. Bill & Melinda Gates Foundation, August 2014.

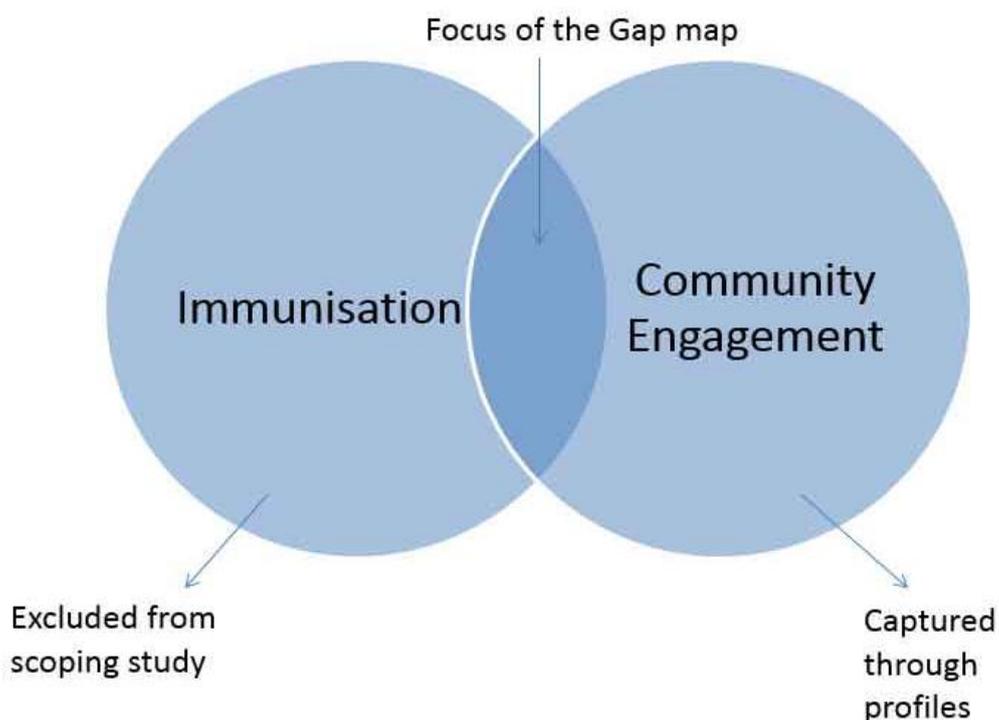
<sup>2</sup> See Table 5.

2. a survey of key stakeholders, including implementers and researchers in the field of immunisation;
3. semi-structured interviews with key experts in immunisation to get their views on opportunities in and challenges to increasing coverage through community engagement approaches; and
4. evidence profiles that discuss community engagement initiatives in other development sectors.

The method for each of these instruments is described briefly below, with a fuller discussion in Appendix A. It is important to note that we recognise the importance of national and local level institutional partners in ensuring the success of immunisation programmes. However, the focus of this report is on the role that communities can play in improving access to and uptake of vaccination services. As highlighted by one of the respondents in the expert interviews, community engagement approaches can and should play a salient part in increasing immunisation coverage, but the responsibility for ensuring that the supply of good-quality services and vaccines is maintained still lies primarily with the government and other state institutions.

*Communities aren't empowered enough to do supply side on their own. Certainly participation can help in certain ways, for example, improving the cold chain.... Personally, I believe the primacy of responsibility for immunisation is with the government. Community can provide oversight in accountability.* – Zulfikar Bhutta, Aga Khan University

**Figure 1: Venn diagram showing strategy for scoping study**



## **2.1 Rapid evidence gap map**

An evidence gap map is a matrix of intervention categories (rows) and outcome indicators or indicator categories (columns). It displays studies in the cells according to what is tested and measured in the study. The evidence gap map allows the reader to quickly see where evidence is present and absent. The map itself does not present the results of the studies or synthesise those results, but it includes hyperlinks to either a summary of the study or the source of the study to allow the reader to quickly access the evidence (see Snilstveit *et al.* 2013).

Constructing the evidence gap map comprises the following stages: (a) designing the framework for the map; (b) developing and implementing a search protocol; and (c) screening identified studies for inclusion. This process is conducted in a consultative and iterative manner. Of the 4,763 studies identified through the initial search on Medline and Social Sciences Citation Index, 78 met our inclusion criteria. The gap map exclusively incorporates studies that involve both aspects related to immunisation and community engagement as part of their interventions. Interventions that were top-down or did not involve community engagement were excluded. The target population was humans in developing countries with a strong focus on mothers and children; any non-human studies or human studies in high-income countries were excluded. More details on the inclusion and exclusion criteria for the gap map can be found in Appendix A, Table A1.

## **2.2 Online expert survey**

A structured survey was undertaken using SurveyMonkey (see Appendix C). The survey comprised 13 questions so that it could be completed in 5 to 10 minutes by the respondents. The first seven questions asked about the background of the respondent, with the balance, both closed and open questions, being about community engagement in immunisation.

The survey targeted people experienced in either implementing or evaluating immunisation or community engagement programmes. The survey instrument included a skip logic in question six that prevented people without experience in our desired fields from answering certain questions. Study participants were identified through a two-step process. Stakeholder mapping was used to identify the major players in the field of immunisation with various sources employed to access email addresses of individuals in these agencies. Snowballing techniques were then used to reach other key stakeholders (see Appendix D).

The survey was open from January to February 2015; 172 responses were received.

## **2.3 Semi-structured interviews with key stakeholders**

Experts for semi-structured interviews were identified using the stakeholder mapping employed for the online survey. Twenty-eight experts were interviewed using a semi-structured interview guide (Appendix E). The interviews were conducted by a team of two from 3ie. In order to ensure quality control, information was collected through note

taking and cross-checked for completeness and consistency immediately after the interview and before data analysis. Qualitative content analysis was applied to analyse information manually from all the expert interviews. A list of respondents is given in Appendix G.

## **2.4 Evidence profiles**

Seven examples of community engagement initiatives in non-immunisation sectors were examined closely to identify how the process works in terms of community engagement; what the key lessons learnt are; and whether the main features characterising each model may be transferable to immunisation. Each profile seeks to answer the question of how community engagement takes place, which community members are engaged and by whom. Through theory of change analyses, these profiles highlight inputs, outputs, outcomes and assumptions associated with each approach and gauge applicability for immunisation. Evidence profiles were developed for community-led total sanitation; community-driven development; self-help groups; community-based health promotion; community-based initiatives against female genital mutilation; community-based adaptation; and farmer field schools.

While recognising that community engagement takes place in some form or other in practically every sector, this scoping paper cannot provide an exhaustive assessment. Nonetheless, contemporary models of community engagement are important to the immunisation scoping study in terms of identifying transferable lessons learnt. Selection of topics for the evidence profiles was purposive and based on elements of collective decision making, where communities are empowered to take action as agents of change. Approaches were identified that involved participatory methods to engage community members in analysing priority areas and determining solutions.

## **2.5 Overview of the report**

The structure of the scoping paper is as follows. Section 3 presents the main findings and overall results from the study. In Section 4, we draw out lessons from these findings and discuss the limitations of the report. Section 5 draws conclusions.

# **3. Findings**

## **3.1 What are we looking at?**

In developing the gap map, we devised a typology of community engagement approaches to increase immunisation. These interventions are divided into five categories (Table 1):

- Communication and dialogue, e.g. work with community groups and sensitisation campaigns
- Planning and participation, e.g. with community members
- Monitoring and accountability, through community tracking
- Recognition and incentives, which may be either monetary or non-monetary
- Improving service delivery

Examples of these different approaches are given in Table 1.

### **3.2 How are community engagement programmes meant to work?**

As shown in Figure 2, these different types of interventions tackle different, possible weak links in the causal chain. Through communication and dialogue, people are made aware of an issue they may be resistant to. Community leaders and other members can be involved in such initiatives. Community engagement in planning and participation involves making community members better aware of services and how to access them. Their involvement in planning may result in services being provided at more appropriate times and locations. Both improved service delivery, and recognition and incentives, can overcome deficiencies in the quality of services that deter utilisation or might otherwise increase the quantity of service provision. Involving community members in monitoring and accountability activities can also help identify families without access to immunisation or those who have dropped out before completion.

This causal chain highlights the role that communities can play at different stages to improve immunisation coverage. However, it is important to note that in many cases, uptake of vaccination by beneficiaries may require existing norms be changed. This is especially true in contexts where there are cultural and religious barriers to vaccination. Clearly, in such cases, sustaining vaccination uptake requires a continued effort to engage communities to inform and alter their norms.

**Table 1: Typology of interventions for community engagement to increase immunisation coverage**

Type of intervention	Example
<i>Communication and dialogue</i>	
Community groups and networks	<p><b>The impact of fathers' clubs on child health in rural Haiti (Sloand, Astone and Gebrian 2010)</b>            Haiti instituted a strategy to improve the health outcomes of children by creating fathers' clubs aimed at disseminating child and family health education to fathers.</p>
Faith/local outreach	<p><b>Reduction of vaccine-preventable communicable diseases (Belmaker <i>et al.</i> 2006)</b>            Mobile immunisation teams for home immunisation were created and new mothers were personally interviewed to report and record the immunisation status of their children, for use by these mobile units.</p>
Sustained education and sensitisation campaign	<p><b>Impact of national immunisation days on polio-related knowledge and practice of urban women (Quaiyum <i>et al.</i> 1997)</b>            From 1995, Bangladesh began to hold national immunisation days as part of the country's goal to eradicate polio by the turn of the century. National immunisation days brought together government agencies, the media, voluntary organisations and individual volunteers in social mobilisation and service delivery activities.</p>
One-time education and sensitisation campaign	<p><b>Awareness, acceptability and uptake of HPV vaccine among Cameroonian school-attending female adolescents (Ayissi <i>et al.</i> 2012)</b>            The Cameroon Baptist Convention Health Services conducted a sensitisation and education campaign for HPV in the north-west region of Cameroon.</p>
Working with groups against immunisation	<p><b>Reducing resistance against polio drops (Ansari, Khan and Khan 2007)</b>            A team went house to house and polio vaccination resistant families were identified. On the second day, medical interns visited those families identified as resistant and imparted correct health education and tried to convince them to give polio drops. More motivated and enthusiastic teams again visited those who were still resistant after prolonged persuasion.</p>

### *Planning and participation*

Formal worker education and training

**Low-cost on-the-job peer training of nurses (Robinson *et al.* 2001)**

An on-the-job peer-training programme for nurses was designed to improve the immunisation performance of poorly performing health centres in terms of coverage and practice. Experienced immunisation nurses were sent to train their peers at health centres where nurses were inexperienced or performing poorly.

Community health worker education and training

**The impact of community-based workshop activities in multiple local dialects on vaccination coverage (Keoprasith *et al.* 2013)**

Facilitators were selected and trained to assist at village meetings to discuss health issues and develop and implement action plans in targeted villages in Lao People's Democratic Republic.

Community member education and training

**Evidence-based discussion in a community (Andersson *et al.* 2009)**

The intervention group was separately given three structured discussions with male and female groups in each cluster. The first shared findings about vaccine uptake from the baseline study, the second focused on the costs and benefits of childhood vaccination and the third was on local action plans. Field teams encouraged the group participants to spread the word to households in their communities.

### *Monitoring and accountability*

Community tracking and registering

**High compliance with newborn community-to-facility referral in eastern Uganda (Nalwadda *et al.* 2013)**

WHO and UNICEF recommend home visits for babies in the first week of life to assess for danger signs and counsel caretakers for immediate referral of sick newborns by community health workers.

### *Recognition and incentives*

Monetary incentives

**Income transfer policies and the impacts on the immunisation of children: the Bolsa Familia programme (Andrade *et al.* 2012)**

The Bolsa Familia programme is a conditional cash transfer programme with one

of its core conditions being the compliance of children with the immunisation schedule ordered by the Ministry of Health.

Non-monetary incentives

**Evaluation of immunisation camps with and without incentives (Banerjee *et al.* 2010)**

A mobile team conducted monthly immunisation camps in villages at fixed dates and times to improve health services. One kilogramme of raw lentils per immunisation and a set of metal plates were set as incentives for a child's full immunisation.

