An evidence map of social, behavioural and community engagement interventions for reproductive, maternal, newborn and child health

World Health Organization
International Initiative for Impact Evaluation
The Partnership for Maternal, Newborn & Child Health

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Foreword

The Every Woman Every Child (EWEC) Global Strategy for Women's, Children's and Adolescents' Health (2016–2030) calls for action towards three objectives: Survive (end preventable deaths), Thrive (ensure health and well-being) and Transform (expand enabling environments). The strategy recognizes that "women, children and adolescents are potentially the most powerful agents for improving their own health and achieving prosperous and sustainable societies".

Social, behavioural and community engagement (SBCE) interventions are key to empowering individuals, families and communities to contribute to better health and well-being of women, children and adolescents. Policy-makers and development practitioners need to know which interventions work best. The World Health Organization (WHO) has provided global guidance on some key SBCE interventions, and we recognize there is more work to be done as this will be an area of increasing importance in the era of the Sustainable Development Goals (SDGs) and the EWEC Global Strategy.

This document provides an evidence map of existing research into a set of selected SBCE interventions for reproductive, maternal, newborn, and child health (RMNCH), the fruit of a collaboration between the World Health Organization (WHO), the Partnership for Maternal, Newborn & Child Health (PMNCH) and the International Initiative for Impact Evaluations (3ie), supported by other partners. It represents an important way forward in this area, harnessing technical expertise, and academia to strengthen knowledge about the evidence base.

The evidence map provides a starting point for making available existing research into the effectiveness of RMNCH SBCE interventions, a first step toward providing evidence for decision-making. It will enable better use of existing knowledge and pinpoint where new research investments can have the greatest impact. An online platform that complements the report provides visualization of the findings, displaying research concentrations and gaps.

Beyond providing a map of important studies, this evidence map can catalyse a shift in thinking about planning social, behavioural and community engagement interventions to further strengthen the links between the Survive, Thrive and Transform agenda.

We see this work as a good example of the strong commitment from WHO and PMNCH in support of the EWEC Global strategy. We embrace this first step and invite partners to join us in our efforts to strengthen the evidence base for social, behavioural and community engagement interventions and their uptake in country programmes and to use this evidence base to invest strategically in empowerment. We must work together to ensure that women, children and adolescents have the capacities and voice to become the agents of change for their own sustainable health and wellbeing.

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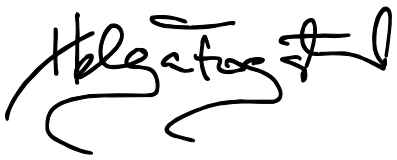

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List of acronyms

3ie	International Initiative for Impact Evaluation
DDs	Difference-in-differences
EWEC	Every Woman Every Child
GFF	Global Financing Facility
IEC	Information, education, and communication
IPC	Interpersonal communication
ITS	Interrupted-time series
LMIC	Low-and middle-income country
MCSP	Maternal and Child Survival Program
MDGs	The United Nations Millennial Development Goals
NGO	Non-governmental organization
NORAD	The Norwegian Agency for Development Cooperation
PMNCH	Partnership for Maternal, Newborn & Child Health
RCT	Randomized controlled trial
RDD	Regression discontinuity design
RMNCAH	Reproductive, maternal, newborn, child, and adolescent health
RMNCH	Reproductive, maternal, newborn, and child health
SBCE	Social, behavioural and community engagement
SDGs	The United Nations Sustainable Development Goals 2030
USAID	The United States Agency for International Development
WASH	Water, sanitation and hygiene
WHO	World Health Organization
WHO/MCA	WHO Department of Maternal, Newborn, Child and Adolescent Health

Operational definitions

The following terms are used in this document as defined below:

Evidence map: provides an overview of existing impact evaluations and systematic reviews, and categorizes the key characteristics of included studies

Impact evaluation: programme evaluations or field experiments that use experimental or observational data to measure the effect of a programme relative to a counterfactual situation representing what would have happened to the same group in the absence of the programme

Social, behavioural and community engagement interventions: interventions that address the capabilities of individuals, families and communities to contribute to improving their own health. A number of different titles have been used to refer to SBCE interventions including health promotion, demand creation, empowerment, social and behaviour change.

Systematic review: a review of a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review

Summary

Women's and children's health has seen significant progress in recent decades, however, gains have been uneven and inequalities persist. The Every Woman Every Child (EWEC) Global Strategy for Women's, Children's, and Adolescent's Health (2016-2030), ('the EWEC Global Strategy'), released in parallel with the United Nations' Sustainable Development Goals 2030 (SDGs) in September 2015, calls for action towards three objectives: Survive (end preventable deaths), Thrive (ensure health and wellbeing) and Transform (expand enabling environments).

Achieving these objectives will depend on successfully scaling-up programmes that go beyond clinical and service delivery. Social, behavioural and community engagement (SBCE) interventions that address the capabilities of individuals, families and communities to contribute to improving their own health are fundamental to the realization of these objectives. Their role in programmes has possibly been neglected in the past due to a lack of evidence of their effectiveness.

Decision-makers considering SBCE interventions need high-quality evidence on intervention effectiveness, particularly where, as is true of this domain, global guidance is limited although growing. A large number of research studies are produced every year but these are scattered across subjects, sources and locations. Research evidence needed to inform policies and programmes may be difficult to find and it is not clear which areas need further or new research.

To address these issues, the World Health Organization (WHO) worked with the International Initiative for Impact Evaluation (3ie) to conduct an exercise to develop an evidence map of selected SBCE interventions related to reproductive, maternal, newborn and child health (RMNCH). The purpose was to identify existing and ongoing impact evaluations and systematic reviews of selected SBCE interventions to inform RMNCH programmes and identify evidence gaps where new impact evaluations, systematic reviews and WHO guidelines could add value. This report provides information on the methods used to develop the evidence map and summarizes the key findings. An interactive platform that visually presents the findings can be found at this link: http://gapmaps.3ieimpact.org/evidence-maps/social-behavioural-and-community-engagement-interventions-reproductive-maternal-0.

Who should use this document?

This document is primarily intended for RMNCH policy-makers and development practitioners that commission research to inform policies and programmes. However, different audiences will have different uses for this evidence document. National and local governments and their key partners can use it to identify existing research related to interventions of interest; universities and evidence searchers can identify areas suitable for evidence synthesis; researchers and research funders can better prioritize research needs and move away from areas which may be saturated; partners advocating that governments and programmes apply SBCE interventions can refer to the map to identify experiences; WHO can identify areas for global guidance and rally partners around research priorities.

Methods

This evidence map was based on a methodology developed by 3ie. The scope of the evidence map includes impact evaluations and systematic reviews assessing the effects of selected RMNCH SBCE interventions in low- and middle-income countries. Adolescent health interventions were not included because a separate document on adolescent sexual and reproductive health was recently published. This evidence map is based on a systematic search of a large number of academic databases and websites. Included studies were published from 2000 to 2016. Information on three key characteristics were extracted from studies: health topic, intervention and outcome. Data visualization of these key characteristics has been used to display the findings. This map does not address the same questions as a systematic review and does not provide details on the findings of each study nor the overall effectiveness of interventions studied.

Results

Of the documents meeting inclusion criteria, 142 were completed systematic reviews and 457 were completed impact evaluations. A further 38 ongoing impact evaluations and 13 ongoing reviews were also identified. From the year 2000, the number of published impact evaluations has increased incrementally, with a notable increase in the number of studies published after 2011. However, although the total number of systematic reviews of SBCE interventions for RMNCH continues to increase, the number of new reviews published per year was greatest 2013 and has declined since.

Impact evaluations are predominantly randomized controlled trials (76%) and are unevenly distributed across intervention areas. For types of intervention, there is a heavy focus on interpersonal communication and health education activities, followed by demand-side financing approaches and community mobilization, delivered alone or packaged with other SBCE approaches. There are relatively few evaluations of mass media and entertainment education programmes, social media and m-health and social marketing. There have also been fewer evaluations of interventions involving community participation in health service planning and programmes and social accountability.

The most frequently measured outcomes are health-related outcomes, including child growth and development (n=155), morbidity (n=103), mortality (n=60) and care practices (n=221)

and care seeking (n=171). Very few evaluations measured community capacity, participation in health programming, or outcomes related to household communication, social norms and gender equity. Few studies reported on knowledge and attitudes of health providers for engagement or provider communication and engagement skills, despite the large proportion of studies examining interpersonal communication and health education activities.

Impact evaluations are also unevenly distributed across regions and countries. While most were conducted in Africa and South-East Asia, reflecting the highest regional burdens of maternal and neonatal mortality, studies are concentrated within a fairly small number of countries in those regions. Over half of the studies (n=270) come from 10 low- and middle-income countries. There are countries with high burdens of both maternal and neonatal mortality where no studies could be identified, particularly in West Africa.

Over 60% of the impact evaluations considered equity; most considered place of residence, typically a rural area, or socio- economic status. Ethnic group, language, culture, and disability were rarely considered.

Systematic reviews: the systematic review evidence base is large, but unevenly distributed, similar to the uneven distribution of identified impact evaluations. A large proportion (76%) of the reviews focused on interpersonal communication and health education approaches, particularly home visits and group approaches. It may be helpful to conduct a 'review of reviews' in this area to help identify more specific lessons learned and gaps in the knowledge.

Many of the included systematic reviews were assessed to have methodological limitations. In particular, for healthy timing and spacing of pregnancy, there were few reviews rated as high confidence across all intervention areas. There are a large number of reviews, rated low or medium confidence, of social media and m-health, despite the relatively low number of impact evaluations. Thus, more systematic reviews in this area may not contribute much to the knowledge base in this domain until new impact evaluations are published. There are several areas where new systematic reviews could be of value, including community mobilization packages for WASH, infant feeding and nutrition, and early child development.

The outcomes assessed in the systematic reviews are largely inline with the outcomes assessed in impact evaluations. The most commonly included outcome measures are health outcomes – mortality, morbidity and child growth and development (n=163). The outcomes least mentioned include community capacity, participation and accountability, parenting skills, joint decision-making in the household and crosscutting outcomes like status of women or social cohesion. The majority of systematic reviews (75%) did not consider equity.

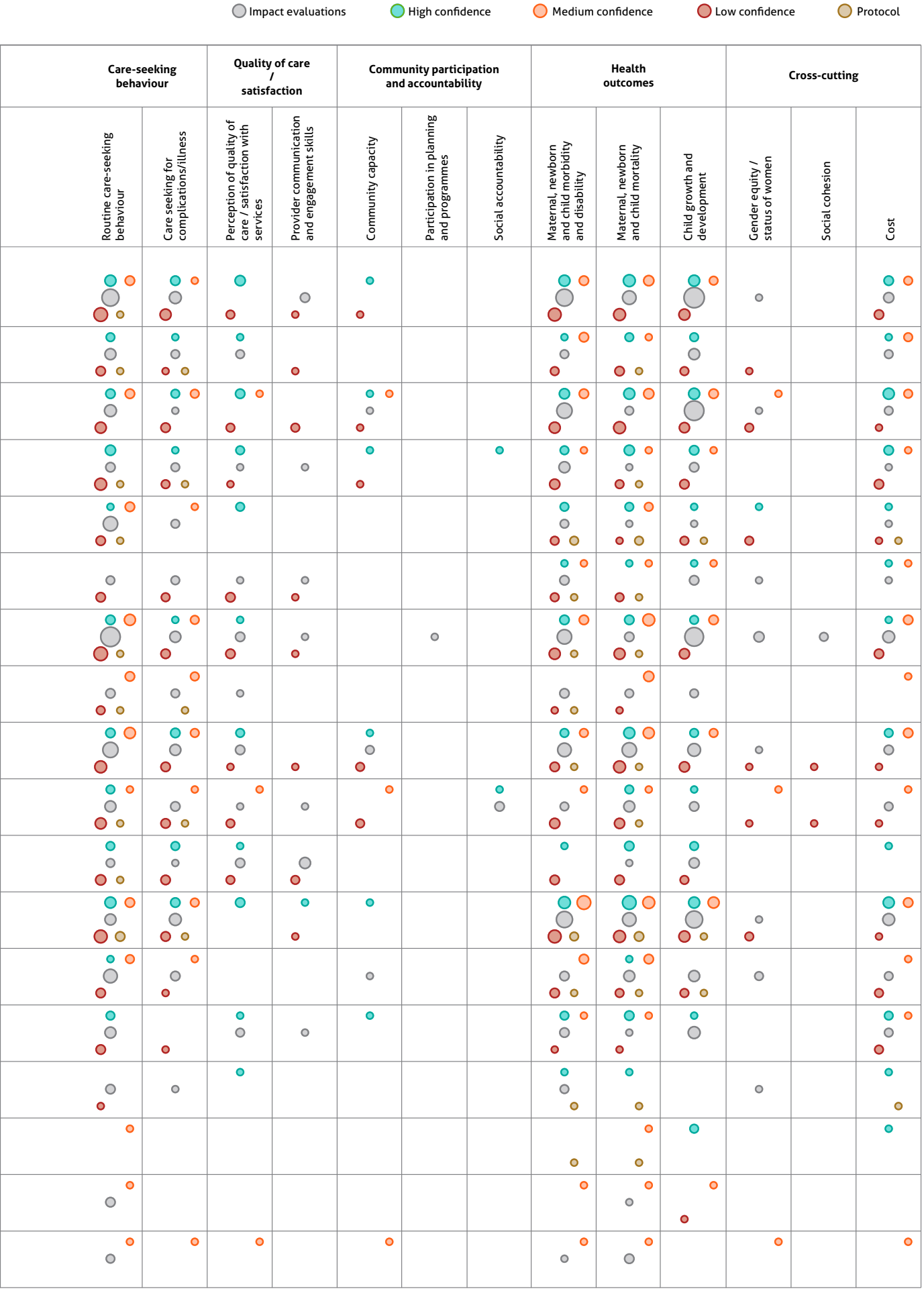
Conclusions

Investing in SBCE interventions will be of increasing importance to achieving the SDGs and the objectives set out in the EWEC Global Strategy. This mapping exercise is an important step to identify priority areas for rigorous impact evaluations and systematic reviews of SBCE interventions for RMNCH and key outcomes for the next five years. Findings from this evidence map show that there are a considerable amount of impact evaluations and systematic reviews from which we can draw lessons learned and conclusions. Nonetheless, there are still important

gaps in the evidence base for SBCE interventions for RMNCH. We identify initial next steps that will help improve and advance research on SBCE interventions:

- It would be useful for global and country partners to work together to identify common intervention categories for SBCE interventions across RMNCH areas, highlighting specificities of particular health areas/topics as needed. Having common frameworks and drawing lessons learned across RMNCH and different health areas, where possible, may expand the usefulness of the lessons we are drawing from the current research and implementation experience, and help inform future investment in SBCE research and programmes for RMNCH.
- Efforts could then follow to achieve consensus on priority areas for research and evidence synthesis. Where research priority areas are identified, further consensus on optimal study designs, key intervention components and key outcomes would be useful so that an evidence base can be built and synthesized over the next five to ten years.
- Further research on SBCE interventions should consider the measurement of distal and process outcomes, carefully considering what the core contributions SBCE interventions are making toward achieving the social, health and development goals.
- Research on SBCE interventions can also measure their contributions to the broader social outcomes aspired to in the new EWEC Global Strategy, including community participation and social accountability. The link to improved health may come from contributions to the enabling environment and improvement of social determinants as well as from direct health outcomes.
- More studies are needed to fill an important gap in measuring interventions to meet the needs of vulnerable populations. The map identifies gaps in targeting these populations and measuring direct and differential effects on them would be important. This includes incorporating more consistently considerations of equity (including gender, education, socioeconomic status, place of residence, ethnicity, culture and disability), and targeting research in high-burden countries and other countries where no studies were identified, such as francophone Africa.
- Future research should also consider the use of mixed-methods impact evaluations and systematic reviews and studies that involve causal chain analysis and process evaluation techniques to provide a more in-depth understanding of how change occurs. The evidence for SBCE would also benefit from more studies that include cost data.
- Further research can be undertaken to complement the findings from this evidence map, including on additional health areas (for example, expanding sexual and reproductive health); on other SBCE interventions and approaches that were not included; and with study designs that were not included, specifically qualitative research and research related to implementation and delivery mechanisms.
- Reporting of intervention implementation needs to improve in order for the quality of reviews to be improved, a problem encountered in this mapping exercise. WHO has recently released *Programme reporting standards for sexual, reproductive, maternal, newborn, child and adolescent health,* specifically intended to support programmes to better document key contextual and implementation factors (27).