*Implementation and service delivery*

Formal health worker involvement

**The immunisation programme in Bangladesh (Jamil *et al.* 1999)**

This paper looks into the influences on immunisation coverage of home visits by health/family planning field workers and proximity to outreach clinics.

Community health worker involvement

**Public health workers and vaccination coverage (Hu *et al.* 2014)**

The objective of this study was to test whether the density of public health workers was positively associated with childhood vaccination coverage. It concluded that a higher density improved the availability of immunisation services over time and geographical area and could thus lead to improved coverage.

Comprehensive programme (multipronged approach)

**Expanding and improving urban outreach immunisation (Pradhan *et al.* 2012)**

This study looked at a multipronged strategy for improving immunisation coverage comprising: increasing immunisation sites; shifting human resources; planning logistics; improving community mobilisation; implementing community-based outreach; strengthening data flow; and conducting special vaccination drives.

Collaborating with community on delivery

**Collaborating with community on delivery (Binagwaho *et al.* 2012)**

Employing a public–private community partnership, Grade 6 girls were provided with HPV vaccinations in their respective schools and the community was involved in identifying those girls absent from or not enrolled in school.

Mobile clinics

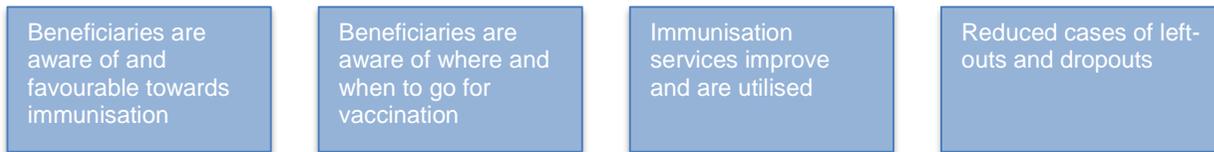
**Implementation of mobile primary healthcare services for seasonal migratory farm workers (Simsek *et al.* 2012)**

The objective of this operational study was to implement mobile primary healthcare services for migratory seasonal farm workers in Turkey to improve their utilisation of primary healthcare services

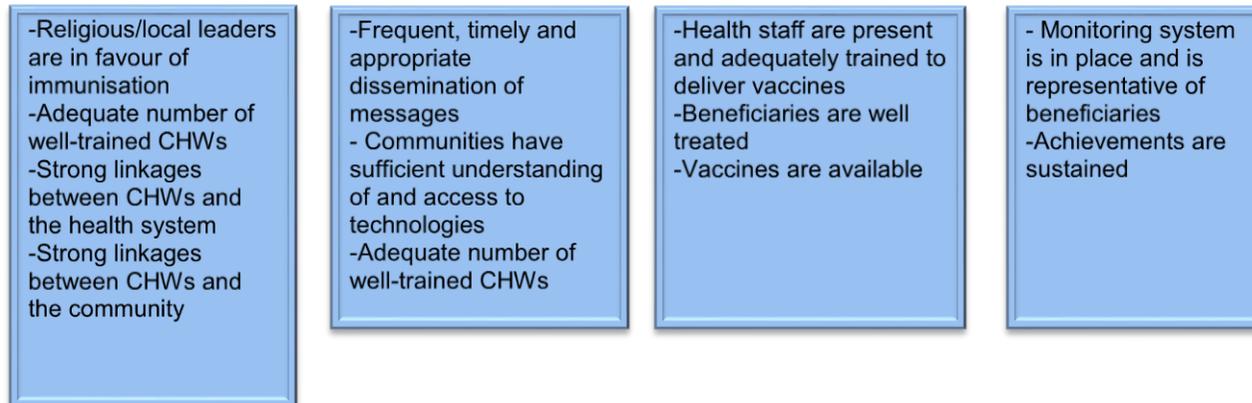
**Figure 2: Theory of change for community engagement approaches to increase immunisation coverage**



**Issues addressed in the causal chain**



**Assumptions**

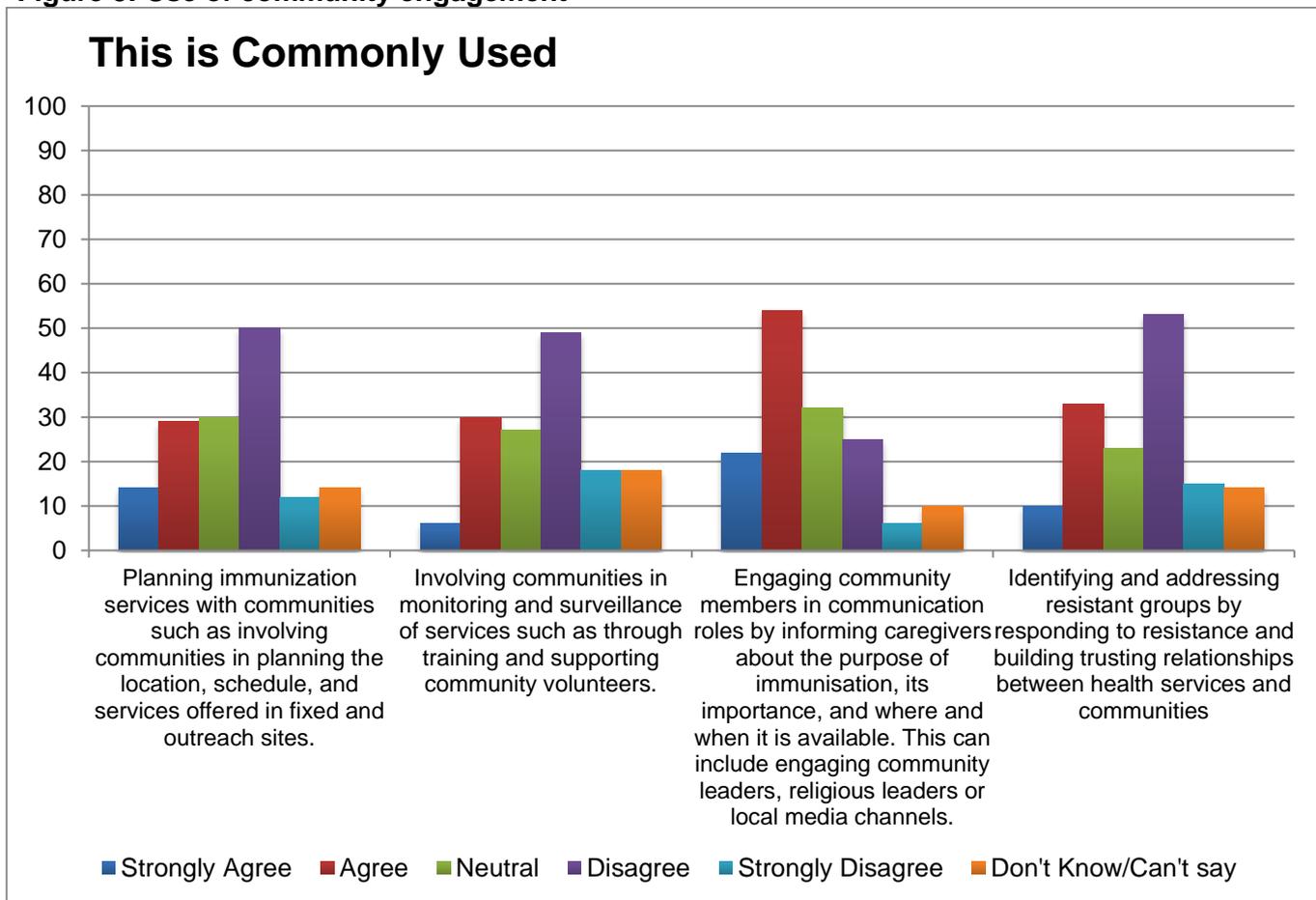


### 3.3 How common are community engagement approaches?

Community engagement does already take place but is mostly focused on communication.<sup>3</sup>

This conclusion is based on the stakeholder survey in which respondents were asked to agree or disagree on whether community engagement is commonly used for various activities with respect to the implementation of immunisation programmes. Of the four approaches, it was only in the case of communication that the majority of respondents agreed or strongly agreed that community engagement is commonly used. For the others – planning, monitoring and identifying resistant groups – the majority responded that community engagement is not commonly used (Figure 3).

**Figure 3: Use of community engagement**



Source: 3ie immunisation stakeholder survey

<sup>3</sup> This is a not a new finding with respect to donor approaches to community engagement; see, for example, Paul (1987) and White (1999).

### 3.4 What did we find out about the different types of interventions?

#### 3.4.1 Communication, dialogue and engagement of leaders

As mentioned above, engaging communities in communication is currently the most common form of community engagement in immunisation projects. Communication often focuses on sensitisation of the community to the importance of immunisation. But by providing information on participatory processes and a community's involvement in project design, it may also pave the way for further engagement and allow for discussion of other issues of concern.

Community engagement is seen as easy to implement, with 75 per cent of respondents either agreeing or strongly agreeing with that statement, compared with 44 per cent for the other interventions.

The importance of communication also came through in the stakeholder interviews. The majority of respondents said lack of information and awareness are key reasons for low coverage. However, some respondents felt that the problem was not so much about communities not understanding the importance of immunisation per se, but that they did not understand the different vaccines and when to get their children vaccinated.

*People are quick to blame the intended beneficiaries for resistance and hesitations whilst maybe the problem is just misinformation. You have to work to overcome both ignorance and preconceptions. – Jean-Louis Lamboray, Constellation*

*Community doesn't know about schedule, when the intervention is being held, what immunisation is all about. We use different approaches: behaviour change communication and information education and communication (IEC) materials in small mothers' groups (mother meetings). Lots of IC material, flip-charts, banners and posters. Work with village health and sanitation communities to make them aware about the importance of vaccines. – Pritu Dhalaria, Program for Appropriate Technology in Health (PATH)*

In both the online survey and the stakeholder interviews, many respondents stressed the important role of community opinion formers such as community and religious leaders:

*In communities strong in their spirituality, religious leaders have been very effective in persuading and/or helping particular groups in hard-to-reach areas that are often left out. The point here is how to convince and get these leaders on board for this kind of role. – Respondent with over ten years' experience in research and implementation with an international non-governmental organisation (NGO)*

*We have very good experience of engaging community leaders, religious leaders and youth clubs. Providing quality and scientific education to community-based stakeholders makes them understand its importance and automatically people get convinced through them and they demand services. – Morankar Sudhakar, a researcher and implementer with over 10 years' experience in community engagement*

*There are socio-religious influences that are a barrier to coverage. I suppose a lot of cultural and religious stakeholders play a major role in improving immunisation coverage as they bridged implementers with communities. – Ahsan Ahmed, independent consultant*

Hence, involvement of community leaders emerges from the consultations as a recommended approach to deal with rumours against immunisation and otherwise to spread awareness about immunisation.

Involvement of community leaders is also common in non-immunisation community engagement projects. Here, there are a number of useful transferable lessons: (a) formalise commitment of community leaders through a memorandum of understanding or contract, or through public commitment; (b) use the convening power of community leaders for initial information-sharing sessions; and (c) engage community leaders to identify vulnerable groups.

Effective community engagement can also utilise and enhance community health workers' (CHWs) involvement with the community. Furthermore, the interaction of beneficiaries with formal health workers can be very important, as health workers can use this opportunity to inform parents about the importance of immunisation. This opportunity, however, is not being used enough and, in many instances, health workers are not interacting with parents to explain why immunisation is important for the health and well-being of their children. This lack of communication may occur for both technical reasons and reticence on the part of the health workers:

*Fifty to 60 per cent of the reason people don't come for measles vaccine is that they are not aware of it. Community health workers need to develop soft skills (interacting positively with patients, telling them about possible adverse effects of immunisation, repeat messaging about the importance of immunisation) beyond just administering vaccines. There are technical aspects that need to be worked on like preparation of a 'due list' which helps workers in the next round of immunisation track children who still need to be immunised. Without an updated due list, Front Line Workers (FLW) (don't know who to immunise. – Gunjan Taneja, IPE Global*

So CHWs should be playing the role of facilitators, which is a core element of community engagement. Facilitators are critical to guiding the participatory process for projects across a range of sectors. Some transferable lessons regarding facilitation for immunisation from non-immunisation project approaches to community engagement

are: (a) participatory engagement in planning requires facilitation to be effective; (b) skilled facilitators are required, along with adequate duration and quality of the facilitation process; and (c) initial outreach to community leaders through preliminary introductory meetings or informal visits is important to allow subsequent facilitation work to be successful.