Outcomes
Knowledge and attitudes
Household dynamics / communication
Care practices
Knowledge and attitudes of individuals and households
Social norms in the community for RMNCH
Knowledge and attitudes of health providers for community engagement
Couple / mothers / mothers-in law /parent-child communication
Parenting skills
Joint decision-making in the household
Self-care practices
Caregiver practices
Family planning method use
Household environmental practices
Interventions
Home visits
Facility-based Interpersonal Communication (IPC)
Group IPC - any setting
Mass media and entertainment education
Social media and m-health
Social marketing
Demand-side financing
Community-based health insurance
Community mobilization
Community participation and social accountability
Provider training and service delivery adjustments
Mixed IPC approaches
Community mobilization packages
IPC and mass media and entertainment education
IPC and social media and m-health
IPC and social marketing
IPC and demand-side financing
IPC and community participation and social accountability


Impact evaluations
High confidence
Medium confidence
Low confidence
Protocol
Care-seeking behaviour
Quality of care / satisfaction
Community participation and accountability
Health outcomes
Cross-cutting
Routine care-seeking behaviour
Care seeking for complications/illness
Perception of quality of care / satisfaction with services
Provider communication and engagement skills
Community capacity
Participation in planning and programmes
Social accountability
Maternal, newborn and child morbidity and disability
Maternal, newborn and child mortality
Child growth and development
Gender equity / status of women
Social cohesion
Cost

Introduction and background

Women's and children's health has seen significant progress in recent decades (1). However, health gains have been uneven and inequalities persist due to social and economic factors such as gender, education and income, along with geographical and structural determinants (2).

The need for a broader vision to improve women's and children's health has been addressed by more recent global policies, notably the Every Woman Every Child (EWEC) Global Strategy for Women's, Children's, and Adolescent's Health (2016-2030) (referred to as the 'EWEC Global Strategy' from hereon). The EWEC Global Strategy was released in parallel with the United Nations Sustainable Development Goals 2030 (SDGs) (3) in September 2015. Both strategies promote the establishment of an enabling environment for women and children to realize health and wellbeing, calling for interventions that go beyond service delivery.

The EWEC Global Strategy calls for action towards three objectives for health: Survive (end preventable deaths), Thrive (ensure health and wellbeing) and Transform (expand enabling environments). To reach the three objectives, strategies need to be built on evidence based, effective and sustainable interventions from both the biomedical and the social sciences. Women, children and adolescents are recognized as potentially the most powerful agents for improving their own health and achieving prosperous and sustainable societies (4).

The health impact of efficacious clinical and health system interventions must be maximized while simultaneously addressing inequity and the needs of underserved groups though a sustainable and transformative approach that includes strengthening the capabilities of individuals, families and communities to contribute to improved health (2,5). The EWEC Global Strategy calls for an enabling environment, a concept that has been embraced and defined over the years in different global frameworks. For example, in 1986 the Ottawa Charter put forward a concept of the enabling environment as one where all people have access to information, life skills and opportunities for making healthy choices (6).

Social, behavioural and community engagement (SBCE) interventions that address the capabilities of individuals, families and communities to contribute to improving their own health, are fundamental to the realization of these global objectives. A number of different terms have been used to refer to SBCE interventions including health promotion, demand creation, empowerment, social and behaviour change. In this publication, the term SBCE interventions is used to capture the breadth of the different dimensions these interventions address.

Evidence to guide investments in SBCE interventions

Given the global priorities set by the SDGs and the EWEC Global Strategy, it is likely that investments in SBCE interventions will increase in the next decade. However, to date investment in SBCE interventions has varied and is poorly documented. A search for information on past investment in SBCE within international aid and development assistance funding revealed no such specific information. We reviewed national health expenditure on SBCE interventions for RMNCAH for the 16 countries currently working with the Global Financing Facility (GFF) using expenditure on information, education and communication (IEC) programmes as a proxy. Data showed that only six of the 16 countries provided any information on this item. Of those countries reporting, expenditure varied from 0.26% of total health expenditure in Cameroon to 11% in the Democratic Republic of Congo, with three countries spending less than 0.50% (7). Other reports also suggest that funding in this area is insufficient (8).

Decision-makers choosing where and how to spend funds and other resources need access to high quality evidence to support the selection and implementation of effective and sustainable programmes that include SBCE interventions. Social, behavioural, structural, and economic interventions to facilitate an enabling environment have been in use for decades, however, policymakers often underestimate their value, and their inclusion in national strategies and programmes is lacking. This may be partly due to a weak and scattered evidence base that does not give policymakers the information needed to make decisions. At the same time funding for social science research to inform such intervention strategies has been consistently low over the past several decades compared to other science areas, particularly biomedical research (9).

To date there has been no attempt to map the evidence on SBCE interventions across RMNCH. And comparatively few guidelines have been developed for these types of interventions (see Annex 1 for a list of WHO SBCE-related guidelines available to date). This report takes stock of effectiveness research relating to SBCE interventions, identifying what research exists, gaps and areas to be prioritized for new research.

How SBCE interventions can contribute to improved reproductive, maternal, newborn and child health (RMNCH)

It is increasingly recognized that SBCE interventions are essential elements of health strategies for women, children and adolescents (2), by aiming to:

- strengthen the capabilities of individuals to take better care of themselves, including appropriate care seeking and practices in the home;
- increase household capabilities and support for RMNCH needs, including more equitable household dynamics;
- strengthen community capabilities and actions for improved health;
- improve the capabilities of health services to engage with communities and provide more responsive services.

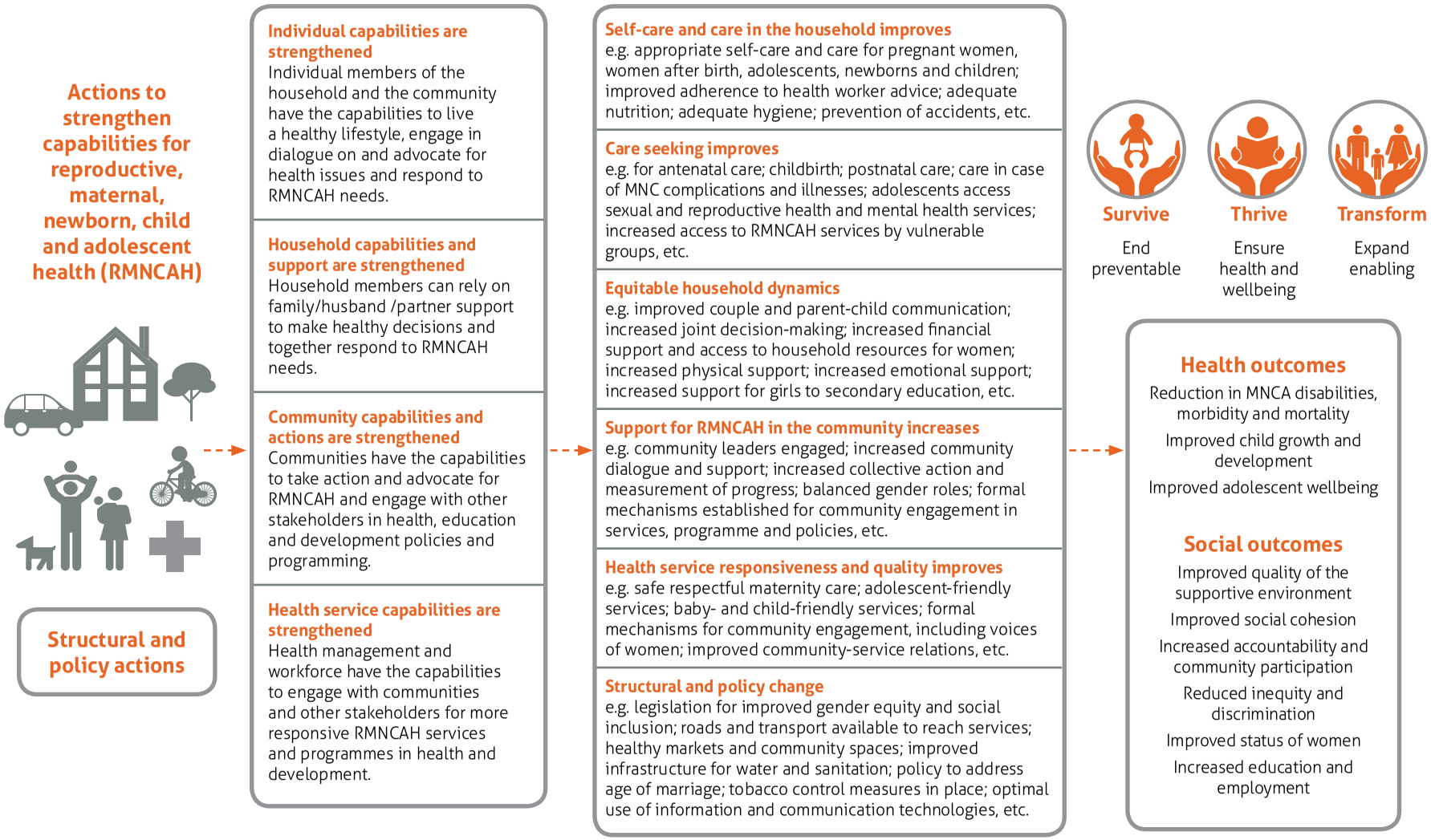
The conceptual framework below illustrates how SBCE interventions can contribute to achieving the EWEC Global Strategy objectives. We outline the specific interventions covered in tis map below, with full details and definitions of all interventions mapped in Annex 2.

What is a 3ie evidence map?

This evidence map was based on a methodology developed by the International Initiative for Impact Evaluation (3ie) for conducting evidence gap maps (10). It does not address the same questions as a systematic review and does not provide details on the findings of each study nor the overall effectiveness of interventions studied.

Mapping the evidence combines use of a systematic method to identify current evidence with data visualization and an interactive platform developed by 3ie that allows users to explore the available studies and access user-friendly summaries and links to the full text of included studies.

Figure 1 **Conceptual framework to strengthen individual, family and community capabilities for reproductive, maternal, newborn, child and adolescent health**



Box 1: Differentiating between an evidence map, a systematic review and a WHO evidence review

This report uses the term "evidence map" to refer to a collection of impact evaluations and systematic reviews. It does not address the same questions as a systematic review of effectiveness, which would provide details on the findings of each study, an assessment of the methodological quality of each study and a conclusion on the overall effectiveness of the intervention(s) studied. An evidence review process in WHO would entail further steps including the collection of systematic reviews on the intervention of interest. Additional steps, beyond the remit of this report, would include an analysis of the outcomes of the included studies, an assessment of the quality of the body of evidence gathered, a review of additional criteria in addition to impact outcomes and a consensus by an expert panel.

For complex interventions, such as SBCE interventions, additional information beyond the impact evaluation would also be required to better understand reasons for effectiveness. Additional study designs including qualitative and mixed methods would be considered. Information on the context, key implementation-specific considerations, deviation or adherence to the theory of change, values and opinions of key stakeholders, should be integral parts of the evidence compiled. These additional aspects would be captured and discussed in a WHO evidence review process or within evidence-based planning for programmes. However, it is beyond the scope of the map to capture all of these elements. The impact evaluation and systematic reviews gathered herein would be considered essential input but not sufficient for evidence-based decision making.

Objectives

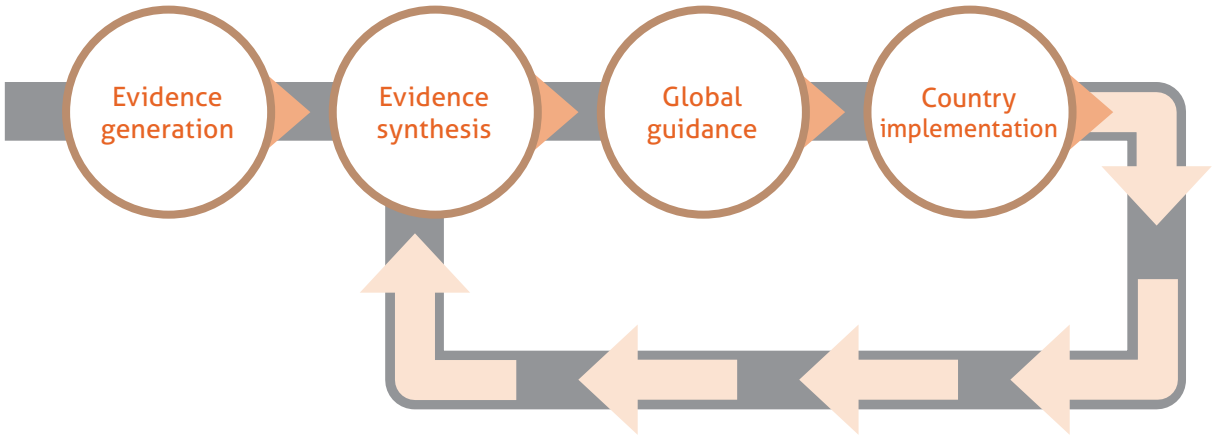
The overall aim of this exercise is to identify, map and describe existing empirical evidence on the effects of key SBCE interventions to strengthen individual, family and community capabilities for RMNCH. Specific major objectives of this SBCE evidence map are:

1. To identify existing and ongoing impact evaluations and systematic reviews on the effects of SBCE interventions that can be used to inform policy and programmes for RMNCH; and
2. To identify gaps where new evaluations, systematic reviews and/or the development of WHO guidance could add value.

Who should use this evidence map?

This document is primarily intended for RMNCH policy-makers and development practitioners that commission research to inform policies and programmes. However, different audiences will have different uses for this evidence map. National and local governments and their key partners can use it to identify existing research related to interventions of interest; universities and evidence searchers can identify areas suitable for evidence synthesis; researchers can better prioritize research needs and move away from areas which may be saturated; partners advocate that governments apply SBCE interventions can refer to the map to identify successful experiences. For researchers and research-funders the evidence map provides a better understanding of the existing research landscape, explicitly identifying gaps in knowledge. It can thus support prioritization of better-targeted impact evaluations and evidence syntheses. For WHO and partners, the map can help identify where a substantial body of evidence needed to inform guideline development exists and could be synthesized. The pathway to evidence in Figure 2 below highlights the points at which the SBCE evidence map can inform decision-makers and researchers.

Figure 2 Pathway to evidence



Scope

What is, and is not, included in the SBCE evidence map

This is an overview of impact evaluations and systematic reviews for a selected set of SBCE interventions for RMNCH, specifically:

- Reproductive health interventions that addressed the timing and spacing of pregnancies
- Maternal health interventions that addressed pregnancy, childbirth and 28 days after birth
- Newborn health interventions that addressed the period from birth up to 28 days after birth
- Child health interventions that addressed the period 28 days after birth to 10 years of age

Adolescent health interventions were not included because a separate evidence map on adolescent sexual and reproductive health conducted by the International Initiative for Impact Evaluation (3ie) had already been published (see Box 2).

Our objective was to map impact evaluations and systematic reviews of select SBCE interventions to improve select RMNCH outcomes, focusing on interventions of relevance to the conceptual framework (Figure 1). The substantive scope of this study is delineated along three key categorizations: health topics, interventions and outcomes. To keep the scope manageable, it was not possible to include all RMNCH topics or all SBCE interventions in the evidence map. We outline the key categories below, with detailed definitions in Appendix 2.

Included studies were limited to published or ongoing, quantitative or mixed methods impact evaluations and systematic reviews of effectiveness. Qualitative research is particularly useful for illuminating the reasons why interventions did or did not work in different contexts, but it is outside the scope of this map.

Box 2: Evidence mapping for adolescent health

What happened to the A?

The life course includes reproductive health, pregnancy, childbirth and postnatal care, as well as child health and development and adolescent health and development. This evidence map looks at reproductive, maternal, newborn, child health (RMNCH) only. We refer the reader to the Brief, *Mapping the evidence on Social, Behavioural, and Community Engagement (SBCE) for Reproductive, Maternal, Child, Newborn and Adolescent Health (RMNCAH),* that was produced as a complementary publication to this report. The Brief integrates the findings from a recent 3ie publication on Adolescent Sexual and Reproductive Health (11) with the findings from this RMNCH SBCE evidence map. More comprehensive work on adolescent health and SBCE interventions has been published in other sources, including the Lancet Commission on Adolescent Health and Wellbeing (12) and the WHO Global Accelerated Action for the Health of Adolescents (13).

This evidence map on SBCE interventions is intended to complement two previous publications produced by WHO and the Partnership for Maternal, Newborn & Child Health (PMNCH): (1) an overview of the evidence on key interventions and policies for RMNCH (14) focusing on essential clinical and service delivery interventions provided at different levels of the health system; and (2) a compendium of the policies required to implement RMNCH interventions (15). Although structural and policy changes are essential SBCE interventions, given the scope of the WHO & PMNCH policy compendium for RMNCH, such interventions have not been addressed in this SBCE evidence map.

Development of this evidence map began with a scoping exercise. A preliminary mapping of the academic and global policy literature was performed by the WHO team. The team developed a draft framework drawing on existing literature, and in particularly the *The Social and Behavior Change Interventions Landscaping Study: A Global Review (16)* and the 'Behavior Change Framework' developed by the United States Agency for International Development (9). In consultation with an expert group, intervention and outcome categories were agreed and used to set the scope. The expert group was composed of WHO staff from relevant departments and external experts who were programme implementers, policymakers, academics and funders.

Experts were consulted at four key stages:

- at the inception stage to define the scope of the mapping and review a draft conceptual framework (meeting in December 2015);
- for review of a draft method guide for the evidence map and a revised conceptual framework (virtual consultation through May 2016);
- for review of preliminary results (meeting November 2016); and
- for review of the draft report (virtual consultation in May 2017).

The full list of WHO and external experts participating in different steps of the process is provided in Annex 7.

Selection of RMNCH topics

To keep the scope manageable, it was not possible to include all RMNCH topics or all SBCE interventions in the evidence map, thus the WHO team selected priority topics based on policy and guideline documents. Key references included the 'Behavior Change Framework' developed by the United States Agency for International Development (9), which identifies behaviours with highest potential for preventing maternal, newborn and child deaths. The sections below provide further detail about the RMNCH and SBCE interventions selected for inclusion in the evidence map.

Table 1 presents the RMNCH topics selected for coverage in the evidence map and links them to the specific health areas. More detail and definitions of the topics and interventions are provided in Annex 2.

Table 1 Reproductive, maternal, newborn and child health topics selected

Health topic	Relevant health area
Healthy timing and spacing of pregnancy	Reproductive health
Care during pregnancy, childbirth and after childbirth	Maternal and newborn health
Care seeking for newborn illness	Newborn health
Infant / child feeding and nutrition	Newborn and child health
Immunizations	Maternal, newborn and child health
Care seeking for childhood Illnesses	Child health
Malaria	Maternal, newborn and child health
Pneumonia	Newborn and child health
Diarrhoea	Newborn and child health
Water, sanitation and hygiene (WASH)	Child health
Early child development	Newborn and child health

Selection of interventions

The selected health topics were then used to focus the evidence map on a group of selected SBCE interventions. Because the overall scope was very broad–covering four different health areas and eleven health topics–it was not feasible to include all SBCE interventions. The preliminary selection of interventions was based on a review of relevant academic and policy literature, including, *The Social and Behavior Change Interventions Landscaping Study: A Global Review (16)* and consultation with the expert group. The aim was to identify the SBCE interventions most commonly included in government and nongovernmental organization (NGO) portfolios. Definitions and more detail are provided in Annex 2.

Table 2 Selected intervention categories, interventions and intervention definitions

Intervention category	Intervention	Intervention definition
Interpersonal communication and educational activities (IPC)	Home visits	Provision of education, information and counselling in the home by a health professional or trained volunteer/ peer
	Facility-based IPC and counselling	Provision by health worker/ health professional of education, information and/or counselling to individuals in a facility
	Group IPC – any setting	Provision of information, education and/or counselling to a group rather than one-to-one, in any setting
Mass and social media	Mass media and entertainment education	Use of a diverse set of technologies, including the internet, television, print materials film and radio, capable of simultaneously reaching audiences on a large scale
	Social marketing	Using marketing concepts — product design, appropriate pricing, sales and distribution, and communication — to influence behaviours that benefit individuals and communities
	Social media and m-health	Use of a variety of web-based and mobile technologies and software applications that enable users to engage in dialogue and share information
Interventions to address financial barriers	Demand-side financing	A supplementary model to supply-side financing of health care in which some funds are instead channelled through, or to, prospective users
	Community-based health insurance	A form of micro-insurance used to help low-income households manage risks and reduce their vulnerability to financial shocks

Intervention category	Intervention	Intervention definition
Community mobilization and participation activities	Community mobilization	Interventions to encourage community individuals, groups (including in schools), or organizations to plan, carry out, and evaluate activities on a participatory and sustained basis to improve their health and other needs
	Community participation (in health service planning and programmes) and social accountability	Activities to create ongoing relationships between community members and health service delivery. The objective is to institutionalize community participation in decision-making within health services and programmes
SBCE service and programme strengthening activities	Provider training and service delivery adjustments	Training of health providers, and other service providers, such as teachers and pharmacists, in skills and techniques related to communication, health education and community engagement and any adjustments made to service provision based on community perspective of quality, i.e. hours for service delivery
SBCE packages	Mixed IPC approaches (more than one IPC and educational activity: a combination of home visits, facility-based and / or group approaches)	See definitions above
	Community mobilization packages	See definitions above
	IPC and educational activities and mass media and education entertainment	See definitions above
	IPC and educational activities and social media and m health	See definitions above
	IPC and educational activities and social marketing	See definitions above
	IPC and educational activities and demand-side financing	See definitions above

Intervention category	Intervention	Intervention definition
SBCE packages (continued)	IPC and educational activities and community participation in health service and programmes delivery and social accountability	See definitions above

In some cases, SBCE interventions were implemented with non-SBCE interventions. Non-SBCE components refer to any intervention component in a package that does not fall into one of the categories of interventions included in this map. These are typically a health service delivery component or a policy or structural intervention.

Common packages are discussed further in Annex 2. When interventions studied did not fit neatly into the categories in the table above, they were placed in the intervention category that most closely matched the intervention description in the study report. When this occurred it was noted by the study team.

Outcomes

Table 3 presents outcomes selected and included in the evidence map. The outcomes are structured along the causal chain, as portrayed in the conceptual framework. These include intermediate outcomes, as well as social and health outcomes, of relevance to the topics covered by the map. Definitions and more detail are provided in Annex 2.

Table 3 Broad outcome categories and outcomes

Broad outcome category	Outcome
Knowledge and attitudes	Knowledge and attitudes of individuals and members of the households regarding RMNCH
	Social norms in the community for RMNCH
	Knowledge and attitudes of health providers for community engagement
Household dynamics / communication	Couple / mothers / mothers-in law /parent-child communication
	Parenting skills
	Joint decision-making in the household
Care practices	Self-care practices (prevention and treatment)
	Family planning method use
	Caregiver practices (prevention and treatment)
	Household environmental practices
Care-seeking behaviour	Routine care-seeking behaviour
	Care seeking for complications/illness
Quality of care / satisfaction	Perception of quality of care / Satisfaction with services
	Provider communication and engagement skills
Community participation and accountability	Community capacity
	Participation in planning and programmes
	Social accountability
Health	Maternal, newborn and child morbidity and disability
	Maternal, newborn and child mortality
	Child growth and development
Cross-cutting	Gender equity / status of women
	Social cohesion
	Cost

Methods

The evidence map is based on a comprehensive search for impact evaluations and systematic reviews corresponding to the framework of interventions, outcomes and health areas outlined above. It draws on 3ie methodology for evidence gap maps (10,17). Inclusion criteria and search, screening and data extraction methods are described in brief below and in detail in Annex 3.

Inclusion criteria

When the scope and interventions had been agreed and clearly defined, these were used to set the inclusion criteria for the map. The methods guide and intervention and outcome categories were later revised, following consultation with the expert group in 2016.

Studies were included if they met all of the following criteria:

- Correspond to at least one reproductive, maternal, newborn and/or child health topic of interest and at least one of the sub-topics defined in Table 1;
- Evaluate SBCE intervention(s) as defined in Table 2;
- Measure at least one of the outcomes in Table 3;
- Assess intervention effects using either impact evaluations techniques or systematic reviews of such studies (as defined below);
- Published between January 2000 and July 2016;[1]
- Conducted in a low- and middle-income country, as categorized by the World Bank Country and Lending Groups (18) at the time of study publication - except for systematic reviews;
- Published in any language;
- Are completed studies, protocols and ongoing studies meeting all other agreed inclusion criteria.

1 These dates allow for the inclusion of studies and reviews published within the past 15 years

Inclusion criteria specific to impact evaluations

Impact evaluations may be published (e.g. as a journal article, book chapter) and unpublished (e.g. as a report or working paper). They are defined as programme evaluations or field experiments that use experimental or observational data to measure the effect of a programme relative to a counterfactual situation representing what would have happened to the same group in the absence of the programme (19). Impact evaluations may also test different programme designs.

Impact evaluations were included in the evidence map if they had the following study designs:

- randomized controlled trial (RCT);
- regression discontinuity design (RDD);
- controlled before and after study using appropriate methods to control for selection bias and confounding such as propensity score matching or other matching methods, instrumental variable estimation (or other methods using an instrumental variable such as the Heckman two step approach), difference-in-differences (DD) or a fixed- or random-effects model with an interaction term between time and intervention for baseline and follow-up observations;
- cross-sectional or panel studies with an intervention and comparison group using methods to control for selection bias and confounding as described above;
- interrupted-time series (ITS)–a study that uses observations made at a minimum of three time points before and after an intervention (the 'interruption');
- mixed method approaches that combine any of the above designs with qualitative research

Efficacy trials were excluded because these determine whether an intervention produces the expected result under ideal circumstances, whereas effectiveness trials aim to measure the degree of beneficial effect in 'real world' settings. Other study types excluded were qualitative studies that were not combined with one or more of the aforementioned quantitative method, observational studies with a comparison group but no control for confounding, and opinion pieces. Finally, studies addressing questions other than intervention effects (e.g. risk factors, epidemiology, implementation) were also excluded.

Additional inclusion criteria for systematic reviews

Published or ongoing systematic reviews were included in the evidence map that were either explicitly described as a systematic review, or described methods used for the search, data collection and synthesis, as per the protocol for the 3ie database of systematic reviews (20).

Although the general inclusion criteria specified that studies should be performed in low- and middle-income countries, systematic reviews which may have reviewed studies in high-income countries were included if these reviews also contained studies performed in low- and middle-income countries. If a review only considered studies of interventions implemented in high-income countries, it was excluded.

Non-systematic literature reviews, systematic reviews of efficacy trials, qualitative reviews and reviews addressing questions other than intervention effects (e.g. risk factors, epidemiology, implementation) were also excluded.

Procedures for search, screening, data extraction and analysis

An information specialist assisted the team to develop a detailed search strategy covering a combination of academic databases, organizational websites, libraries of impact evaluations and systematic reviews, and citation tracking. The detailed search strategy is provided in Annex 3, Methods. All search results were imported to Eppi-Reviewer (Version 4) (21). The expert group provided information about potential additional studies and sources of potentially relevant studies. Impact evaluations were also identified via the bibliographies of systematic reviews.