### 3.4.2 Planning and participation

*Solutions developed by the community are better than top-down ones, e.g. participation in planning. We have to consider problems at community level not national level. – Brigitte Toure, United Nations Children's Fund (UNICEF)*

*First of all, one needs to track all the children or households or population of a work area for their vaccination status and also list/map the specific families/communities with reasons for them being left out. This could be done by applying principles of barrier analysis or other participatory rural appraisal methods. Once you involve community in the assessment (the listing and reasons for low immunisation coverage or being left out), community members will themselves provide the solutions, putting in place a vaccination session at that community. – Researcher with more than 10 years' experience in immunisation*

Although communities are mostly engaged in sharing information and sensitisation, it is usually recommended that they participate across the project cycle (e.g. Paul 1987). Working with the whole community can be important in not only mobilising support, but also identifying un- or under-immunised groups and generating possible solutions.

Participatory engagement of communities can help identify problems, barriers, solutions, indicators and desired outcomes. A transferable lesson from non-immunisation approaches to community engagement is that there should be flexibility in organising community meetings. The timing of the meetings should depend on the intended participants, who will vary depending on the issue being discussed.

*I would say one key thing was engaging community leaders in micro planning. First of all, this helped improve micro planning a lot. We brought together community workers into this process too. Their involvement helped the quality of plans but also made the health services more accountable, as if health services didn't follow through as planned, people would know they were getting poor service, whereas earlier they didn't even know when delivery was scheduled to happen. – Michael Favin, Manoff Group*

Community participation in planning brings an understanding of the context and target population which a top-down approach can never achieve:

*I think the first thing that must happen is people responsible for organising health services need to understand who the population is they're trying to*

*reach. They need to understand the variability in views and needs of separate cultural groups. Understand how many different communities there are, who are the influential people, who can make decisions, what the role of women is, basically do a community diagnosis. Back in the day a lot of rapid assessment tools were made to do these things which I found very useful when doing my work. – Felicity Cutts, Consultant*

However, it is not feasible to engage the whole community on a continuous basis throughout the entire project. Projects need to work with specific existing community groups or project committees set up for this purpose. Many projects provide training to members of these groups or committees, the importance of this training being a transferable lesson from non-immunisation projects. Engaging the community in the design, implementation, monitoring and evaluation of the programme is therefore usually focused on specific community members, such as CHWs who may in turn be trained to actively oversee the implementation and monitoring process along with the project committee.

Community-level project committees selected by locals and trained by the external agency can help foster ownership and so sustainability. Project committees also provide a local level structure to oversee programme implementation, monitoring and evaluation. It may be important to ensure that committees are representative of or chosen by the community. Active representation of vulnerable groups in the committees or other modalities for public accountability should be built in.

But community engagement does not mean that everything is left to the community. There is still an important role for external agents such as NGOs, government agencies and research institutions. These external agents can provide financial and logistical support and oversight. Lessons learnt from other approaches to community engagement indicate that there is a need for clarity about the respective roles of the external agents and the different actors in the community. External agents can play an important role by providing technical guidelines and standards which define the parameters of community solutions. So e.g. if a community decides to construct a village health post as a focal point for delivering immunisation services, the building should be constructed using the blueprints and costings already available from the government for such posts.

#### *3.4.3 Monitoring, accountability and identifying marginalised groups*

Participatory involvement of community members can be used to develop a monitoring system, including identification of vulnerable populations. Participation can also create public accountability through various approaches such as social pressure, incentives and competition.

There are various ways in which marginalised groups are identified: (a) poverty mapping for identifying the poorest households; participatory approach for getting the community to identify the very poor and marginalised; (b) engaging the help of

community leaders, traditional healers and CHWs; and (c) allowing subgroups to develop their own action plans.

Where un- and underutilised populations are identified, there should be a focus on the implementation of monitoring, and the results of the monitoring exercise should be followed up.

In addition to participatory monitoring, other specific steps can be taken to ensure the involvement and input of marginalised groups across all stages, such as ensuring they are represented in project committees. Quotas for women in project committees are often used.

#### *3.4.4 Recognition and incentives*

Behaviour change is key to the long-term sustainability of most development programmes. To increase immunisation coverage, behaviour change may be necessary from both parents and health workers.

In the field of immunisation, conditional cash transfers to parents have been used as a strategy for improving the uptake of vaccination. However, some interviews with key experts suggested that non-monetary incentives should be more common, such as doing a facilitation ceremony with parents in the community who have completed routine vaccination of their children.

*We started an initiative to facilitate parents of fully immunised children, we honoured them publicly for their achievement...parents were facilitated at block and village level where we involved officers like block development officers; people came for a small function and we provided them with certificates and public recognition. – Pritu Dhalaria, PATH*

On the other hand, incentivising CHWs monetarily was generally thought to be a good idea.

*If you are to improve immunisation coverage you must identify all eligible children. You need dedicated community health workers to identify these. I think you need fully paid workers paid on performance stipend. That would be my first strategy. – Edward Kariithi, PATH*

Furthermore, performance-based incentives were thought to be even more effective.

*When we did the conditional cash transfer we used a lottery system. We were paying a stipend to vaccinators...things weren't going well so we changed to a performance-based mechanism...we saw a massive change in their performance. They treated patients better, they staffed offices for longer and were all-round more efficient. Moreover, when we started performance-based incentives, vaccinators stopped taking 'unofficial' (under the table) fees for vaccinations. – Subhash Chandir, Interactive Research & Development*

Incentives or punishments may also be used to facilitate project progress and bring about behaviour change. The focus in most successful initiatives, however, is on incentives and not on shaming, though shaming is currently a popular approach in sanitation interventions.

It is also possible to use healthy intra- and intercommunity competition to encourage project implementation and the adoption of beneficial practices. Lessons from other interventions include: (a) use of public acknowledgement to foster healthy competition; and (b) use of peer pressure to support behaviour change.

#### *3.4.5 Improving service delivery*

Problems faced by beneficiaries at the point where services are delivered were highlighted as a major challenge by an overwhelming number of respondents in the stakeholder interviews. Within this broad category of service delivery issues, two main subthemes emerge: (a) problems related to interpersonal communication between the service provider and beneficiaries; and (b) problems related to scheduling, cancellation, lack of supplies and so on. A number of respondents felt that if the beneficiaries are not treated well at the service centre or where they bring their children for immunisation, and if they are not happy with the quality of services, they lose interest and do not return for follow-up visits.

*Wherever coverage is poor, supply is probably weak. Although community demand is often blamed, the problem is service is erratic, of poor quality and unreliable. People need to walk long distances and often the health worker doesn't turn up. Poorly trained workers make people sceptical about vaccine quality. Rude workers discourage people from returning for more immunisation. Often people don't even know when to return. – Tasnim Partapuri, UNICEF*

*I would say the reasons why children aren't immunised is probably a bit more on the service side rather than demand side. It is hard to untangle the reasons. The services are at inconvenient times and days. There was a recent review of missed opportunities. They found on average, a third of the time, a child eligible for vaccines whilst visiting a health facility didn't get vaccinated. There are problems in how mothers are treated. Immunisation requires multiple visits and if people are treated well they are more likely to return. – Michael Favin, Manoff Group*

Mobile technology was mentioned as a possible approach to improve service delivery and customise services so they meet the needs of beneficiary communities. Mobile technology can especially help by reminding parents about the vaccination schedule, in particular for vaccines that have a relatively long interval between doses.

*Mobile phones make it possible to transform a norm into better supply through a call centre where people call saying they haven't had it (this is*

*being used with water supply in Kenya. People call in when water service breaks down.) – Robert Chambers, Institute of Development Studies*

*We must also leverage technological solutions like SMS to overcome bottlenecks especially at community level. The only way to overcome stagnation is to address problems at the district level by first identifying the ones which would cost the least to tackle. – Brigitte Toure, UNICEF*

#### 3.4.6 Cost-effectiveness and sustainability

All the respondents for the stakeholder interviews were asked to talk about the cost-effectiveness and sustainability of community engagement approaches. Most felt that community engagement approaches were cost-effective and sustainable, although the answer to this depended to a large extent on context. When discussing sustainability, respondents also talked about a supply-side issue. They said existing infrastructure should be able to keep up with the increasing demand for immunisation created by community engagement activities. Some respondents also talked about the low sustainability of incentive-based approaches.

*It is important that the supply chain not be interrupted. Routine vaccines need to be available always. When stocks are over and villagers come in to see that vaccines aren't available, they lose trust and this erodes sustainability. – Larry Moulton, Johns Hopkins University*

*Another important take-away is regarding the sustainability of these approaches at the community level. The difficulty is to ensure that opinions continue to be held, even without the intervention, and behaviour remains informed. It is important to track and monitor the community in the long term. – Colin Kirk, UNICEF*

#### 3.4.7 The importance of context: fragile settings and mobile populations

A number of respondents highlighted the importance of context in designing programmes for improving immunisation coverage. Immunisation, and especially routine immunisation, is part of national health systems in almost all countries. But many standardised approaches do not take into account important cultural and contextual influences.

*Up until now we've used a very standard template approach but now we need a more nuanced approach that understands the context of each of the pockets that have been missed. We need to tailor it in an approach that is engaged with the district and communities being targeted. – Anne LaFond, John Snow International*

*The immunisation model we have had for the past 40 years was developed to tackle rural areas. But the world is now much more urban so it is important to build models that tackle urban slums and this is an area that has received scant attention. – Robert Steinglass, John Snow International*

In addition, respondents also highlighted the importance of designing approaches for fragile settings with weak governance structures and for mobile populations.

*I think in terms of low coverage, looking at the bottom six countries, five of them are fragile states. Next rung up (60–80 per cent), half of them are also fragile states. So the big issue is working in countries with conflict and weak states. – Felicity Cutts, Consultant*

*A big challenge in routine and polio immunisation in Pakistan has been in Taliban areas where health workers are risking their lives...we have been working to scale up evidence-based immunisation in conflict areas. Our results from those cluster randomised trials show the ability to reach large swathes of people and achieve improved healthcare outcomes across the board. – Zulfiqar Bhutta, Aga Khan University*

Mobile populations also throw up unique challenges, both in terms of supply of services and their uptake by beneficiary families.

*[In relation to mobile populations]...we see the problem not only with nomadic but also hard-to-reach communities. Our experience is that a nomadic population moves for pasture, livestock and also fish. You have to take into account the trends of their movements. You have to anticipate them and make better micro-plans to reach them. That is why we have requested the national level to update us on the mobile populations at the district level. – Brigitte Toure, UNICEF*

### **3.5 What evidence is already available? Results from the gap map**

The gap map is presented in Table 5 and the legend table for the gap map in Table 6. For the 78 studies included, we can see several important facts:

- Quality of studies: Thirty per cent of the studies had no comparison group. Even if there was a comparison group (which is almost 60 per cent of the studies), these were not constructed after matching. Thus, for more than 90 per cent of the studies, it cannot be said that a specific programme or policy led to change. These programmes or policies engaged communities with the ultimate objective of increasing immunisation coverage (or some intermediate outcome) (Table 3). Most of these studies have only been undertaken in the past four years (41 studies were done between 2011 and 2014). All the studies (11) that use experimental methods examine vaccination coverage as their main outcome; five of them examine community member education and training as the intervention (see Box 1).

**Table 2: Methods for identifying causal change, studies focusing on community engagement to increase immunisation coverage**

Study design	No. of studies
Experimental	11
Quasi-experimental	2
Other (before versus after, comparison group studies without matching, cross-section regression)	43
Not comparison group	22
<b>Total</b>	<b>78</b>

- Most studies examine changes in outcomes that are early along the causal pathway: as Table 4 shows, very few studies show the overall change in ultimate objectives of immunisation, i.e. nutrition, morbidity and mortality. The table also shows a lack of evidence in the case of four health outcomes: timely uptake of vaccines; awareness of service provision; vaccination dropout rates, and health service utilisation outcomes. There is a large concentration of studies focusing on uptake of BCG, measles and DPT3 as the outcomes for evaluating many different interventions.
- Only one study investigates non-monetary incentives: Table 5 shows that most studies analyse sensitisation and education campaigns, community member training and education, and comprehensive community programmes as interventions. Six studies evaluate the role of incentives in improving vaccination coverage. Of these, only one looks at non-monetary incentives. In terms of outcomes, vaccination coverage and specifically measures of DPT3 coverage are most commonly associated with these interventions. There are only five studies assessing local outreach. They all have vaccination coverage as the outcome and they all use before versus after methodology, so attribution is difficult. There are 12 studies evaluating comprehensive programmes as the intervention. These include those that have a multipronged approach like reach every district. These have a focus on multiple community engagement activities like community member or health worker training or involvement in tracking, monitoring, delivery and other implementation jobs. They may or may not involve other activities. The outcome measures in these studies are usually vaccination and specifically DPT3 coverage.

**Table 3: Distribution of studies according to outcome, gap map on community engagement in immunisation coverage.**

Outcome	No. of studies
<i>Knowledge and attitudes towards immunisation</i>	
Knowledge and attitudes towards immunisation	10
<i>Awareness of service provision</i>	
Awareness of preventative services	1
<i>Health utilisation</i>	
Clinic	2
<i>Delivery of immunisation services</i>	
Capacity-building and training	1
Availability of vaccines	1
<i>Vaccination coverage</i>	
Full routine immunisation for children (take-up, individuals treated)	21
DPT1	8
DPT2	6
DPT3	36
BCG	19
Polio	18
Measles	27
Tetanus	1
Partial routine immunisation for children	8
No routine immunisation for children	4
Non-routine immunisation for children	11
Timely uptake of immunisation	5
Immunisation for mothers	10
Dropout rate (for DPT, polio and so on)	3
<i>Health outcomes</i>	
Child nutrition	4
Maternal nutrition	3
Childhood morbidity	3
Neonatal/infant/child mortality	2
Maternal/adult mortality	1

## **Box 1: Studies using experimental or quasi-experimental methods while examining community engagement approaches to increase immunisation**

### *Study 1: Educating mothers in Nepal*

Five hundred and forty mothers were randomly allocated to four groups in a maternity hospital in Nepal. They were either given health education at different time periods after they had delivered or excluded from any additional information. Findings: Individual health education for postnatal mothers in poor communities had no impact on infant feeding, care or immunisation. Uptake of family planning was the only outcome that saw any improvement. Source: Bolam *et al.* (1998)

### *Study 2: Providing information about health service entitlements in India*

Community-based, cluster randomised controlled trial conducted in 105 randomly selected village clusters in Uttar Pradesh to determine the impact of informing resource-poor locations about health services that they are entitled to. Findings: After one year, the interventions village cluster reported an increase in prenatal examinations, tetanus and other infant vaccinations. Overall, informing resource-poor rural populations about entitled services ended up increasing the delivery of health and social services among both low- and mid- to high-caste households. Source: Pandey *et al.* (2007)

### *Study 3: Improving maternal knowledge of vaccines in Pakistan*

This randomised controlled trial looked at the impact of a low literacy immunisation promotion educational intervention for mothers living in low-income communities of Karachi on infant immunisation completion rates. Trained CHWs provided the intervention group with targeted pictorial messages regarding vaccines and the control group received general health promotion messages. Findings: After four months, the interventions group showed an increase in uptake of DPT/Hep-B vaccination and DPT-3/Hep-B completion rates. Source: Owais *et al.* (2011)

### *Study 4: Training health workers in India*

Two intervention and three comparison districts were selected for a two-year evaluation trial in Assam. In intervention districts, immunisation staff received comprehensive training, ongoing supervision by a full-time consultant, and regular monitoring of progress was conducted. Findings: Children in both the intervention and comparison districts were twice as likely to be fully vaccinated as they were at baseline. Source: Ryman *et al.* (2011)

### *Study 5: Text messaging to prevent H1N1 in China*

Randomly selected community residents in China who agreed to participate were assigned to receive three weeks of messages via SMS on either H1N1 prevention and control, or tobacco cessation. Findings: Those receiving the messages had better knowledge, attitudes and greater odds of getting vaccinated for H1N1 than those receiving tobacco messages. Most respondents found the messages to be a trustworthy source of information. Source: Chai *et al.* (2013)

### *Study 6: Improving childhood immunisation adherence through maternal education and immunisation cards in Pakistan*

A randomised controlled trial assessed the effects of providing a substantially redesigned immunisation card, centre-based education, or both interventions together on DPT3 completion at six rural EPI centres in Pakistan. Findings: The intervention groups reported a significantly higher proportion of children completing DPT3 with improved immunisation card alone, the education for mothers alone, or both together. Source: Usman *et al.* (2011)

### *Study 7: Conditional cash transfers and immunisation status in Brazil*

This study uses propensity score methods to investigate the impact of the Bolsa Familia programme, a conditional cash transfer programme, on the immunisation of children from 0 to 6 years of age in Brazil and its regions. Findings: The programme did not affect the immunisation status of children. Source: Andrade *et al.* (2012)

### **Box 1 (cont'd): Studies using experimental or quasi-experimental methods while examining community engagement approaches to increase immunisation**

#### *Study 8: Evaluation of immunisation campaigns with and without incentives*

A cluster randomised control trial evaluated the effect of non-monetary incentives like lentils and metal plates on the immunisation status of children. This was in addition to the initial health services being provided by mobile teams on a regular basis. Findings: Small incentives had large positive impacts on the uptake of immunisation services. Source: Banerjee *et al.* (2010)

#### *Study 9: Effects of unconditional and conditional cash transfers on child health and development in Zimbabwe*

Effectiveness of cash transfers were assessed in a cluster randomised control trial. One group was given an unconditional cash transfer and the other a conditional cash transfer based on compliance with several conditions related to child health. Findings: All measured outcomes including proportion of children with complete vaccination records were marginally greater for the unconditional cash transfer group. Source: Robertson *et al.* (2013)

#### *Study 10: Impact of integration of hygiene kit distribution with routine immunisations in Kenya*

A controlled before and after study where caregivers were provided with hygiene kits during routine immunisation visits to see if use of both interventions are improved. Findings: Hygiene kit distribution during routine immunisations positively impacted household water treatment and hygiene without a negative impact on vaccination coverage. Source: Briere *et al.* (2012)

#### *Study 11: Redesigned immunisation card and centre-based education to reduce immunisation dropouts in Pakistan*

A randomised controlled trial that assesses the effect of redesigned immunisation cards and education to mothers on the potential hazards of incomplete vaccination on DPT3 completion. Findings: A significant increase in DPT3 completion was seen in the group that received both the redesigned card and centre-based education. Source: Usman *et al.* (2009)

#### *Study 12: Incorporation of a health and nutrition intervention package in Bangladesh*

The comparison group in this randomised control trial received a standard programme with income support, employment and training. The intervention group received basic nutrition and health education and the control group received neither. Findings: Mean body weight significantly increased in the intervention group and all three of the groups showed an increase in immunisation coverage. Source: Roy *et al.* (2008)

#### *Study 13: Effects of monetary incentives on use and coverage of preventive healthcare in Honduras*

People were allocated at random to four groups in this cluster randomised trial. These were: monetary incentives to households; resources to local health teams combined with a community-based nutrition intervention; both packages; and neither. Findings: Conditional payments to households increased the use and coverage of preventive healthcare interventions. Source: Morris *et al.* (2004)

**Table 4: Distribution of studies according to intervention: gap map on community engagement in immunisation coverage**

<b>Intervention type</b>	<b>No. of studies</b>
<b>Communication and dialogue</b>	
Community groups and networks	1
Faith/local outreach	5
Sustained education and sensitisation campaign	8
One-time education and sensitisation campaign	13
Working with groups against immunisation	1
<b>Planning and participation</b>	
Formal worker education and training	1
Community health worker education and training	3
Community member education and training	16
<b>Monitoring and accountability</b>	
Community tracking and registering	3
<b>Recognition and incentives</b>	
Monetary incentives	5
Non-monetary incentives	1
<b>Implementation and service delivery</b>	
Formal health worker involvement	4
CHW involvement	11
Comprehensive programme (multipronged approach)	12
Collaborating with community on delivery	3
Mobile clinics	1



Table 6: Legend of the gap map					
<b>Gap map colouring:</b>					
<b>White:</b>	Primary studies		<b>Yellow:</b>	Systematic reviews	
<b>Interventions</b>					
<b>Communication and dialogue</b>					
Community groups and networks: participation of existing community groups and networks to raise awareness and/or educate people on <b>immunisation-related</b> aspects (e.g. self-help groups)					
Faith-based outreach or outreach using local leaders: using faith-based or local community organisations to provide knowledge and/or services to populations who might not otherwise have access to those services					
Sustained education and sensitisation campaign: continuous or periodically occurring sensitisation and education campaigns promoting immunisation (e.g. media awareness campaigns, vaccination days, <b>school-based</b> education and vaccination campaigns)					
<b>One-time</b> education and sensitisation campaign: <b>one-time</b> or non-recurring sensitisation and education campaigns promoting immunisation (e.g. media awareness campaigns, vaccination days, <b>school-based</b> education and vaccination campaigns, SMS reminders)					
Working with groups against immunisation: working with groups reluctant to immunise their children for reasons ranging from superstitions to lack of information					
<b>Planning and participation</b>					
Formal health worker education and training: <b>immunisation-related</b> activities comprising educating and/or training formal health workers like nurses, doctors, and licensed caregivers					

Community worker education and training: **immunisation-related** activities comprising educating and/or training volunteers and CHWs

Community member education and training: **immunisation-related** activities comprising educating and/or training community members like families of children

### **Monitoring and accountability**

Community tracking and registering: volunteers and CHWs identifying targets, tracking and registering people for immunisation (e.g. birth tracking, identifying target populations, registering immunisation status of infants and mothers, and so on.)

### **Recognition and incentives**

Monetary incentives: transferring cash or other monetary incentives to formal health workers, CHWs or community members for providing services related to immunisation (e.g. conditional cash transfers, salary)

Non-monetary incentives: providing non-monetary incentives to either formal health workers, CHWs or community members for providing services related to immunisation

### **Implementation and service delivery**

Formal health worker involvement: formal health worker participation including delivery, spreading awareness and other **immunisation-promoting** jobs

CHW involvement: CHW participation including delivery, spreading awareness and other **immunisation-promoting** jobs

Comprehensive programme (multipronged approach): programmes involving community engagement as an essential part of multiple interventions that are evaluated as a whole

Collaborating with community on delivery: private and/or public sector working with community members to deliver vaccines

Mobile clinics: mobile health vans that provide services related to immunisation (delivery of vaccines, increasing knowledge of local communities)

**Outcomes**

**Knowledge and attitudes towards immunisation**

Knowledge and attitudes towards immunisation

**Awareness of service provision**

Awareness of preventative services (check-ups, screenings)

**Health utilisation**

Health clinic

**Delivery of immunisation services**

Capacity building and training

Availability of vaccines

**Vaccination coverage**

Full routine immunisation for children (take-up, individuals treated)

DPT1/DPT2/DPT3/Polio/Measles/Tetanus

Partial routine immunisation for children

No routine immunisation for children

Non-routine immunisation for children (HPV, Typhoid, Hep-B, H1N1, Cholera)

Timely uptake of immunisation

Immunisation for mothers (Tetanus vaccination during pregnancy)

Dropout rate (for DPT, polio, and so on.)

<b>Health outcomes</b>
Child nutrition
Maternal nutrition
Childhood morbidity
Neonatal/infant/child mortality
Maternal/adult mortality

## 4. Discussion

We discuss our findings in this section.

**There is insufficient high-quality evidence.** High-quality evidence that can causally relate changes in immunisation coverage to specific programmes and interventions that use community engagement approaches is clearly scarce. Most of the evaluations done in this area use a before-and-after design. There are 11 randomised controlled trials. Half of them look at community member education and training as the intervention and either full routine or DPT3 coverage as an outcome. In terms of interventions, we find that most studies analyse sensitisation and education campaigns; the role of monetary incentives; community member training and education, and comprehensive community programmes. These comprehensive programmes include a range of community engagement activities like community member or health worker training or involvement in tracking, monitoring and delivery.

**Community engagement approaches within the field of immunisation are underused.** This conclusion is inferred from two findings. First, during the search for the gap map, we found only 78 studies that focused on implementation of community engagement to increase immunisation coverage. Although we started initially with nearly 5,000 studies that came up in response to our systematic search strategy, fewer than 100 studies met our inclusion criteria. From those that are available, it is clear that few programmes use community engagement as the focus of their approach. This comes out clearly from the survey as well. There was strong agreement amongst our respondents that such interventions can be effective in increasing immunisation coverage (mean score of 4.39, s.d. = 0.73, on a scale of 1 to 5). However, most respondents agreed that community engagement initiatives in this sphere were very uncommon (mean score of 2.95, s.d. = 1.18).<sup>4</sup> It is clear that more can be done in this area.