Text mining software was used to prioritize results according to relevance. After double screening a sample of studies, relevant records were screened by one person, first at abstract and then at full text. Whenever the first screener was uncertain about inclusion/exclusion of a study, it was allocated to a second person for assessment. Questions and problems were resolved through group discussion. A random selection of included and excluded references were reviewed for quality control. Finally, all studies identified for inclusion were screened by a second person before being included.

A data extraction form was used to extract descriptive characteristics of included studies. The research team tested the form on a small number of studies to ensure consistency in coding and to resolve any issues or ambiguities. Data extraction was then completed by a single coder, with the majority of data reviewed by a second coder. All included systematic reviews were appraised using an appraisal tool[2] and were classified according to the confidence in findings using a traffic light system. The appraisal was conducted by one person, and reviewed by two others.

Data was analysed using descriptive statistics. Initial findings and the 3ie data visualization platform were reviewed by an expert group in November 2016. Following this review, the searches conducted were verified to respond to queries raised, through using bibliographic checking and review of studies submitted by experts. The coding of data was verified and modified to improve the categorization and presentation of data for users. The detailed search strategy, data extraction form and coding decisions are outlined in Annex 3.

2 Checklist available on the 3ie website: http://www.3ieimpact.org/media/filer_public/2012/05/07/quality_appraisal_checklist_srdatabase.pdf

Results

This section presents the findings of the evidence map. We discuss the characteristics of the included impact evaluations and systematic reviews across RMNCH. We also present an analysis of the quality of the included systematic reviews. More detailed analysis on each health area – reproductive, maternal, newborn and child health – is included in Annex 4.

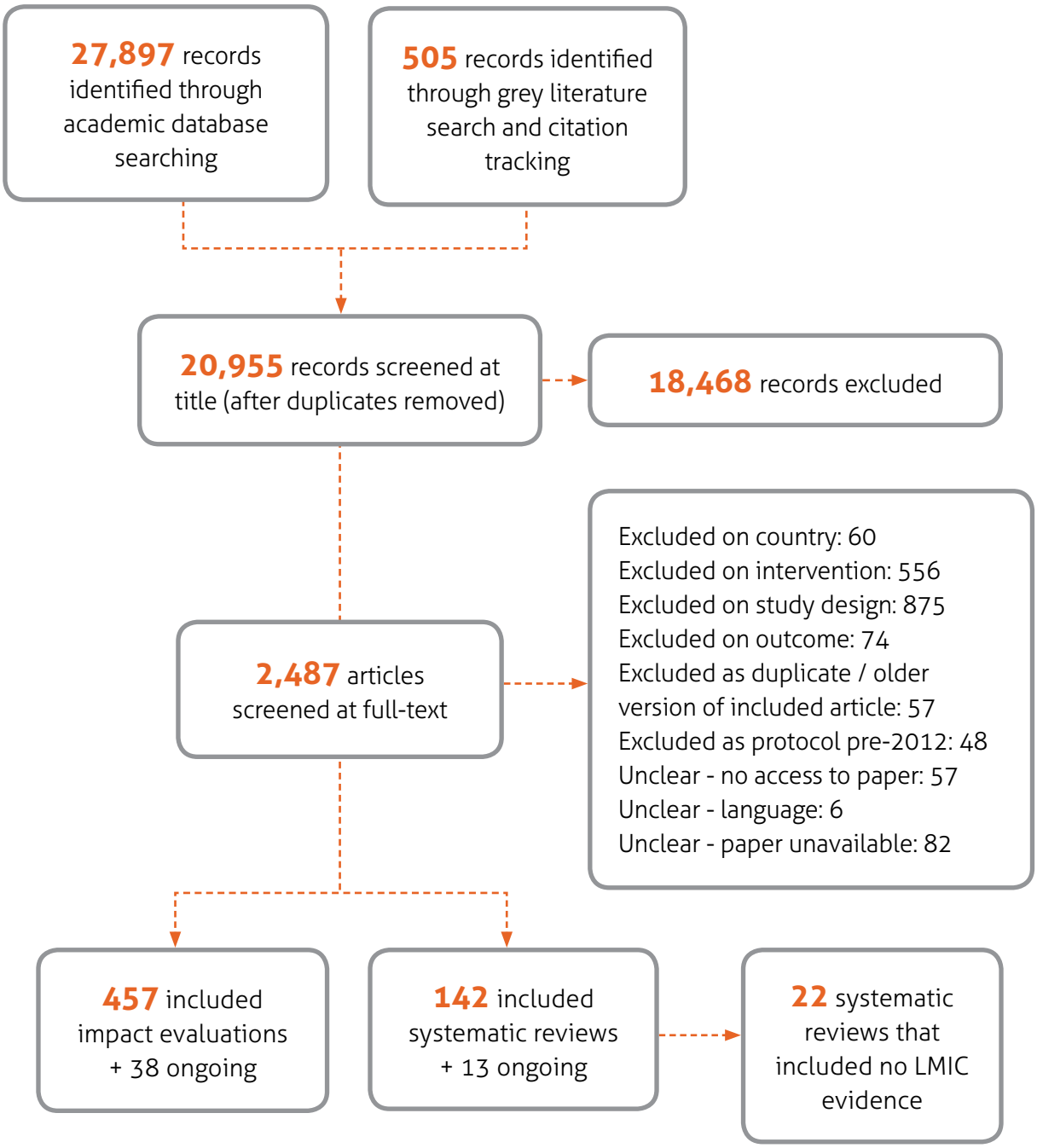
Studies identified

As described in the PRISMA diagram (see Figure 3), of 28,402 records initially identified, 20,955 records were retained for screening at title and abstract after removal of duplicate records. Most did not meet inclusion criteria leaving 2,487 full texts. The main reasons for exclusion were study design (35%) and intervention (22%).

After screening, 457 completed impact evaluations, including 25 multi-arm trials, and 38 ongoing impact evaluations were included. For multi-arm trials, each comparison arm was treated as an individual study for the coding of interventions–therefore multi-arm trials yielded 491 unique comparisons. The number of impact evaluations identified includes 17 linked pairs of evaluations. Studies were considered linked if there were multiple papers by the same study team on the same impact evaluation reporting different outcomes or different follow-up periods. If they reported the same information, the study was excluded as a duplicate.

In addition, 142 systematic reviews and 13 ongoing systematic reviews were identified. An additional 22 systematic reviews met all the inclusion criteria, but included no evidence from low- and middle-income countries. Thus, although their inclusion criteria specified studies from low- and middle-income countries, they failed to find any such studies. These 22 reviews are included in a list provide in Annex 5 but were not coded and therefore not included in the findings below.

Figure 3 PRISMA Diagram



Trends and characteristics of the impact evaluations

Box 3: Tips for the reader

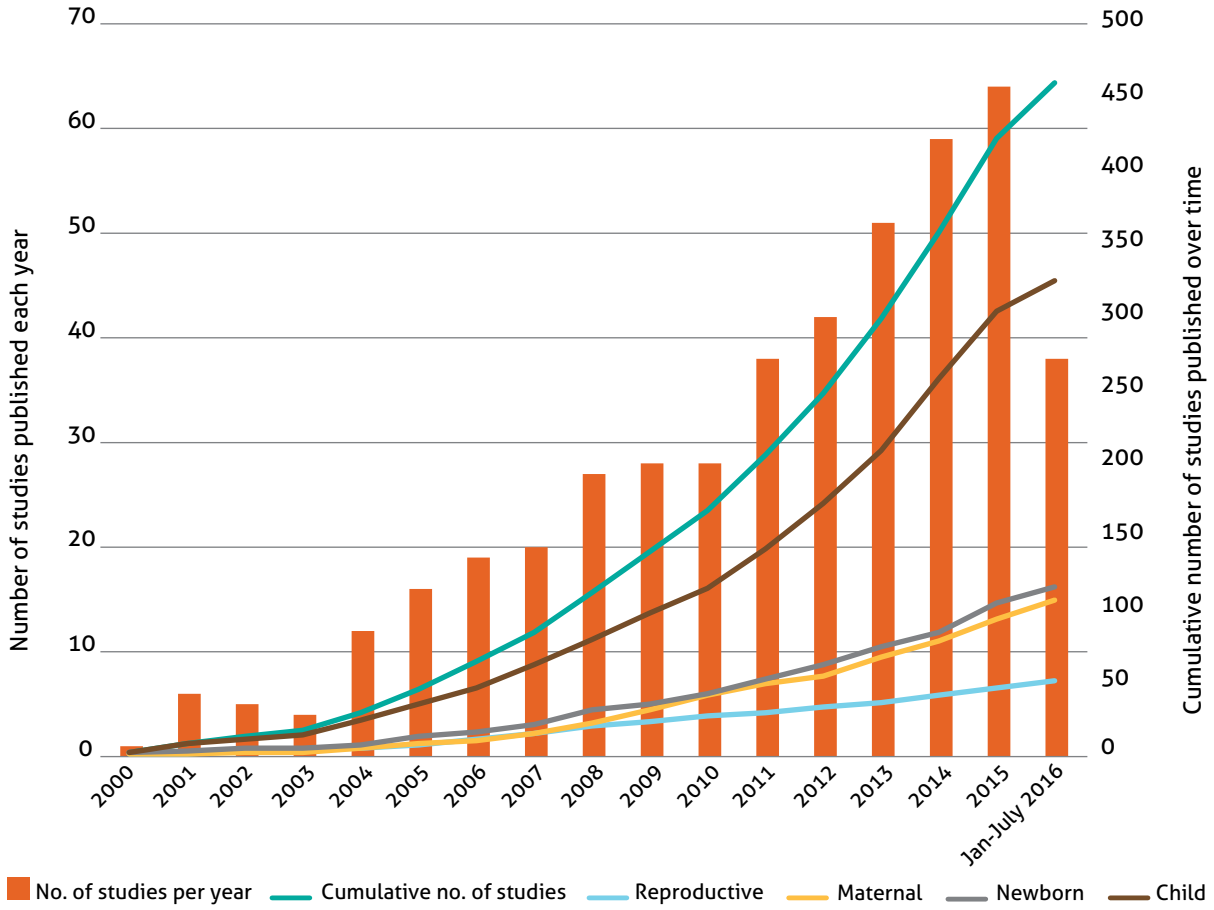
When coding interventions, each comparison arm in an impact evaluation was treated as an individual study. Thus, although there were 457 completed studies, 25 of them were multi-arm trials, yielding 491 unique comparisons.

In addition, remember that one study can only have one intervention (either a single intervention or a package). However it may cover multiple health areas, health topics and outcomes. This is highlighted again in the text below.

Publication of impact evaluations over time

The graph in Figure 4 shows the number of impact evaluations covering SBCE interventions for RMNCH published each year between 2000 and 2016. Each blue bar represents the number of studies published in that year while the orange line represents the cumulative increase in impact evaluations over the period. Since 2000, there has been a year-on-year increase in the number of published impact evaluations, going from just one impact evaluation published in 2000 to 63 new studies published in 2015. There was a notable increase in the number of studies published between 2010 and 2011, a jump from 28 to 38 studies. Indeed, 290 of the included studies were published in 2011 or after. The search was conducted in July 2016, and thus only captures studies available in the first half of 2016. Nevertheless, the number of studies published by July 2016 (n = 39) suggests that this growth trend will continue.

Figure 4 Trends in the publication of included impact evaluations over time



Impact evaluation study types

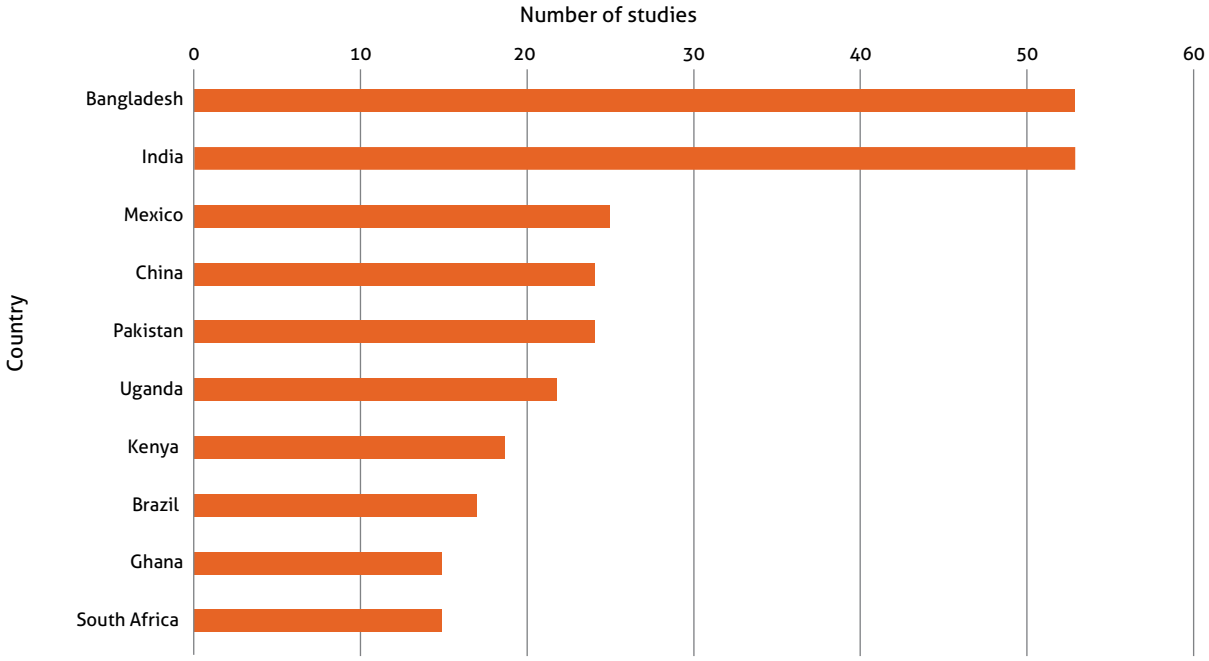
The majority of included studies were RCTs (n=351), including 25 multi-arm trials, while about one third of studies (n=106) used a quasi-experimental design. Two of these studies used a RDD, while the rest combined data on treatment and comparison groups (cross-sectional or panel) with one or more analysis method to address selection bias and confounding. This included 72 that used DDs, 41 that used a matching method, five that used instrumental variables and three that used another method to control for confounding and selection bias. Only 15 of the 458 impact evaluations combined a quantitative impact evaluation with a qualitative component.

Geographical location of impact evaluation studies

Impact evaluations were performed in 61 different low- and middle-income countries (LMIC), but their distribution across WHO regions is relatively uneven. However, this distribution corresponds to the burden of RMNCH mortality and morbidity. Most studies are from either the African Region (n=154) or the South-East Asia Region (n=137); with 84 studies from the Region of the Americas, 42 from the Eastern Mediterranean Region and 40 from the Western Pacific Region. There were only seven studies from the European Region, most of them from one country–Turkey, with a study each from Armenia and Belarus.