Second, existing community engagement approaches focus on generating awareness and promoting behaviour change. In the survey, we found that interventions that focus on engaging community members in communication roles were found to be more commonly used than other interventions. This included informing caregivers about the purpose of immunisation, its importance, and where and when it is available. It also included engaging community leaders, religious leaders or local media channels. This had a mean score of 3.87 (s.d. = 0.98) which was much higher than the mean score for other types of interventions. This bias towards community engagement interventions focused on promoting awareness and behaviour change was also evident in the responses to our qualitative questions. Here, suggestions to conduct these types of interventions far outnumbered suggestions to conduct other types of community engagement interventions.

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<sup>4</sup> In converting responses to question eight of the online survey (n = 192) to a five-point scale (with strongly disagree being assigned a value of 1 and strongly agree a value of 5,) and then using their mean values to aggregate responses, we find that the mean score in response to how effective different community engagement interventions are in increasing immunisation coverage is 4.39.

**Interventions that are co-managed with communities are likely to be more successful.** Whilst there is no one-size-fits-all, there is evidence to inform the design of community engagement approaches. There are several important take-away messages here:

*First, there are important lessons that we can learn from other development sectors.* Other sectors have successfully engaged communities to design, implement and monitor development processes. Co-management, where communities are actively involved in project design, implementation, monitoring and evaluation, is integral to the success of an intervention.

*Second, unsurprisingly, context is important.* Immunisation, and especially routine immunisation, is part of the national health system in almost all countries. Customising immunisation by taking into account important cultural and contextual influences can address the problem of reaching the last mile. This is where communities can be most engaged. Programmes and interventions need to be designed at the community level and should be more participatory in nature. Communities may also differ in terms of their governance structures, religious and cultural contexts and geographical area. Some largely comprise mobile populations. From the beginning, community diagnosis should thus be done to understand the problems and limitations of a community and identify solutions for these problems.

In **community co-managed programmes, a few important lessons** emerged from experiences in other sectors. First, it is important that **community leaders** are involved from the beginning. However, the opinion of leaders must not completely govern project design and implementation. In communities that are particularly unequal, elite-capture by authority figures or the majority population is a persistent risk (Darmawan and Klasen 2013). Therefore, while engagement of authority figures is transferable to immunisation, the risk of elite capture must be mitigated. Second, although communities can be engaged in monitoring and evaluation, the engagement process needs to be customised. In the context of immunisation coverage, the **participatory model** may be transferable with clear central guidelines and control functions that are determined and overseen by implementing agencies. Third, what came out clearly is the need to follow a **balanced approach** so that local expertise and resources are coupled with external logistical and financial support. A completely top-down or bottom-up process may lead to several problems in terms of collective ownership and sustainability (Magee 2013).

**Implementation and delivery capacity is likely to be a bottleneck.** Many qualitative responses from expert interviews underscored the need to ensure there is continuous and consistent engagement for (micro) planning, awareness creation and monitoring and surveillance. An overwhelming majority of experts interviewed for the scoping paper talked about the problems faced by beneficiaries at the point where services are delivered. Two main areas where this is likely are: problems with interpersonal communication between the service provider and beneficiaries, and problems related to scheduling, cancellation and lack of supplies. If beneficiaries are not treated well at the service centre or place they bring their children for immunisation and if they are not

happy with the quality of services, then they lose interest and do not return for follow-up visits. Indeed, it is clear that community engagement cannot be a one-off approach that ceases once immunisation for a specific cohort has been completed.

Although most respondents to the survey and semi-structured interview commented on the need to engage communities, they also highlighted the difficulty in implementing these sorts of approaches ('how easy to implement different community engagement interventions?' mean score = 3.3, s.d = 1.19). This score differed only marginally between those who identified themselves primarily as researchers and those who identified themselves as implementers.

The interview with experts revealed that when designing studies that evaluate the effectiveness of co-managed interventions, tracking of intermediary outcomes should be done. These intermediary outcomes should e.g. measure community members' belief that getting a community's children vaccinated and protected is a joint responsibility of the health services and the community. It is also helpful to assess whether community engagement improves community confidence and skills that are, or could be, used to help make improvements in areas beyond immunisation.

It is also important to create open mechanisms to get community feedback on vaccination services. Doing this well (in a comfortable setting where people feel free to speak honestly) can be very valuable to health workers and managers. Community members' participation in this process will also facilitate their cooperation in programmes that focus on community engagement approaches.

**Some technology-based interventions that engage communities might work well (but evidence is required).** A number of respondents highlighted the role of technology in improving service delivery and tailoring services so that they meet the needs of the beneficiary communities. One possible way in which technology, especially mobile technology, may help is by reminding parents about the vaccination schedule, especially for vaccines that have a relatively long interval between doses. Additionally, most respondents said that involving community members, while planning at the individual level and while planning schedules and reminders for communities, was critical. Many also said that communities can help by holding national and local health systems more accountable for delivery of services. Information technology can also play an important role for community mapping.

The role of technology-based interventions was highlighted by many respondents in the expert and stakeholder interviews. However, it is important to keep in mind the feasibility of using technology-based approaches according to the community context. Before these decisions are made, an assessment of the factors that might constrain the use of technology by community members must be done. For example, for a mobile phone based intervention, it is important to assess whether the majority of community members have access to or own a mobile phone, if they are able to read and understand text messages and so on, before the decision to adopt the technology-based intervention is made.

## Limitations

Before we conclude, it is important to recognise some of the limitations of this study. This scoping paper was prepared during a fixed window of time to make information available upon the release of the request for proposals. This time constraint led to some limitations. First, the evidence gap map is based on two databases, which means that we may have missed some studies. Furthermore, the gap map does not include studies from grey literature. Second, the sampling for the stakeholder survey and expert interviews was a convenience sampling, and the response window was short. There is no way of knowing whether our respondents are representative of the larger stakeholder community. Our analysis is based on a relatively small n.

## 5. Conclusions

Our scoping study points to the potential key role communities can and should play in almost all aspects of the causal chain of programmes aiming to increase immunisation coverage in developing countries. This engagement should be initiated with communication and demand generation, all the way up to service utilisation and monitoring and evaluation.

Professional opinion is that programmes that are co-managed with the community are more likely to be successful than those that are not. However, what comes out forcefully is that there is insufficient evidence. Programmes that use these approaches should also generate evidence in tandem to help pilot, plan, deliver and learn more from their experience. Other recent studies in the field of immunisation corroborate these findings (Fields and Kanagat 2012; Jain *et al.* 2015; LaFond *et al.* 2014).

In terms of innovations in this area, we find there is broad agreement regarding the importance of involving communities in the different stages of the causal chain. Most examples of innovative community engagement approaches centred on the involvement of religious and other key leaders. This was for dissemination of information about the importance of immunisation and the role of technology in reducing dropout rates.

We conclude that all these are potential areas for further exploration. Evaluation of approaches that involve communities for improving the delivery of immunisation services should especially be funded. These initiatives should also be undertaken in contexts that have weak governance structures and throw up other challenges related to delivery.

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## Appendix A: Methods

### 1. Evidence gap map

An evidence gap map is a matrix of intervention categories (rows) and outcome indicators or indicator categories (columns) that displays studies in the cells according to what is tested and measured in the study. The evidence gap map allows the reader to quickly see where evidence is present and absent. The map itself does not present the results of the studies or synthesise those results, but it includes hyperlinks to either a summary of the study or the source of the study to allow the reader to quickly access the evidence.

**The framework:** The first task in developing an evidence gap map is building the framework – the headings for the rows and columns. Rows in an evidence gap map are typically interventions grouped by type or category. Interventions grouped in a category row are based on the same, or very similar, theory of change. Columns in an evidence gap map are outcome indicators, also typically grouped by type or category. These indicators may measure results at different stages along a causal chain or logical framework. While inputs are not included, an evidence gap map may include columns for outputs, outcomes and impacts.

**Process:** The evidence gap map for this scoping study was built using a consultative process. First, the study team brainstormed the theory of change underlying an immunisation programme and listed the interventions and outcomes according to the hypothesised theory of change. As an example, at the beginning of an immunisation programme, beneficiaries need to be aware of the importance of immunisation and possess knowledge about where and when to get vaccination services. Therefore, we add community engagement interventions that aim to increase awareness and knowledge in the rows of the framework and list outcomes related to beliefs and attitudes in the columns. We did this similarly for other parts of the causal chain. In the next step, the draft gap map matrix was shared with key experts in the field of immunisation and community engagement and further revised using their feedback.

In the gap map for this scoping study, interventions were broadly categorised into communication and dialogue; planning and participation; monitoring and accountability; recognition and incentives, and implementation and service delivery. Similarly, the broad categories for outcomes were knowledge and attitudes towards immunisation; awareness of service provision; health service utilisation; delivery of immunisation services; vaccination coverage, and health outcomes. These were further subdivided into categories (tables in Section 3).

**Search strategy:** To populate the gap map, the study team developed a comprehensive search strategy with relevant keywords and systematically searched two electronic databases: Medline and Social Sciences Citation Index.

The results were then methodically screened using the Prisma checklist<sup>5</sup> (Figure 2) and involved explicit inclusion/exclusion criteria (see Table A1).

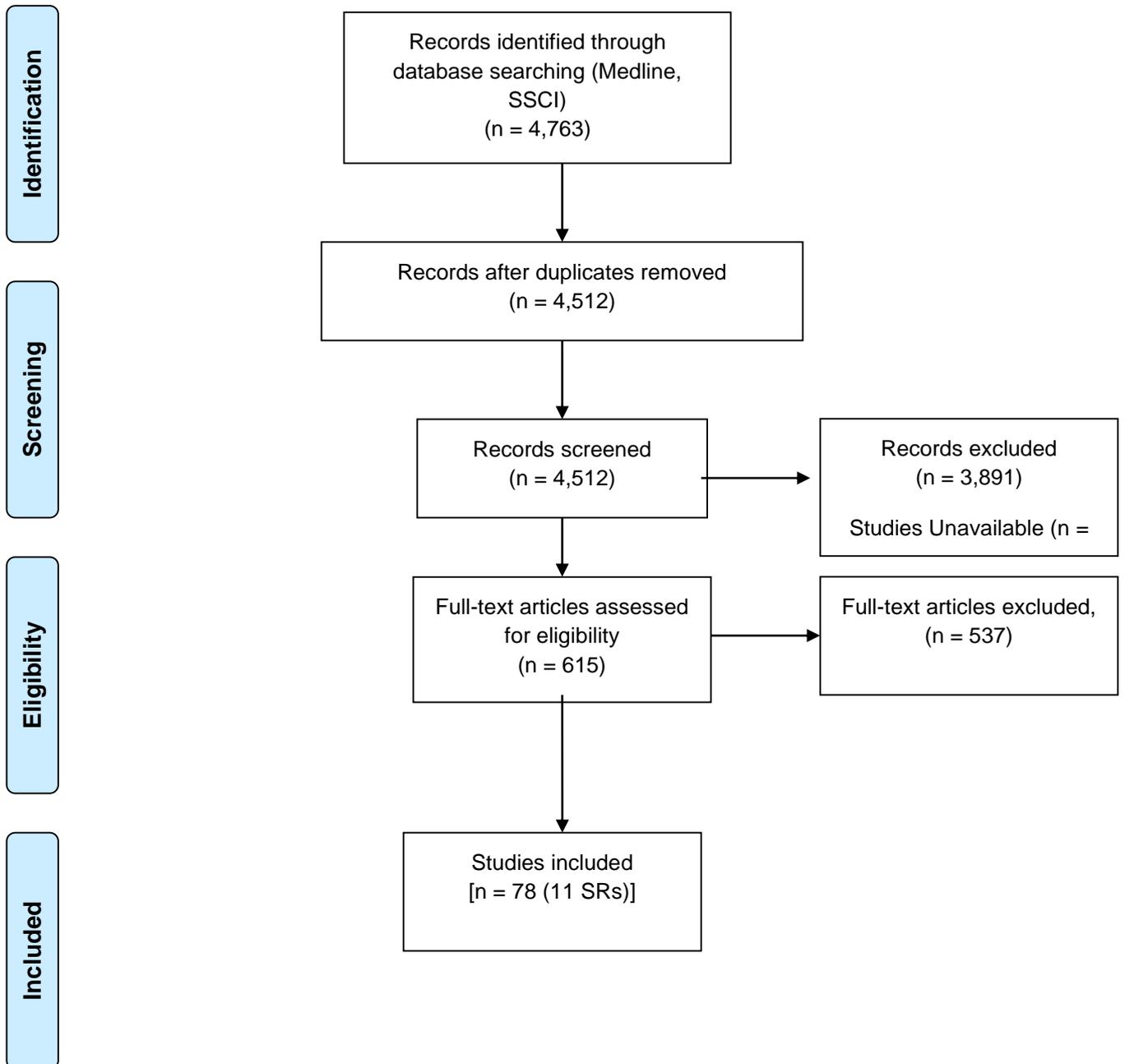
**Table A1: Inclusion and exclusion criteria for immunisation gap map**