Impact evaluations are more unevenly distributed by country. Over half of the studies (n=270) come from 10 LMICs. These are, in order of frequency: Bangladesh, India, Mexico, China, Pakistan, Uganda, Kenya, Brazil, Ghana, and South Africa (see Figure 5). There were no studies from several countries with high levels of maternal and child mortality. Of the 19 countries with highest estimated maternal mortality ratios in 2015, (all in sub-Saharan Africa) (22), only nine countries were represented in the included studies.

Figure 5 Countries with the largest number of impact evaluations



Distribution of impact evaluations by health area

A relatively large number of impact evaluations were identified but they are unevenly distributed across health areas. As can be seen from Table 4 below, more than two thirds of studies cover child health interventions, possibly reflecting the larger number of child health topics included in the scope. Also, studies identified as WASH often targeted the household level, such as household uptake of latrines, hand washing etc. Rather than coding the study for each of maternal, newborn and child, these studies were coded as child as most water and sanitation interventions are evaluated primarily for benefits for young children.

A study could target multiple health areas and health topics, for example, an intervention targeting exclusive breastfeeding, complementary breastfeeding and diarrhoea. In this case the study would be coded as newborn and child health as well as the sub topics. These combinations are discussed in more detail in the individual health area report provided in Annex 4. It is fairly common for multiple health areas to be targeted within one SBCE programme: of the 457 evaluations, 109 targeted multiple RMNCH areas.

Table 4 Distribution of impact evaluations by health area

	Reproductive health	Maternal health	Newborn health	Child health
Impact evaluations	50	105	114	322
Ongoing impact evaluations	6	4	6	30

Note: A study may cover more than one health area

Studies by health topic

Table 5 below details the number of studies per health topic. The area with the largest number of studies is infant and child feeding and nutrition (n=195), covering a range of caregiver practices including early initiation of breastfeeding, introduction of complementary foods and provision of appropriate management and treatment for malnutrition. A large number of studies targeted care during pregnancy, childbirth and after childbirth (n=131), covering behaviours such as attendance by pregnant women at antenatal care visits with a skilled professional, having a birth preparedness and complications plan, birth in a health facility and care seeking after birth for the mother and newborn. There are fewer studies on the remaining topic areas: 50 studies targeted healthy timing and spacing of pregnancy, 29 on care seeking for childhood illness, 22 on care seeking for newborn illness and 22 studies across intervention areas targeting pneumonia.

Table 5 Impact evaluation studies by health topic

Health Topic	No. of Studies
Healthy timing and spacing of pregnancy	50
Care during pregnancy, childbirth and after childbirth	131
Care seeking for newborn illness	22
Infant feeding and nutrition	195
Immunizations	37
Care seeking for childhood illnesses	29
Malaria	33
Pneumonia	22
Diarrhoea	30
Water, sanitation and hygiene (WASH)	54
Early child development	49

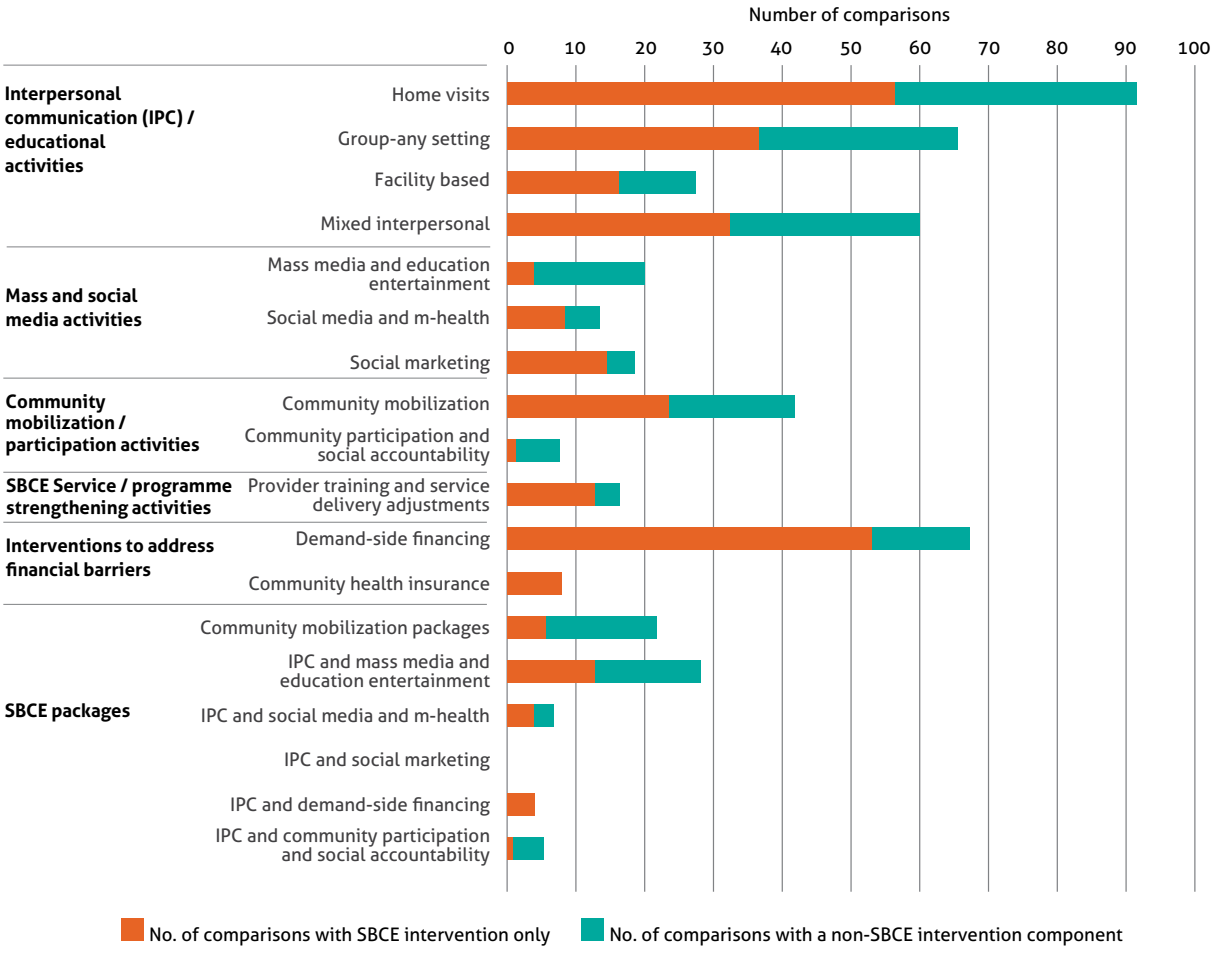
Impact evaluation studies by intervention area

The graph in Figure 6 presents the distribution of impact evaluations[3] according to the 18 SBCE interventions (singular interventions and packages of SBCE interventions), disaggregated by whether the intervention also included a non-SBCE component. Non-SBCE components are those that do not fit into any of the categories included in this map- typically a health service delivery component or a policy or structural intervention.

Half of the studies (286) focus on interpersonal communication and health education activities, delivered as a single intervention (n=186), as a mixed package of interpersonal communication and education approaches (n=60) or as a package with other SBCE interventions (n=54). This includes 92 evaluations of home visit interventions, 68 evaluations of group approaches, 26 evaluations of facility-based approaches and 60 evaluations of interventions using a combination of the three approaches (home visits, groups, facility-based). Interpersonal communication and health education activities were frequently combined with a non-SBCE intervention component (n=132), and were also often combined in packages with other SBCE interventions: interpersonal communication some form of mass media (n=28), interpersonal communication with a social media or m-health approach (n=5) and interpersonal communication with community participation and social accountability approaches (n=4).

3 For this section of the report, numbers refer to the number of comparisons, reflecting the inclusion of a number of multi-arm trials testing different SBCE interventions – thus N=491.

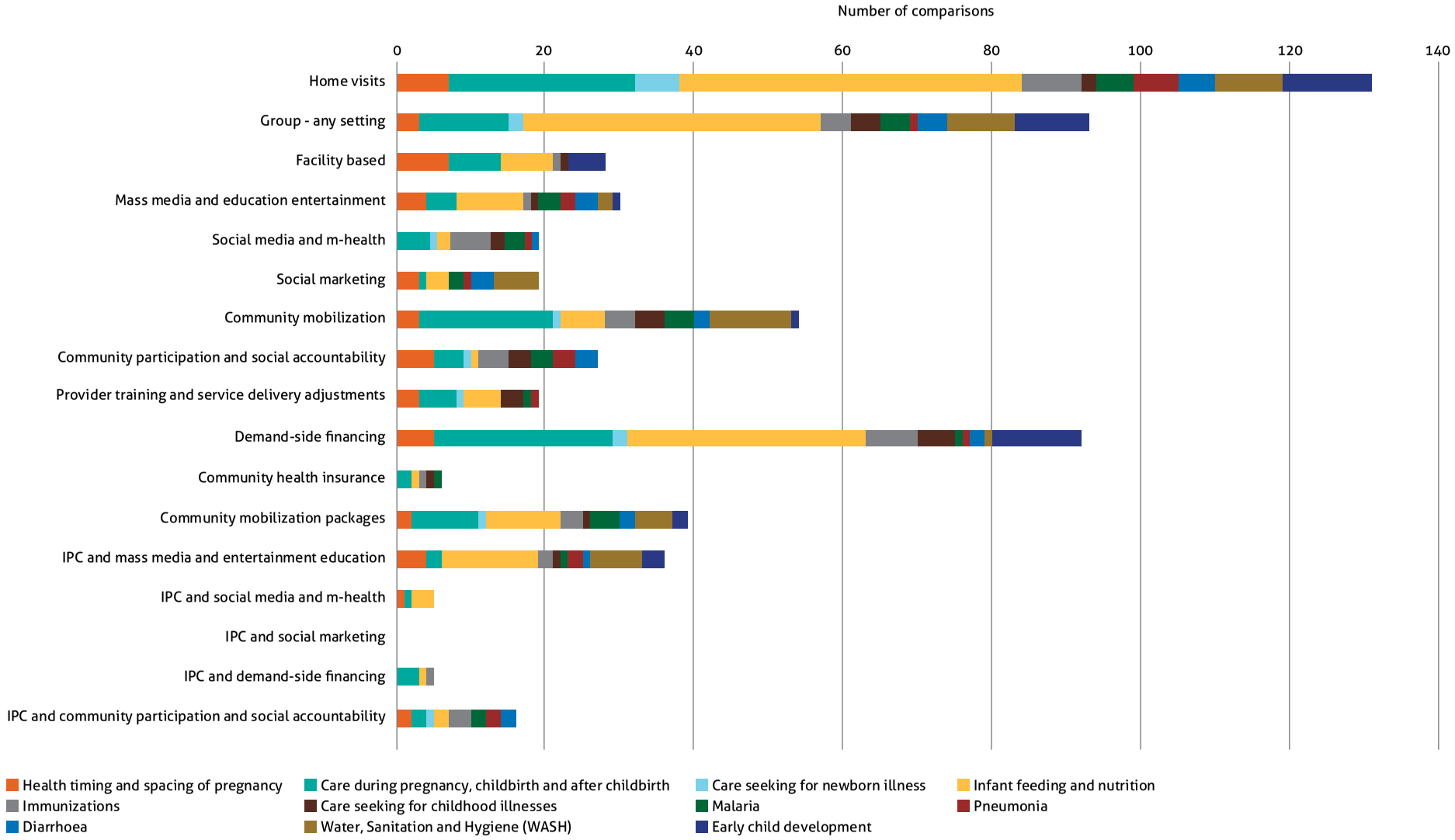
Figure 6 RMNCH: Distribution of impact evaluations by intervention category



Note: Reflects studies/ comparisons for which each covers one intervention area

A large number of the evaluations assess demand-side financing interventions (n=66), predominately conditional cash transfer programmes. Only three evaluations address demand-side financing as part of a package. Many studies evaluate community mobilization activities (n=42) as well as community mobilization activities combined with another SBCE approach (community mobilization packages, n= 22). Nearly half of the community mobilization and community mobilization packages (48%) were combined with non-SBCE interventions. There were relatively few evaluations of social media and m-health interventions (n=13), social marketing (n=18) and mass media and education-entertainment (n=20) and very few evaluating community participation and social accountability interventions focusing on RMNCH (n=6). Figure 7 presents the number of studies disaggregated by SBCE intervention and health topic area.

Figure 7 RMNCH: Distribution of impact evaluations by intervention area and health topic



Note: A study / comparison covers only one intervention area but may cover more than one health topic

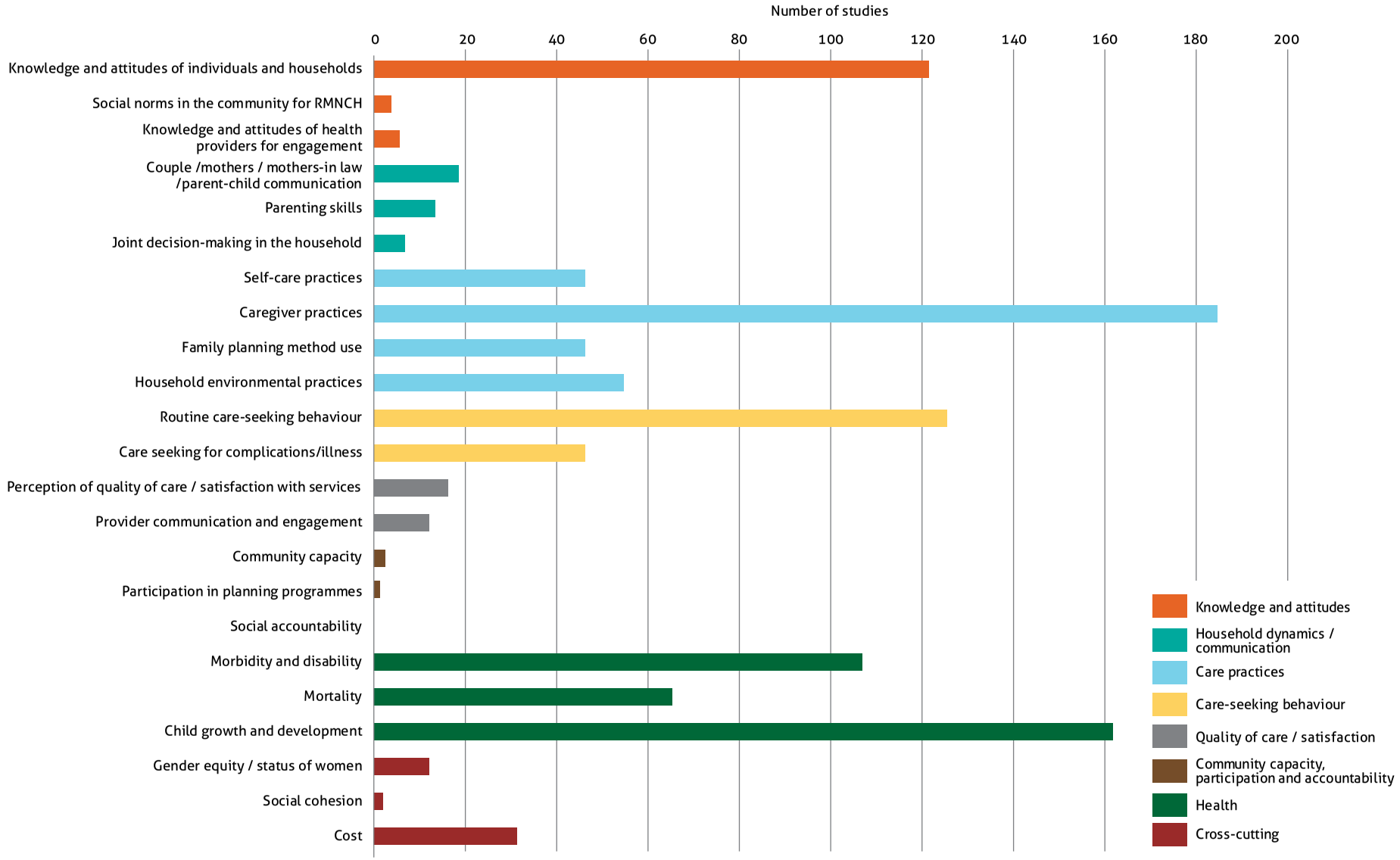
Box 4: Male involvement interventions

Different programmes have directed efforts to harness the support and active involvement of men for improved RMNCH outcomes. Studies addressing male involvement were evenly distributed across different health areas (28 in total – none were multi-arm trials). Male involvement was addressed in 10 studies on maternal health, five for newborn health, 10 for child health and in 11 studies on reproductive health. Most interventions focused on the provision of interpersonal communication and health education either through individual and/or group health education with men (as husbands or a parent), or couple counselling. Group, couple and individual counselling and education interventions were provided in the home, in the community and in the facility. Interventions such as group education, dialogue, seminars and workshops were undertaken in a community setting. Seven studies explicitly targeted male community leaders and decision-makers. We also found eight systematic reviews that included interventions for male involvement in RMNCH.

Impact evaluation outcomes assessed

The most commonly measured health outcomes were child growth and development (n=155), morbidity (n=103) and mortality (n=60), (see Figure 8). Other commonly studied outcomes were care practices, either by a caregiver (n=177) or for self-care (n=44). Forty-three studies reported on use of a family planning method. Routine care-seeking behaviour, such as use of antenatal care and the uptake of immunizations, is also a commonly measured outcome (n=124). Knowledge and attitudes of individuals and households are also frequently measured (n=119).

Figure 8 Distribution of impact evaluations by outcome area



Note: A study may cover more than one outcome

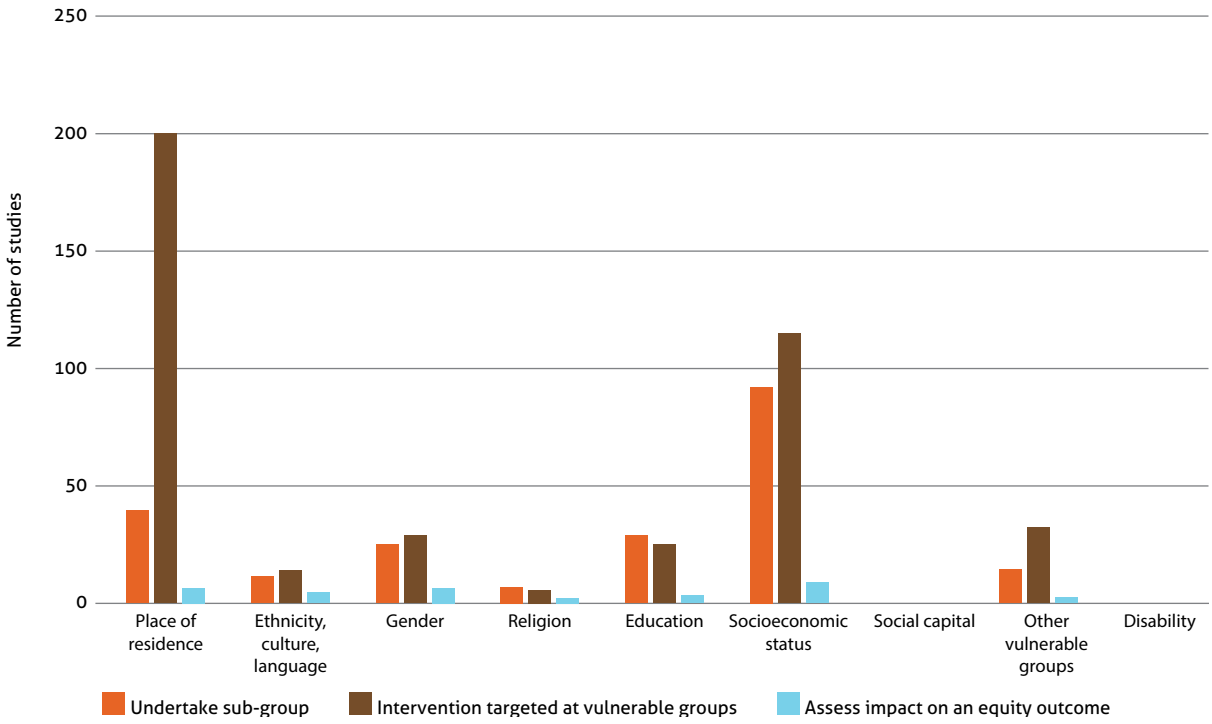
Several outcomes were measured less frequently. Few impact evaluations measured community capacity (n=3), social accountability (n=3) or measures of community participation in planning or programmes (n=1). A limited number of studies reported on gender equity or indicators of the status of women (n=12). Similarly, few studies measured household dynamics and communication such as couple / mothers / mothers-in-law / parent-child communication (n=18) and joint-decision making the household (n=8). Very few studies measured how interventions affect social norms at the community level (n=5). Only seven studies measured knowledge and attitudes of health providers for community engagement and only 15 measured provider communication and engagement skills, even though many studies included some form of interpersonal communication or community engagement. Finally, only 25 impact evaluations presented any cost data.

Consideration of equity

Over 60% of the impact evaluation studies consider equity in some way (n=279). Figure 9 presents data on how studies consider equity, and for which population characteristics. The majority of studies are classified as considering equity because the intervention is targeting a specific disadvantaged group or population (n=258). Most of these studies are of interventions targeting groups living in rural areas and/or far from health facilities or the beneficiaries are of low socio-economic status.

A smaller number of studies undertook a subgroup analysis by one of the dimensions of equity (n=72). The most common dimensions of equity considered in subgroup analyses were place of residence (n=40), socio-economic status (n=44) and education level (n=28). Few studies assessed the effect of an intervention on equity of outcomes, for example inequities in neonatal mortality or equity in vaccination coverage. Disability and level of social capital, refering to relationships and social networks, are not considered in any of the included studies.

Figure 9 Consideration of equity



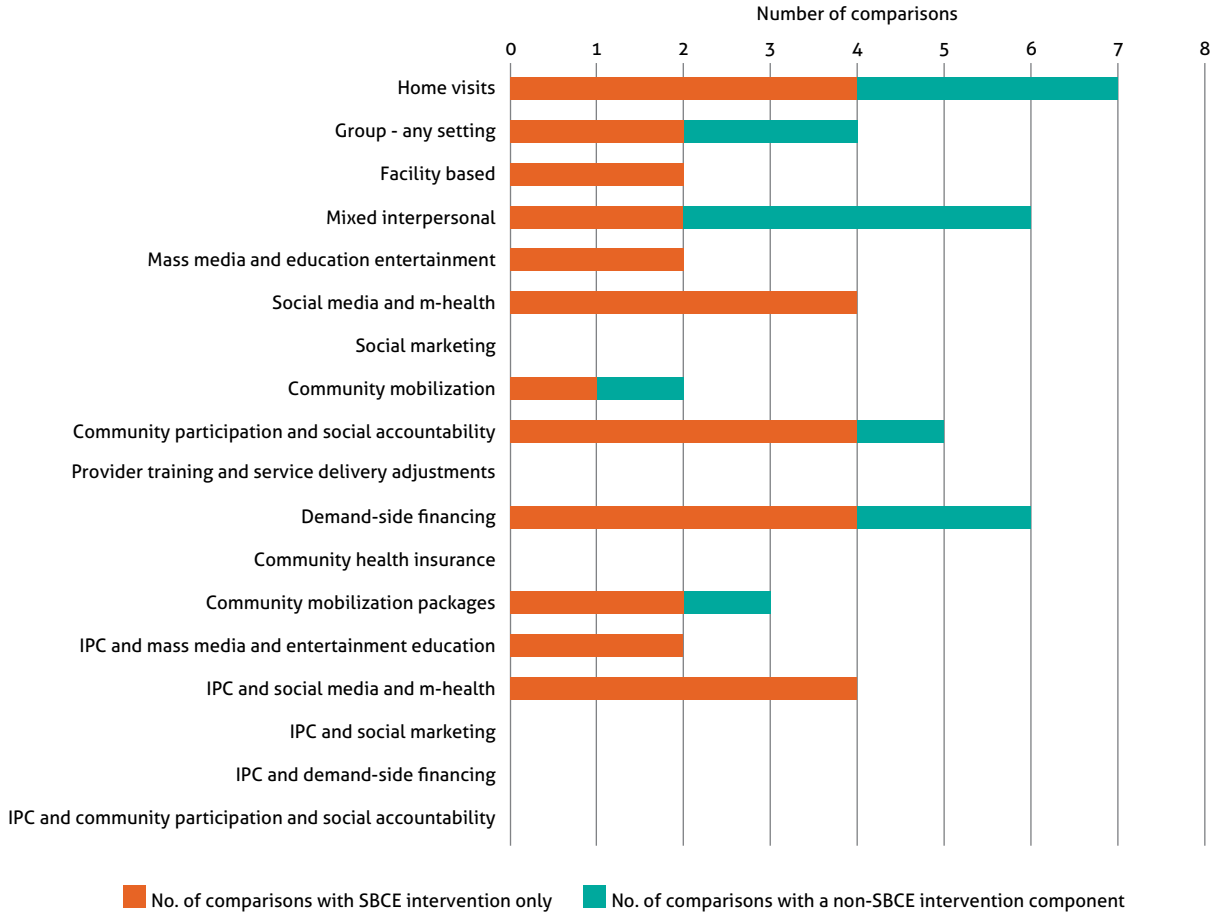
Note: A study may cover more than one equity component

Overview of ongoing impact evaluations

There were 38 ongoing impact evaluations across the RMNCH areas, including seven multi-arm trials, thus yielding 45 unique comparisons coded for interventions in the evidence map. The distribution of studies across health areas is relatively consistent with that for completed studies. Most studies are targeting child health (n=30), with fewer than 10 on reproductive health (n=6), maternal health (n=4) and newborn health (n=6).

Figure 10 presents the number of ongoing studies by intervention area. Studies of interpersonal communication and educational activities continue to be well represented in the map (n=27), including seven studies involving home visits, four of group approaches, two facility-based studies, and 14 combining multiple approaches. As with the completed impact evaluations, these different approaches are often compared with a non-SBCE intervention (11 of 27). A comparatively high number of ongoing studies are evaluating the impact of social media and m-health interventions, either as an individual SBCE intervention (n=4) or combined with interpersonal communication and education activities (n=4). This is an intervention area with few completed impact evaluations, so these new studies will contribute to addressing this gap. Of the ongoing studies identified, none were evaluating six intervention areas of interest to this evidence map, including, social marketing, provider training and service delivery adjustment and community health insurance.

Figure 10 Ongoing impact evaluations by intervention area



Note: Reflects studies/ comparisons for which each covers one intervention area

Unlike completed studies, very few of the identified ongoing studies (only two) have a quasi-experimental design; the rest are RCTs. Although this may represent a trend in current study design, it is probably because RCT protocols are more often published prior to commencement of the study.

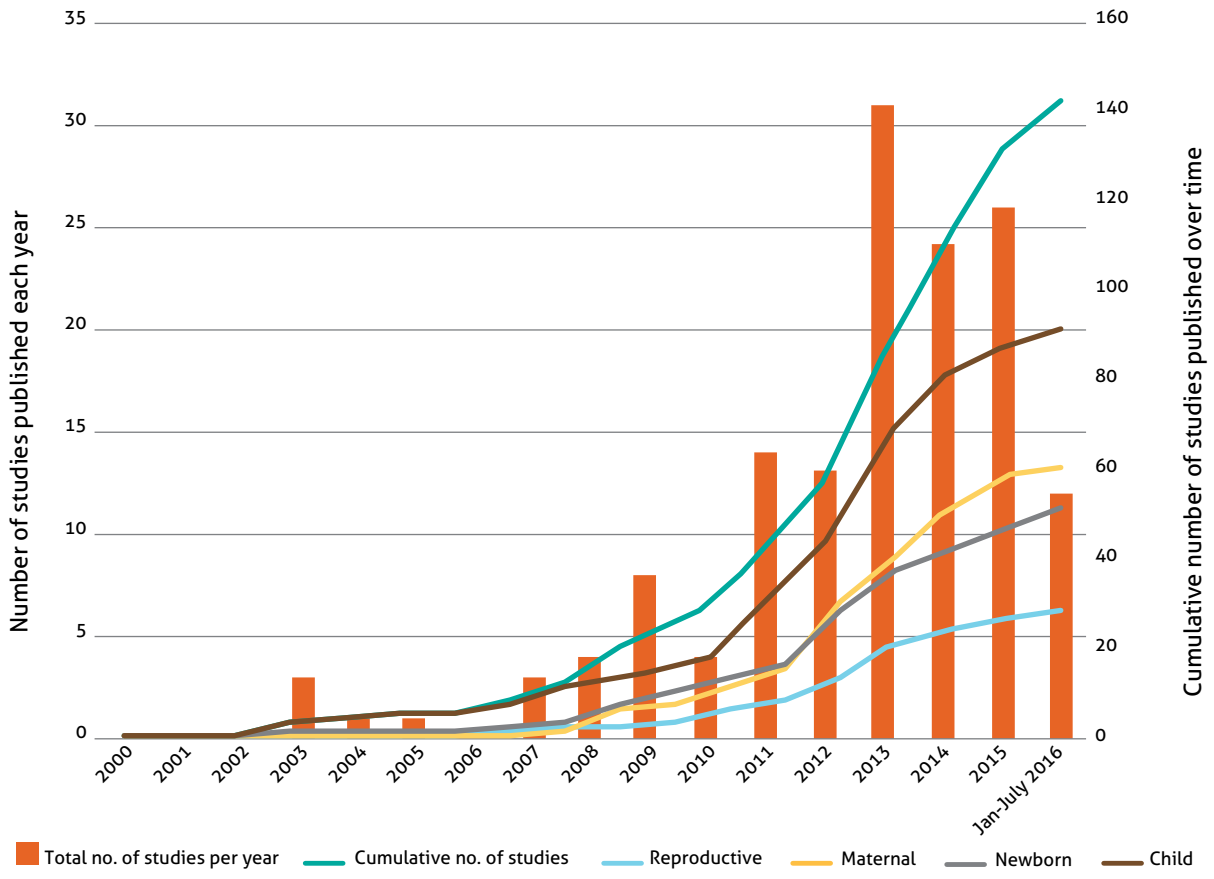
The geographic spread of the ongoing studies is similar to that of the published studies. The highest number of ongoing studies are taking place in the African Region (n=16), 14 are taking place in the South East Asian region, five are taking place in the Western Pacific and only one is in the Region of the Americas. There were no ongoing studies in the European Region.