<b>PICOS</b>	<b>Included</b>	<b>Excluded</b>
<b>Population</b>	All human [or mother and child]; Low- and Middle-Income Countries	Non-human studies (possibly non-Maternal Child Health (MCH) immunisation); studies in High-Income Countries
<b>Intervention</b>	Immunisation and community engagement	Any intervention which is top-down, and any community engagement not about immunisation
<b>Comparison</b>	Valid comparison groups with either no intervention or different interventions	
<b>Outcomes</b>	Immunisation status, health service utilisation, knowledge and beliefs about immunisation	Studies report only health outcomes
<b>Study design</b>	Experimental, quasi-experimental, before versus after studies, case studies, qualitative studies and process evaluations	Correlational studies that lack specific interventions

This was followed by systematic coding of eligible studies. Endnote © software was used to manage the references obtained through the search strategy. Study titles were screened for relevance and full text papers were double-screened for inclusion. Information was collected on study design, study population and location, and on interventions and outcomes along the causal chain, as relevant. The studies were quality-assessed only on their design. Data were coded using Microsoft Excel ©. The cells highlighted yellow on the gap map represent systematic reviews, and not all of them have had their quality assessed, but the process is under way. Seventy-two studies were included and feature in the gap map.

<sup>5</sup> <http://www.prisma-statement.org/statement.htm>

Figure A1: PRISMA flow diagram for screening studies related to immunisation and community engagement



## 2. Stakeholder survey

A structured survey was undertaken using SurveyMonkey (see Appendix C). The survey comprised 13 questions so that it could be completed in five to ten minutes by the respondents. The first seven questions asked about the background of the respondent. Question number 8 asked the following sub-questions that informed innovation in community engagement approaches:

- How commonly are different types of community engagement interventions used in the field of immunisation?
- How easily can different types of community engagement interventions be implemented?
- How effective were different types of community engagement interventions in increasing immunisation coverage?

Questions 9 through 11 were qualitative. These were open-ended questions and asked respondents to identify:

- Community engagement approaches that would be most effective in increasing immunisation coverage amongst hard-to-reach populations.
- Successful and innovative community engagement interventions outside the field of immunisation that could be effective to increase immunisation coverage.
- Suggestions towards improving community engagement interventions that seek to increase immunisation coverage.

Questions 12 and 13 asked respondents whether they would like to be kept abreast of developments related to *3ie's Breaking through stagnation: testing innovations in engaging communities in increasing immunisation coverage* programme.

**Targeting survey respondents:** All study participants were purposively sampled. A two-step process was used for the selection of participants. At the beginning we mapped key stakeholders in a mapping exercise to identify the major players in the field of immunisation. This process helped us identify key implementing agencies, research organisations, academic institutions and bilateral and multilateral organisations that are playing a role in efforts to improve immunisation coverage. This was fine-tuned along the way as we used snowballing techniques to reach other key players (see Appendix D).

The survey targeted people experienced in either implementing or evaluating immunisation and/or community engagement programmes. Our survey instrument included a skip logic in question 6. This prevented people without experience in our desired fields from answering question 8 to ensure the relevance of the responses to the main topic of the scoping study. The survey was open from January to February 2015.<sup>6</sup>

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<sup>6</sup> Before we began disseminating the survey we posted a pre-announcement about the programme on our website. This was also circulated in online forums, through listservs and on social media.<sup>6</sup> We also piloted it with 10 respondents and ironed out some minor flaws.

**Attributes of respondents:** Appendix E shows some attributes of respondents to the survey. There were a total of 192 respondents. Most respondents worked in an NGO, whether international or national, and more than half of the respondents (55.2 per cent) said they had been working in health/immunisation or related areas for more than 10 years. More than half said they had experience working in Sub-Saharan Africa (61 per cent) and/or South Asia (50 per cent). Very few people belonging to foundations, the UN or donor agencies responded. More than half the respondents (52 per cent) said they had some expertise in helping to increase the uptake of immunisation services. And more than half (54 per cent) said they had some expertise in monitoring and evaluation. Less than 10 per cent (8.3 per cent) said they had some expertise in social marketing. Three fifths or more of the respondents said that they either supported policy/advocacy, research or implementation of programmes, and more than 40 per cent said they had experience or had supported work related to (increasing) community engagement.

**Analysing responses:** Analysis of survey findings was done using the SurveyMonkey software. Responses to open-ended questions were coded on a question-by-question basis using SurveyMonkey. The data were coded twice over. First, all responses to the open-ended questions were coded on a four-point scale in accordance with their usefulness. Each response was labelled as either 'not useful', 'semi-useful', 'useful' or 'very useful'. Broad guidelines for these were:

- Not useful: the response didn't answer the question or provide inputs towards the wider programme, e.g. in response to question 9 (that asked respondents to 'specify community engagement approaches that would be most effective in increasing immunisation coverage amongst hard-to-reach populations'), a response that said 'entire village at one time multiple times a year' was coded as 'not useful'.
- Semi-useful: the response answered the question but lacked elaboration on both the reasons behind the respondent's answer and the suggested intervention itself, e.g. in response to question 9, a response that said 'involve the community leaders of the marginalised communities' without explaining reasons was coded as 'semi-useful'.
- Useful: the response answered the question and included an elaboration on either the reasons behind the respondent's answer or the suggested intervention, e.g. in response to question 9, if a response said 'first of all, one needs to track all the children/households/population of work area for their vaccination status and also list/map the specific families/communities with reasons behind left out. This could be done by applying principles of barrier analysis or other Participatory Rural Appraisal methods. Once you involve the community in the assessment (listing and reasons behind low immunisation coverage/left out), community members will themselves provide the solutions, e.g. 'placing a vaccination session at that community', this was coded as useful).

- Very useful: the response answered the question and also cited a real-world example or resource from which we could further explore the answer (e.g. in response to question 9, 'Community life competence approach of the Constellation used effectively in the Democratic Republic of the Congo (DRC) on immunisation under UNICEF project')  
<http://www.communitylifecompetence.org/en/8-community-life-competence-process> was coded as 'very useful'.

Once coded for usefulness, all responses, except those rated as 'not useful', were further coded in accordance with the type of intervention they suggested employing. Each response could be coded under multiple types of interventions (see below).

### 3. Expert semi-structured interviews

Experts for semi-structured interviews were identified using the stakeholder mapping described earlier and then through detailed web-searching and snowballing. Our emphasis for semi-structured interviews was on identifying the implementing agencies in this field and we specifically targeted individuals working at local country level offices rather than at headquarters. However, in order to get a more macro-level perspective, we also identified individuals working at a more global level and tried to do a couple of interviews with them.<sup>7</sup>

Twenty-eight experts were interviewed using a semi-structured interview guide (Appendix F). Interviews typically lasted 25 minutes and were mostly conducted over Skype or telephone. The interviews were conducted by a team of two persons from 3ie. In order to ensure quality control, information was collected through note taking and cross-checked for completeness and consistency immediately after the interview and before data analysis. A list of respondents and their respective organisations is in Appendix G. We also interviewed a few individuals who had responded to our online survey and indicated that they were willing to be contacted further.

**Analysis of qualitative interviews:** A qualitative content analysis was applied to analyse information manually from all the expert interviews. A stepwise approach was adopted for content analysis. The analysis aimed to find manifest and latent meaning of data. This was done as a two-stage process. In the first stage, a research assistant supervised by an evaluation specialist worked to code all the textual data in the expert interviews. In the second stage, the coded interviews were read several times by the principal researcher in order to identify the mutually exclusive but possibly linked codes or themes that emerged across responses. Additional codes and subcodes were identified iteratively in this coding process and reapplied to previous interviews as needed. To begin with, each record was coded on at least four main dimensions; these dimensions were based on closed codes that were embedded in the interview questions (see Table 2). However, after the records were read several times, other open codes that emerged from the interviews were identified and all interviews were

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<sup>7</sup> Invitation emails for participating in the interviews were sent out to a total of 40 individuals between January and February 2015.

recoded according to these dimensions. In terms of profiles of respondents, we also coded the responses according to the number of years' experience of the interviewee and the country in which s/he had worked previously in immunisation. The majority of respondents had worked in the immunisation sector for at least four to eight years and most of them had worked on programmes in Sub-Saharan Africa and South Asia.

**Table A 2: Themes according to which text was coded**

Theme	Subtheme
Theme 1: Challenges for increasing immunisation coverage	<ul style="list-style-type: none"> <li>• <i>ethnic and cultural issues</i></li> <li>• <i>awareness and knowledge levels of beneficiaries</i></li> <li>• <i>service delivery challenges</i></li> </ul>
Theme 2: Community engagement approaches for overcoming these challenges	<ul style="list-style-type: none"> <li>• <i>community worker training and education</i></li> <li>• <i>community tracking and monitoring</i></li> <li>• <i>religious leader involvement</i></li> <li>• <i>role of technology</i></li> <li>• <i>community participation in planning</i></li> </ul>
Theme 3: Cost-effectiveness and sustainability of community engagement approaches	<ul style="list-style-type: none"> <li>• Cost-effectiveness</li> <li>• Sustainability</li> </ul>
Theme 4: State of evidence	<ul style="list-style-type: none"> <li>• State of evidence</li> </ul>

#### 4. Evidence profiles

The last but not least tool we used was evidence profiles. Seven examples of community engagement initiatives in non-immunisation sectors were examined closely. These were to identify how each process works in terms of community engagement; what the key lessons learned are, and whether the main features characterising each model may be transferable to immunisation. Each profile seeks to answer the question of how community engagement takes place, which community members are engaged, and by whom. Using theory of change analyses, these profiles highlight inputs, outputs, outcomes and assumptions associated with each approach, and gauge applicability for immunisation.

Evidence profiles were developed for community-led total sanitation; community-driven development; self-help groups ; community-based health promotion; community-based initiatives against female genital mutilation; climate change; and farmer field schools. Systematic reviews, impact evaluations, case studies, process manuals and background documents were identified based on keyword web searches. Only studies conducted from 2000 to 2014 were included. A tabular format was developed to indicate the community level stakeholders engaged, how each group was involved and to do what, and which institutions were responsible for community outreach (see

Appendix H). A theory of change analysis was undertaken to identify the main features of the development model, in addition to lessons learned and their transferability to immunisation. Individual evidence profiles are available on request. Each approach was selected based on the active engagement of communities as agents of change, rather than solely as participants or recipients of action.

## Appendix B: Coding sheet for eligible studies

	Number	ID	Question	Description
1. Publication details	1.1	ID	Unique study identifier	Surname of first author followed by year identifier, e.g. Chahar <i>et al.</i> 2006
	1.2	AUTHORS	Full list of author surnames	E.g. Chahar, Lala, Waddington
	1.3	DATE	Publication date	Year (NS = Not specified)
	1.4	TITLE	Full title	E.g. 'Impact of community health workers on immunisation'
2. Intervention details	2.1	LOCATION	Name of the country	Note the countries in which evidence is collected
3. Study design	3.1	COUNTERFACTUAL_EVALUATION	Categorise the type of 'counterfactual' evidence collected (if relevant).	<p>1.1 = Experimental impact evaluation using randomised assignment to allocate groups/individuals to a treatment and a control (randomised controlled trial)</p> <p>1.2 = Impact evaluation using quasi-experimental methods to compare a treatment and control group (e.g. difference-in-differences with matching, propensity score matching, instrumental variables regression analysis, interrupted time series)</p> <p>1.3 = Other (before versus after, comparison group studies without matching, cross-section regression)</p> <p>NA = Not applicable</p>
	3.2	FACTUAL_EVALUATION	Categorise the type of 'factual' evidence collected (if relevant)	<p>2.1 = Process evaluation (collecting data on design and implementation of the intervention)</p> <p>2.2 = Other qualitative or mixed-methods empirical research (e.g. ethnographic study collecting data on beneficiary views and experiences)</p> <p>2.3 = Systematic reviews</p> <p>2.4 = Other</p>

				NA = Not applicable
	3.3	SAMPLE_SIZE	Data on number of study participants and clusters	Total sample size and, for clustered studies, effective sample size (i.e. number of clusters, villages, districts) NS = Not stated
	3.4	DATA_SOURCE	Data source and sampling information	Information on source of data (e.g. dataset, interviews, FGD, survey) NS = Not stated
4. Interventions	4.1	Interventions	Categorise the intervention being observed or put specify and put into other section if it does not fall in the existing categories	Community groups and networks Faith-based outreach/outreach using local leaders Sustained sensitisation and education campaigns One-time sensitisation and education campaigns Working with groups against immunisation Formal health worker training and education CHW training and education Community member training and education Community tracking and registering (e.g. birth tracking, identify target populations, register immunisation status of infants and mothers) Monetary incentives Non-monetary incentives (e.g. facilitating parents of fully immunised children) Formal health worker involvement Comprehensive community programmes (multipronged) CHW involvement Collaborating with community on delivery Mobile clinics

5. Final outcomes	5.1	Outcomes	Categorise the outcome being measured or put specify and put into other section if it does not fall in the existing categories	Knowledge and attitudes towards immunisation Awareness of preventative services Clinic Capacity building and training Availability of vaccines Full routine immunisation for children (take-up, individuals treated) BCG Measles DPT1 DPT2 DPT3 Polio Tetanus Non-routine immunisation (HPV, Typhoid, Hep B, H1N1, Cholera) Partial routine immunisation for children No routine immunisation for children Timely uptake of immunisation Immunisation for mothers Drop-out rate (for DPT, Polio, and so on) Child nutrition Maternal nutrition Childhood morbidity Neonatal/infant/child mortality Maternal/adult mortality
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## **Appendix C: Survey instrument**

### **Purpose of the survey**

As an expert in the area of health and/or immunisation, your inputs are very valuable for informing 3ie's Breaking through stagnation: testing innovations in engaging communities for increasing immunisation programme.

This programme will fund formative evaluations and impact evaluation studies that will identify effective community engagement approaches for increasing immunisation coverage in countries with low or stagnating immunisation rates. Community engagement in immunisation refers to specific approaches that focus on engagement and partnerships between national/ local health systems and communities to address both supply- and demand-side factors that lead to poor vaccine coverage.

Your responses to this survey will help us in shortlisting and prioritising community engagement approaches that are considered promising for improving immunisation coverage in difficult settings.

We will be compiling and summarising the results of this survey in a short report. We would be happy to share this report with you if you leave us your e-mail address at the end of this survey.

Breaking through stagnation: testing innovations in engaging communities		
1. What is the nature of the organisation you work for:	Choose an item.	Others (please specify) <a href="#">Click here to enter text.</a>
2. What are your areas of expertise (Select all that apply)?	<input type="checkbox"/> Immunization - supply side (increasing availability of vaccines) <input type="checkbox"/> Immunization - demand side (increasing uptake of vaccinations) <input type="checkbox"/> Maternal health <input type="checkbox"/> Neonatal, infant and child health <input type="checkbox"/> Health communication/education <input type="checkbox"/> Social marketing <input type="checkbox"/> Monitoring and Evaluation <input type="checkbox"/> Research-Biomedical/Device <input type="checkbox"/> Research-Programmatic <input type="checkbox"/> Health policy and/or advocacy Other (please specify) <a href="#">Click here to enter text.</a>	
3. How long have you worked in Health/immunization or related areas?	Choose an item.	

<p>4. Which regions do you have experience working in or researching on? (select all that apply)</p>	<p><input type="checkbox"/> East Asia and the Pacific</p> <p><input type="checkbox"/> South Asia</p> <p><input type="checkbox"/> Middle East, North Africa and Greater Arabia</p> <p><input type="checkbox"/> Europe</p> <p><input type="checkbox"/> North America</p> <p><input type="checkbox"/> Central America and the Caribbean</p> <p><input type="checkbox"/> South America</p> <p><input type="checkbox"/> Sub-Saharan Africa</p> <p><input type="checkbox"/> Australia and Oceania</p>
<p>5. Which of the following areas do you work in or support? Please mark all that apply.</p>	<p><input type="checkbox"/> Policy/Advocacy</p> <p><input type="checkbox"/> Research</p> <p><input type="checkbox"/> Finance</p> <p><input type="checkbox"/> Implementation</p> <p>Other (Please specify) <a href="#">Click here to enter text.</a></p>
<p>6. Which of the following types of intervention do you work in, support or have experience with?</p>	<p>Choose an item.</p>

7. Which of the following interventions have you worked on, supported or have experience with? Please mark all that apply.

- Health Education/ Behavioral change communication
  - Monetary and non-monetary incentives for immunization (including Conditional Cash Transfer)
  - Mobilization of community members using key influencers etc.
  - Community problem-solving and strategy development
  - Other ways to mobilize communities to increase immunization coverage
  - Monitoring and evaluating activities and programmes
  - Community health worker initiatives
  - Tracking systems
  - Supply of vaccines to health centers and pharmacies
  - Storage of vaccines and cold chain logistics
  - Training health workers
  - Assistance to procure vaccines for the national vaccination system
- Other (please specify) [Click here to enter text.](#)

## Community engagement approaches for increasing immunization coverage

Community engagement approaches are increasingly recognized as being important for reaching the last mile for immunization. We are now going to ask you about your opinion for the different types of community engagement approaches (within and outside of immunization) and the extent to which these may be effective for improving immunisation coverage.

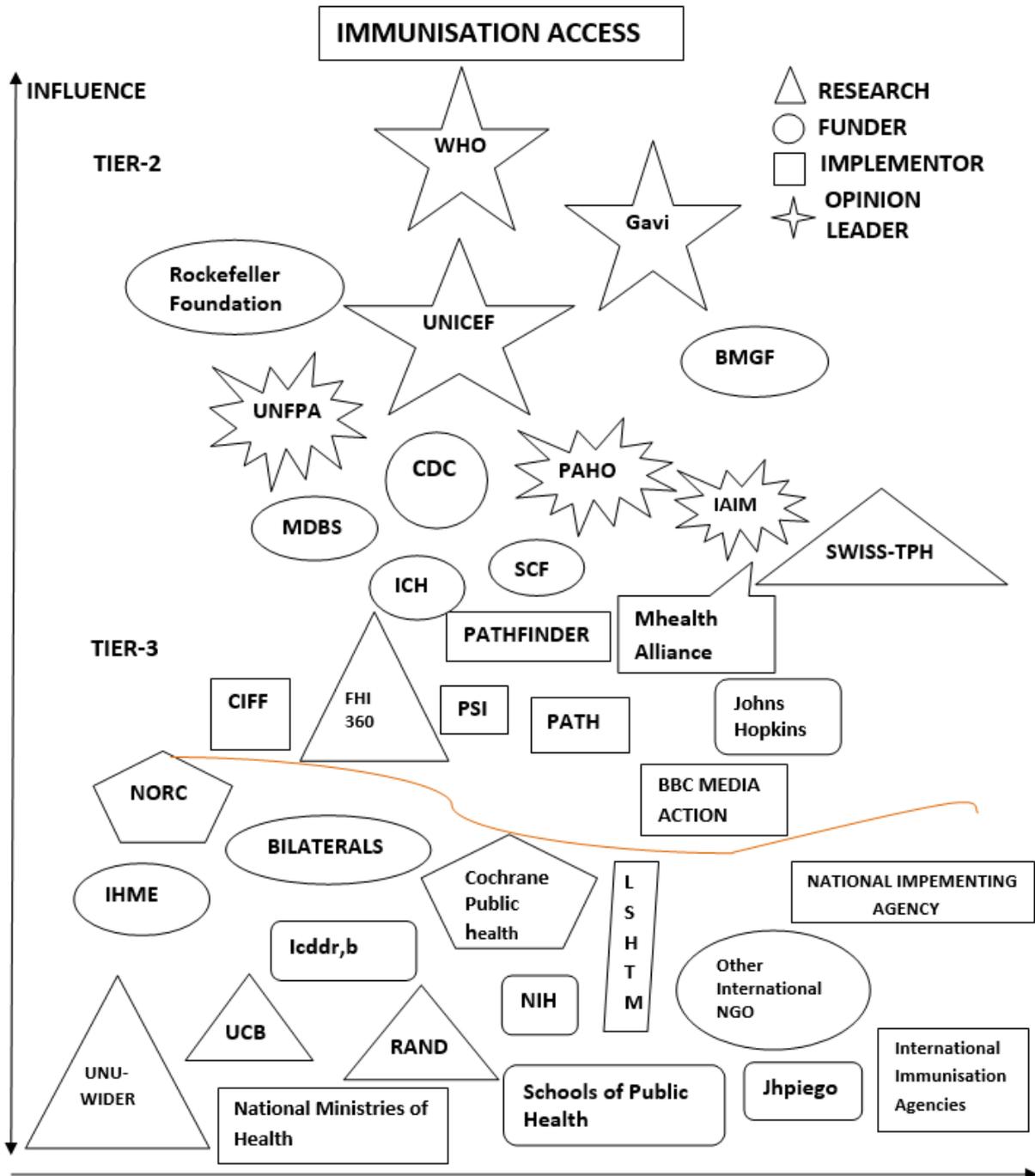
8. Please rate the interventions listed in the rows on the criteria given in the columns. i.e. Please say to what extent you agree with the statements in the columns for each of the interventions listed in the rows (Options: Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree, Don't know/Can't say).

	<b>This is easy to implement</b>	<b>This is effective in increasing immunisation coverage</b>	<b>This is commonly used</b>
Planning immunization services with communities such as involving communities in planning the location, schedule, and services offered in fixed and outreach sites.	Choose an item.	Choose an item.	Choose an item.
Involving communities in monitoring and surveillance of services such as through training and supporting community volunteers.	Choose an item.	Choose an item.	Choose an item.