Characteristics and trends of the systematic reviews

Trends in the publication of systematic reviews by health area over time

Figure 11 shows the number of completed systematic reviews covering SBCE interventions for RMNCH published each year between 2000 and 2016. The number of systematic reviews on SBCE interventions for RMNCH peaked in 2013, with 30 systematic reviews published. Since then the number has dropped, with 24 published in 2014 and 27 in 2015. Child health was the area most often reviewed (91 reviews), many of which have been published since 2013.

Figure 11 Trends in the publication of systematic reviews of RMNCH over time



Distribution of systematic reviews by health area

Table 6 Numbers of systematic reviews in each health area

	Reproductive health	Maternal health	Newborn health	Child health
Systematic reviews	28	60	51	91
Ongoing systematic reviews	3	6	3	8

As mentioned previously, 142 systematic reviews and 13 ongoing systematic reviews were identified. An additional 22 systematic reviews met all the inclusion criteria, but included no evidence from low- and middle-income countries. Thus, although their inclusion criteria specified studies from low- and middle-income countries, they failed to find any such studies. These 22 reviews are identified in Annex 5. They were not coded and therefore are not included in the findings below.

The systematic reviews are unevenly distributed across health areas, as can be seen from Table 6 above. Almost 65% of the reviews cover child health interventions, possibly reflecting the larger number of child health topics included in the scope. As for the impact evaluations, reviews identified as WASH were coded as child. We identified 60 reviews covering maternal health and 51 reviews of newborn health topics. The health area with the smallest number of reviews was reproductive health, with 28 reviews. A review could also target multiple health areas and health topics; of the 142 completed systematic reviews, 61 targeted multiple RMNCH areas.

Systematic reviews by health topic

Most of the systematic reviews were concerned with care during pregnancy, childbirth and after childbirth. The next most common categories were infant feeding and nutrition, healthy timing and spacing of pregnancy and malaria. Pneumonia, care seeking for childhood illness and early child development were the topics least covered by systematic reviews.

Table 7 Reviews by health topic

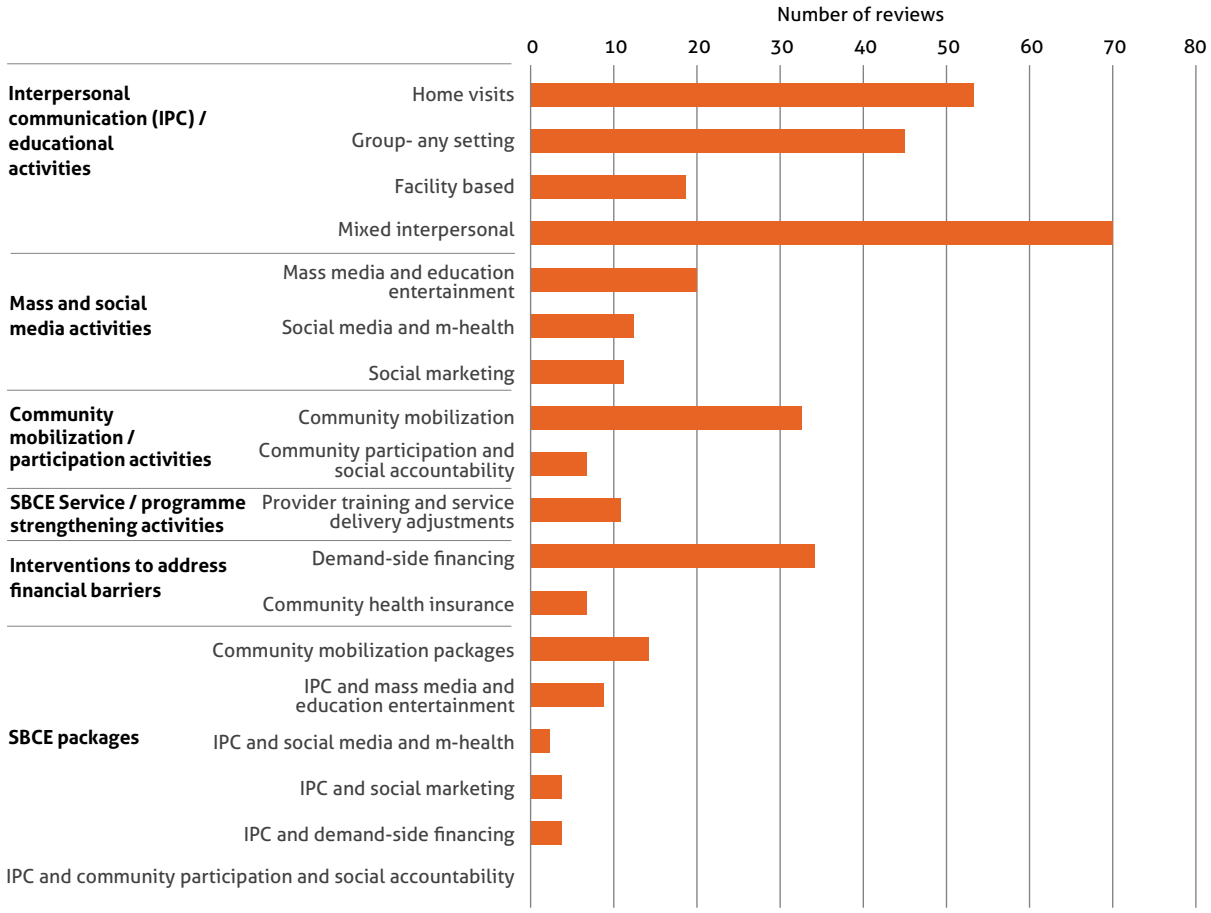
Health Topic	No. of Reviews
Care during pregnancy, childbirth and after childbirth	70
Infant feeding and nutrition	53
Immunizations	34
Healthy timing and spacing of pregnancy	28
Malaria	25
Diarrhoea	17
Water, Sanitation and Hygiene (WASH)	17
Care seeking for newborn illness	16
Care seeking for childhood illnesses	10
Early child development	11
Pneumonia	9

Distribution of interventions in systematic reviews

The intervention category most often considered in the systematic reviews was interpersonal communication/health education activities and packages that included interpersonal communication (home visits, n=52; group approaches, n=44; facility-based approaches, n=19; mixed interpersonal approaches, n=70; interpersonal communication and educational activities with other interventions, n=17)[4]. The next most studied intervention category is demand-side financing interventions (n=34), followed by community mobilization interventions and packages (n=33 and n=14, respectively). There is a relatively smaller number of reviews of mass media and education entertainment interventions (n=20), social media and m-health interventions (n=12), followed by SBCE provider training and service delivery adjustments (n=11) and social marketing (n=11). Packages of interventions are considered in fewer reviews, including interpersonal communication and mass media and entertainment education (n=9), interpersonal communication and social marketing (n=3) and intervention communication and social media and m-health (n=2). There are seven reviews covering community-based health insurance and seven reviews of community participation in health programming and social accountability.

4 Interventions were coded according to the particular review's inclusion criteria. When the inclusion criteria were not clear, the relevant interventions captured in the included studies in the review were coded. Many reviews covered multiple interventions.

Figure 12 Distribution of systematic reviews by intervention area



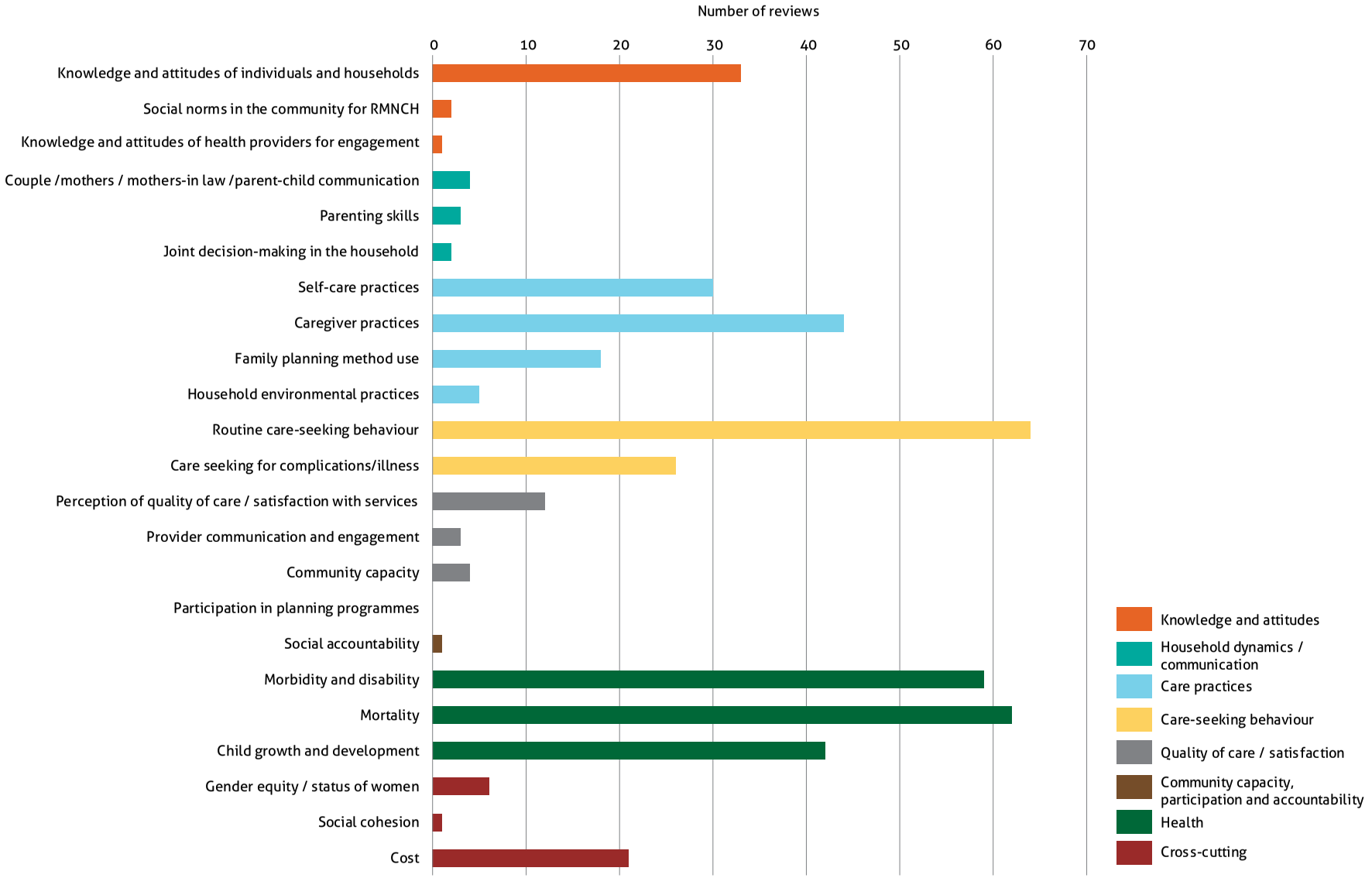
Note: One review may report on multiple interventions.

Outcomes assessed in systematic reviews

The outcomes assessed by the systematic reviews are largely in line with the outcomes assessed in the impact evaluations.[5] The most commonly included outcome measures are health outcomes (n=163), that is mortality (n=62), morbidity and disability (n=59) and child growth and development (n=42). These are followed by care-seeking behaviour (for routine, n=64; for complications, n=26) and care practices by a caregiver (n=44) or self-care (n=30). The outcomes least mentioned include community capacity, participation and accountability, parenting skills, joint decision-making in the household and crosscutting outcomes like status of women or social cohesion.

5 As with interventions, outcomes were coded according to the particular review's inclusion criteria. When the inclusion criteria were not clear, the relevant outcomes captured in the included studies in the review were coded. Many reviews covered multiple outcomes.