<p>Engaging community members in communication roles by informing caregivers about the purpose of immunisation, its importance, and where and when it is available. This can include engaging community leaders, religious leaders or local media channels.</p>	<p>Choose an item.</p>	<p>Choose an item.</p>	<p>Choose an item.</p>
<p>Identifying and addressing resistant groups by responding to resistance and building trusting relationships between health services and communities</p>	<p>Choose an item.</p>	<p>Choose an item.</p>	<p>Choose an item.</p>
<p>9. One of the main reasons for low immunisation coverage in many settings is that marginalised and hard-to-reach populations continue to be left out of immunisation campaigns. Can you provide examples of any community engagement approaches that you think can specifically tackle this problem:</p>	<p>Click here to enter text.</p>		
<p>10. Can you provide any examples of innovative community engagement approaches that have been successful in other areas such as HIV/TB or even non-health sectors such as education/agriculture/social development that could also be applied to immunisation?</p>	<p>Click here to enter text.</p>		

<p>11. Do you have any other comments or suggestions that might help to improve community engagement in promoting immunisation coverage?</p>	<p>Click here to enter text.</p>
<p>12. Would you like to be informed about further developments within this programme at 3ie?</p>	<p>Choose an item.</p> <p>If you would like to be contacted please share your name and email address:</p> <p>Click here to enter text.</p>
<p>13. Do you require us to keep your answers confidential?</p>	<p>Choose an item.</p>

## Appendix D: Stakeholder mapping



### **Acronyms used in stakeholder mapping figure**

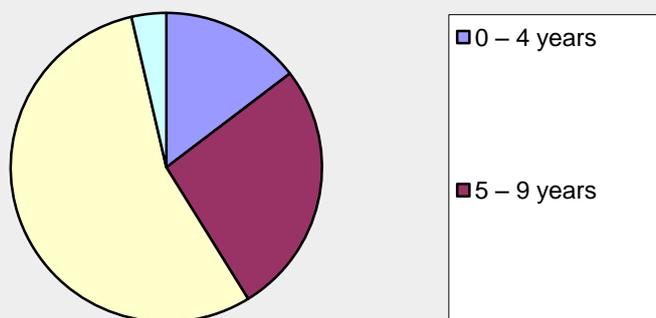
BMGF	Bill & Melinda Gates foundation
CDC	Centers for Disease Control and Prevention
CIFF	Children's Investment Fund Foundation
Gavi	Global Alliance for Vaccines and Immunization
IAIM	International Association of Immunization Managers
icddr,b	International Centre for Diarrhoeal Diseases Research Bangladesh
ICH	Institute of Child Health
IHME	Institute for Health Metrics and Evaluation
JHU	Johns Hopkins University
LSHTM	London School of Hygiene & Tropical Medicine
MDBS	Multilateral Development Banks
NIH	National Institutes of Health
NORC	National Opinion Research Center at the University of Chicago
PAHO	Pan American Health Organisation
PATH	Program for Appropriate Technology in Health
PSI	Population Services International
SCF	Save the Children Foundation
SWISS-TPH	Swiss Tropical and Public Health Institute
UCB	University of California, Berkeley
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
UNU-WIDER	United Nations University World Institute for Development Economics Research
WHO	World Health Organization

## Appendix E: Profile of survey respondents

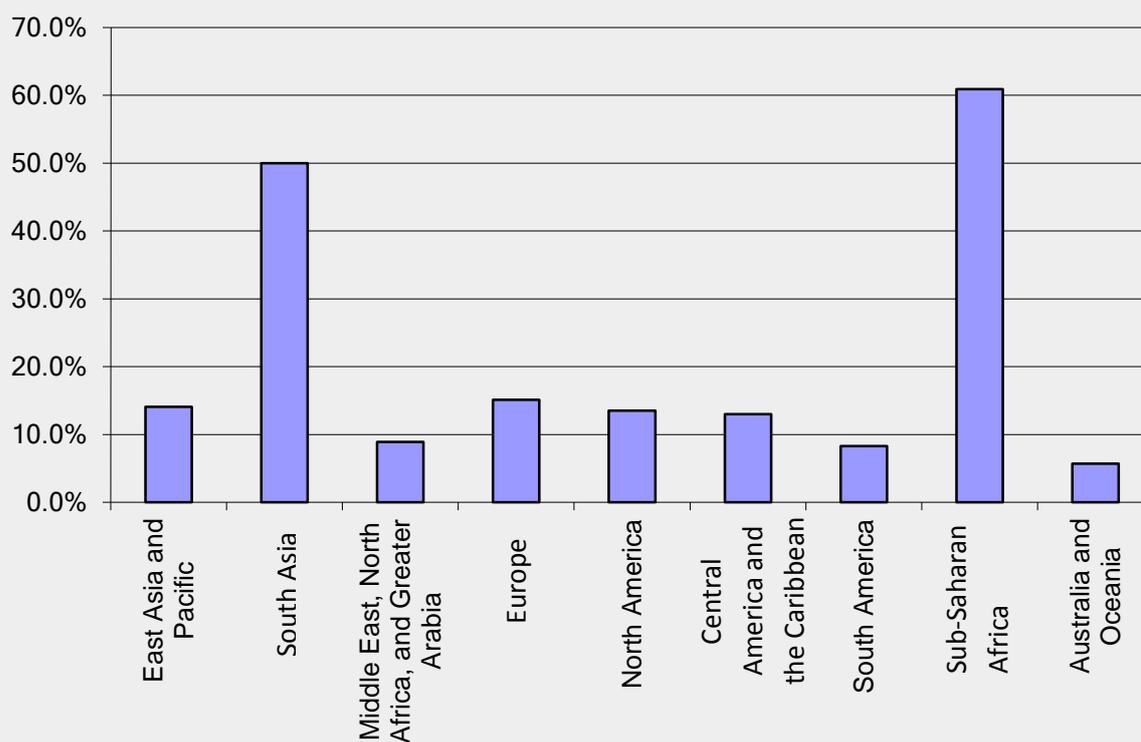
<b>Q1. What is the nature of the organisation you work for:</b>		
<b>Answer Options</b>	<b>Response per cent</b>	<b>Response count</b>
Developing country government ministry or agency	8.3%	16
Developed country government ministry or agency	1.0%	2
Developing country university/research institution	16.7%	32
Developed country university/research institution	18.2%	35
UN organisation	6.3%	12
Philanthropic organisations/foundations	3.6%	7
International NGO	20.8%	40
Local NGO	13.5%	26
Donor agency	0.0%	0
Private consultancy	11.5%	22
Other (please specify)		15
<b>answered question</b>		<b>192</b>
<b>skipped question</b>		<b>1</b>

<b>Q2. What are your areas of expertise? Please mark all that apply.</b>		
<b>Answer Options</b>	<b>Response per cent</b>	<b>Response count</b>
Immunisation – supply side (increasing availability of vaccines)	26.6	51
Immunisation – demand side (increasing uptake of vaccinations)	52.6	101
Maternal health	32.3	62
Neonatal, infant and child health	46.9	90
Community engagement	42.7	82
Health communication/education	33.9	65
Social marketing	8.3	16
Monitoring and evaluation	54.2	104
Research-biomedical/device	6.3	12
Research-programmatic	35.9	69
Health policy and/or advocacy	41.1	79
Other (please specify)		19
<b>answered question</b>		<b>192</b>
<b>skipped question</b>		<b>1</b>

**How long have you worked in health/immunisation or related areas?**



**Which regions do you have experience working in or researching on? (select all that apply)**



**Which of the following areas do you work in or support? Please mark all that apply.**

<b>Answer Options</b>	<b>Response per cent</b>	<b>Response count</b>
Policy/advocacy	59.4	114
Research	64.1	123
Finance	7.3	14
Implementation	65.6	126
Other (please specify)		14
<b><i>answered question</i></b>		<b>192</b>
<b><i>skipped question</i></b>		<b>1</b>

## Appendix F: Semi-structured interview guide

### Using innovative community-based approaches for increasing immunisation

#### Interview guide

The information below will be pre-filled by the interviewer and will not be asked directly from the respondent.

1. Name.....
2. Organisation.....
3. Number of years of experience in the sector  
above.....(some diplomatic way of asking in case we cannot pre-fill.)
4. Country where currently based..... (location where person is based?)
5. Region where organisation/person's work focuses  
.....  
-----  
-----

Thank you for giving us time to have this conversation. Your views will provide important inputs for our evidence programme on increasing immunisation coverage through innovative community engagement approaches.

The International Initiative for Impact Evaluation (3ie) has recently launched a programme titled, *Breaking through stagnation: testing innovations in engaging communities in increasing immunisation coverage*. Supported by the Bill & Melinda Gates Foundation, this programme will focus on generating evidence on innovative ways of engaging communities to expand immunisation coverage in Gavi -eligible countries.

#### For respondents from the immunisation field:

1. *Can you tell us a bit about your own work in the field of immunisation? (Identify areas such as policy work or on the ground work). Within these could you speak about approaches that engage communities for increasing coverage?*

Probe: Specific focus of their work (e.g. demand side, supply side; programme implementation or evaluation)

Probe: Specific examples of interventions/programmes that you have worked on or have worked on in the policy arena.

2. *From your own experience in this sector, what would you say you have learned about what works and doesn't work in increasing immunisation coverage in the [region]?*
3. ***Now we would like to talk more about immunisation more generally.***

3a. *What do you think are the biggest challenges in increasing immunisation coverage, especially in countries with low or stagnating immunisation rates?*

3b. *What strategies and approaches can best overcome these challenges?*

3c: *Region?*

Probe: Challenges

Probe: Strategies/approaches

4. *What in your view are the best approaches or interventions for community engagement which have an impact on vaccination coverage, especially to the reach the poorest and most vulnerable? [Define: Community engagement if not done already, to orient conversation.]*

Probe: Community engagement

Probe: Reaching the poorest

5. *Do you think community engagement approaches can be sustainable and cost-effective?*

6. *Do you have any suggestions for what innovative community engagement approaches in the field of immunisation would look like? [Probe: What makes these innovative?]*

7. *To your knowledge, are there other areas, outside of immunisation, that have used community engagement approaches and can provide important lessons for improving immunisation coverage? What are these areas?*

8. *What do you think about the state of evidence on what works and what doesn't in terms of different community engagement approaches for improving immunisation coverage? What are the main gaps or limitations of existing evidence?*

**OR**

**For respondents from fields other than immunisation**

1. *Can you tell us a bit about your own work that focuses on engaging communities for improving outcomes (depending on the sector, the outcomes will be specified).*

Probe: Specific focus of their work (e.g. demand side, supply side; programme implementation or evaluation, policy)

Probe: Specific examples of interventions or policy work including region of work.

2. *From your own experience in this sector, what would you say you have learned about what works and doesn't work in terms of the different community engagement approaches?*
3. *Do you think community engagement approaches are sustainable and cost-effective?*
4. *Do you think there are possible ways in which communities can be engaged to increase the demand for immunisation as well as aid in strengthening supply systems that can be transferred from the sector you work in to the immunisation sector? If so, what are some of these methods?*

*In your view is there sufficient evidence regarding community-based approaches that work in your sector? What type of evidence is there?*

## Appendix G: List of people interviewed

No.	Name	Organisation
1	Ahsan Ahmad	Independent
2	Alan Hinman	The Task force for Global Health
3	Anne LaFond	John Snow Inc.
4	Brigitte Toure	United Nations Children's Fund UNICEF
5	Colin Kirk	UNICEF
6	Dr Uddin Jasim	icddr,b
7	Edward Kariithi	PATH
8	Felicity Cutts	Independent
9	George Pariyo	Gavi
10	Gunjan Taneja	IPE Global
11	Heather Ames	Communicate to Vaccinate
12	Jean Louis Lamboray	The Constellation
13	Jenny Sequiera	The Bill & Melinda Gates Foundation
14	Larry Moulton	The Johns Hopkins University
15	Medhanit Wube	FHI 360
16	Michael Favin	Manoff Group
17	Monica Chaturvedi	Public Health Foundation of India
18	Pritu Dhalaria	PATH
19	Robert Chambers	Institute of Development Studies
20	Robin Biellik	WHO
21	Soleine Scotney	Clinton Health Initiative Interactive Research & Development
22	Subhash Chandir	UNICEF
23	Tasnim Partapuri	UNICEF
24	Tim Magee	Centre for Sustainable Development
25	Zulfiqar Bhutta	Agha Khan
26	Robert Steinglass	John Snow Inc.
27	Ramanan Laxminarayan	Public Health Foundation of India
28	Jyoti Joshi, Leena Imandar, Prem Singh	Public Health Foundation of India

## Appendix H: Profile template

### Overview

The approach	
Does it work?	
Are there transferable lessons?	

### Key features, lessons and transferability

Key features	Lessons from experience	Transferability to immunisation

### Description of approach

Who engages community?	Who in community is engaged?	How is community engaged? What is community engaged to do?

## **Publications in the 3ie Scoping Paper Series**

The following papers are available from <http://www.3ieimpact.org/en/publications/3ie-scoping-paper-series/>

*The current state of peacebuilding programming and evidence. 3ie scoping paper 2.* Brown, AN, McCollister, F, Cameron, DB and Ludwig, J (2015)

*What evidence is available and what is required, in humanitarian assistance?, 3ie Scoping Paper 1.* Clarke, M, Allen, C, Archer, F, Wong, D, Eriksson, A and Puri, J (2014)

Immunisation coverage rates continue to stagnate or even decline in some parts of the world. An estimated 21.8 million infants worldwide in 2013 were not covered with routine immunisation services. Nearly half of these children live in three countries: India, Nigeria and Pakistan.

The global community and national governments continue to look for novel ways to improve access to and use of immunisation services to reduce vaccine-preventable deaths. In this context, there is an increasing realisation that communities need to be more than just passive recipients of immunisation services.

This scoping paper highlights the key role that communities can and should play in building demand for immunisation and in the planning and delivery of services. The paper also shows that there is a clear lack of evidence on the effectiveness of community engagement approaches for increasing immunisation coverage.

### **Scoping Paper Series**

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