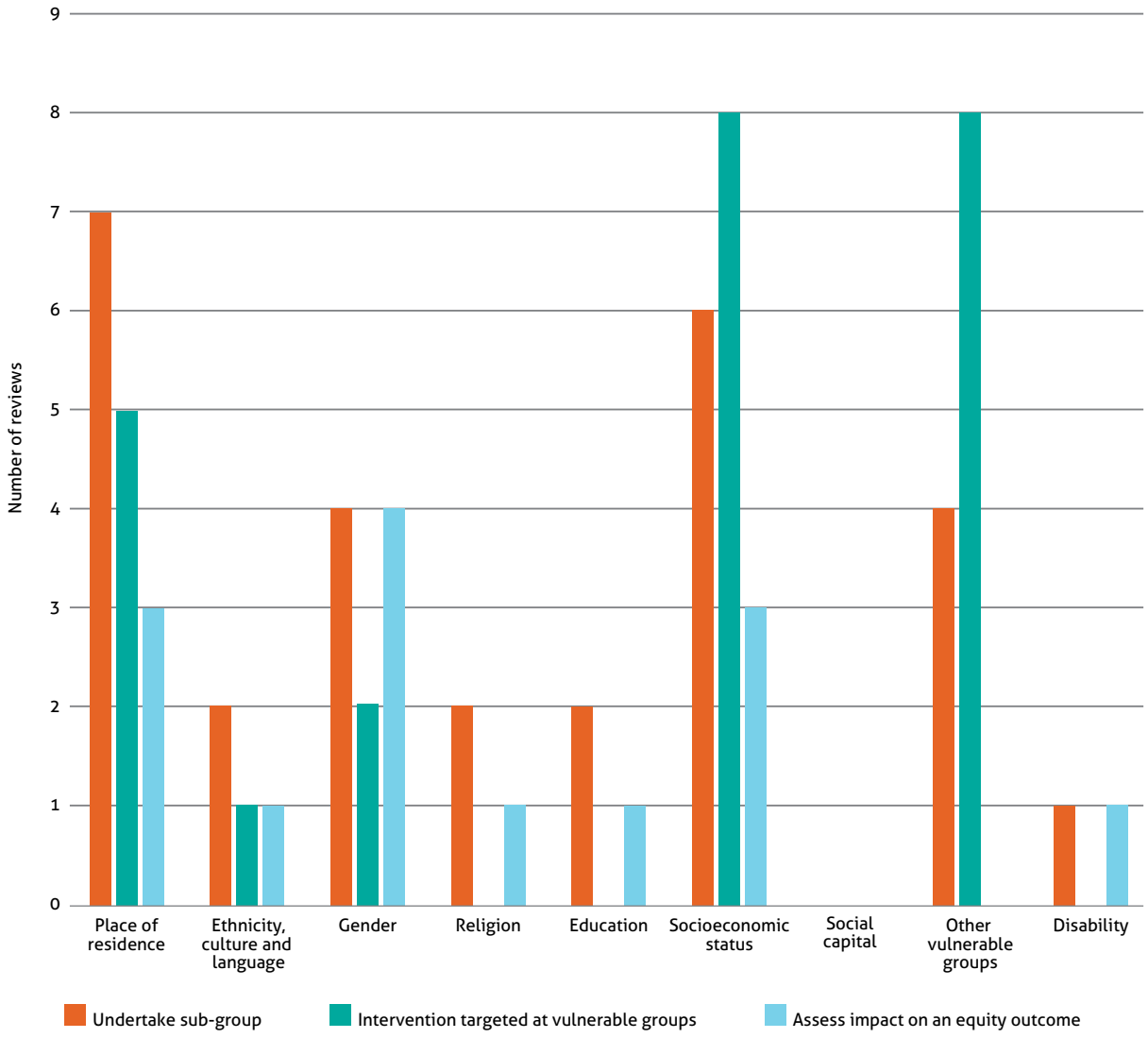
Figure 13 Distribution of systematic reviews by outcomes



Consideration of equity in systematic reviews

Most systematic reviews (75%) did not consider equity (n=107). A small number explicitly considered interventions that targeted a vulnerable group (n=17) or undertook a subgroup analysis by populations (n=13) typically either place of residence (such as living in rural areas) or socioeconomic status. Six of the systematic reviews included studies that assessed an outcome measure of equity (or inequity).

Figure 14 Consideration of equity in systematic reviews



Rating confidence in the systematic reviews

Each included systematic review was appraised for confidence in the methods and findings, based on a standardized checklist (for detail see Annex 3, Methods). The checklist assesses methods used to identify, include and appraise studies in the review. Just over a quarter of the studies were rated as high confidence in the findings based on the methodological approach (n=40). There were a similar number of reviews of medium and low confidence (n=44 and n=58, respectively).

Most reviews had clear inclusion criteria (92%), had reasonably comprehensive searches, including searching the minimum required number of relevant databases to identify studies (82%), and included both published and unpublished literature (85%). Common reasons for reviews being assessed as medium or low confidence were: not reporting any independent screening of studies at full text to reduce bias in the selection of studies (35%), not reporting any independent data extraction by two or more reviewers to reduce bias in the extraction of data (34%), including studies of differing risks of bias, but not reporting or analysing the findings separately according to risk of bias status (61%) or using vote counting to synthesise findings, based on the direction of effect or statistical significance (15%).

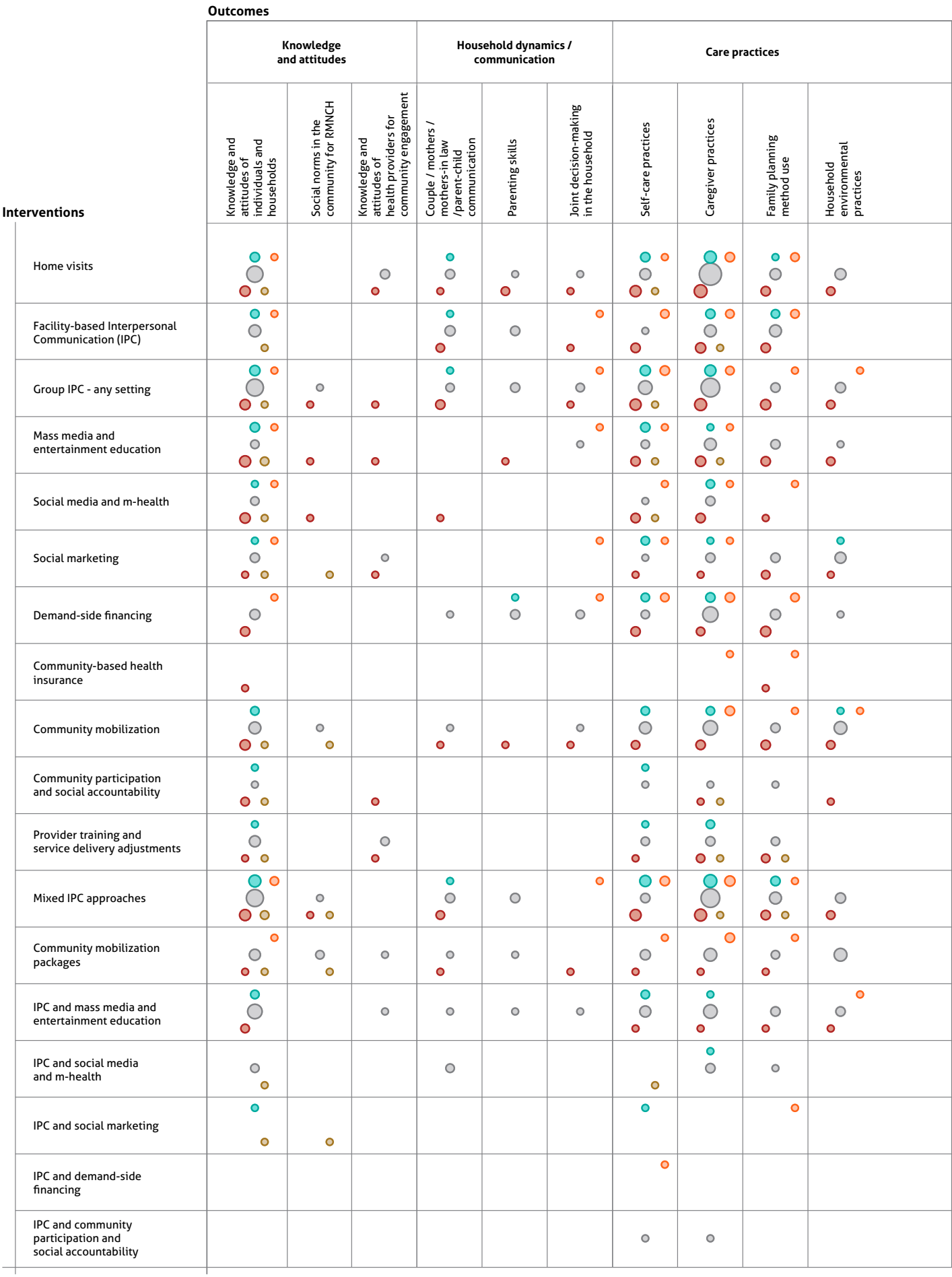
While most reviews reported some sort of quality assessment of included studies (85%), 47% did not report the full results of the quality assessment and 35% did not make it clear which evidence was subject to low or high risk of bias.

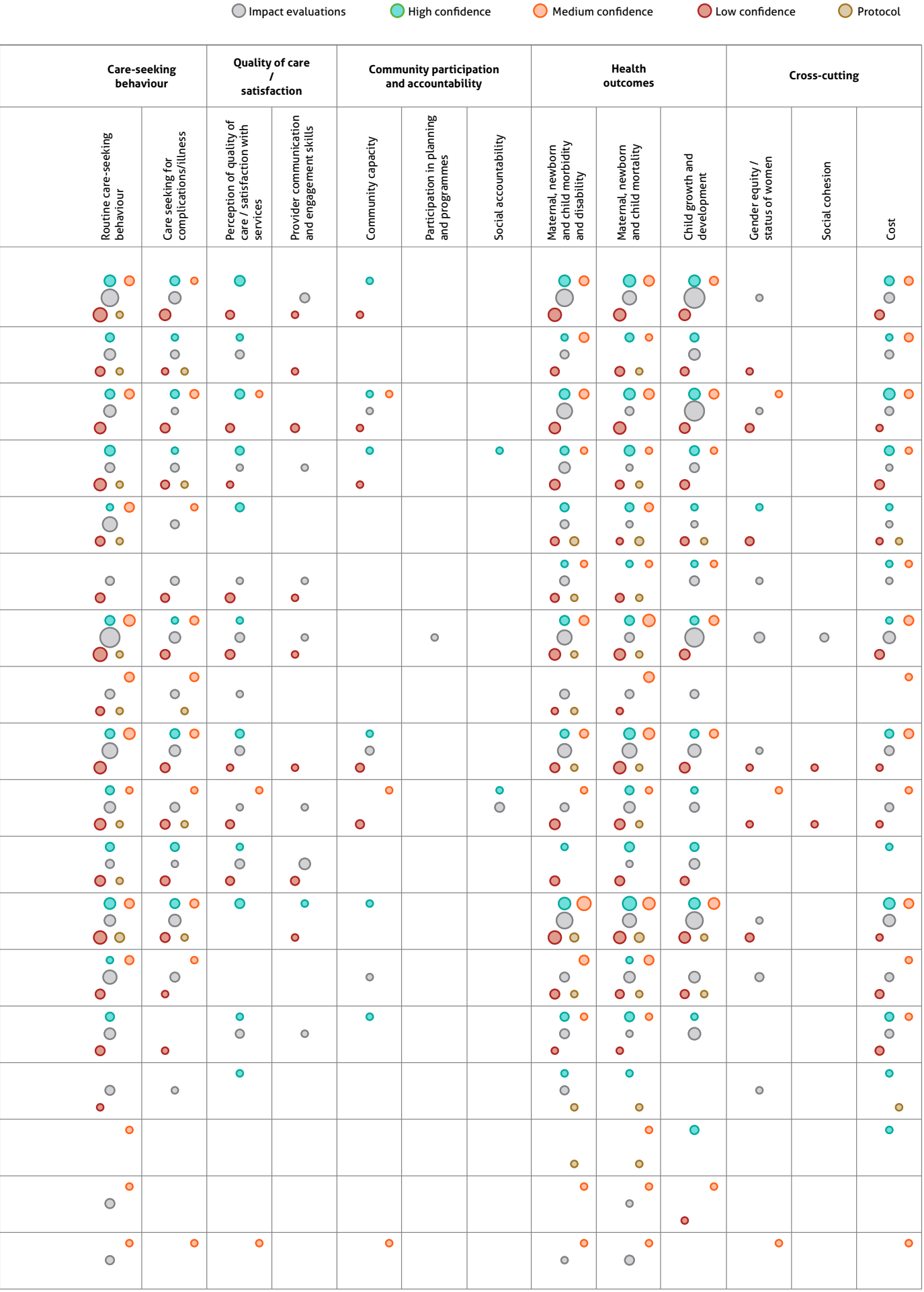
Summary of key findings

What are the main gaps in the evidence?

Figure 15 displays all the included impact evaluations and systematic reviews, with each study mapped according to the intervention/outcome intersection(s) they cover. Grey bubbles represent impact evaluations, while the coloured bubbles represent systematic reviews, with different colours corresponding to the level of confidence in the review. The size of each bubble indicates the relative size of the number of studies for each intersection. The evidence map reveals two types of gaps: gaps in the impact evaluations, where few or no studies have been conducted, and synthesis gaps, where up-to-date, high-quality systematic reviews are lacking. An interactive platform that visually presents the findings can be found at this link: http://gapmaps.3ieimpact.org/evidence-maps/social-behavioural-and-community-engagement-interventions-reproductive-maternal-0

Figure 15 Evidence map of SBCE interventions




Impact evaluations
High confidence
Medium confidence
Low confidence
Protocol
Care-seeking behaviour
Quality of care / satisfaction
Community participation and accountability
Health outcomes
Cross-cutting
Routine care-seeking behaviour
Care seeking for complications/illness
Perception of quality of care / satisfaction with services
Provider communication and engagement skills
Community capacity
Participation in planning and programmes
Social accountability
Maternal, newborn and child morbidity and disability
Maternal, newborn and child mortality
Child growth and development
Gender equity / status of women
Social cohesion
Cost

Summary of key findings on impact evaluations

Interventions

The distribution of impact evaluations across intervention areas is uneven. There is a heavy focus on interpersonal communication and health education activities, specifically, home visits and group-based approaches. A large number of studies combined several of the interpersonal communication approaches or combined one or more of these approaches with mass media. A similarly large number of evaluations of demand-side financing approaches, typically conditional cash transfers, were identified. Community mobilization, either alone or packaged with other SBCE approaches, has also been commonly studied.

There are, however, relatively few impact evaluations in the mass and social media activities intervention category and very few evaluations of mass media and entertainment education programmes.[6] Moreover, there were few completed evaluations of social-media and m-health interventions targeting RMNCH. This is surprising given the growth in programmes piloting these approaches around the world (23). A number of ongoing m-health evaluations were identified, however, they are concentrated in one health topic, mainly introducing vaccination reminders. Few evaluations of social marketing programmes were found.

There are few evaluations of community participation in health service planning and programmes and social accountability programmes for RMNCH, either alone or combined with an interpersonal communication approach, although some may be captured under community mobilization. Finally, we identified relatively few studies of community based health insurance programmes.

In terms of the health topics targeted in the identified evaluations of SBCE interventions we find a relatively uneven distribution between the 11 topics we focused on. Infant feeding and nutrition and care during pregnancy, childbirth and after childbirth are by far the most frequently targeted health topics in the interventions assessed in included studies. There is a smaller number of studies targeting immunizations, healthy timing and spacing of pregnancy, WASH and early child development. There are also relatively few evaluations of SBCE interventions targeting pneumonia, most of which use interpersonal communication and educational activities, care seeking for newborn illness and care seeking for childhood illness.

Reproductive health

The trends in studies targeting reproductive health are similar to the high-level trends in interventions across RMNCH described above, although this is the health area with the fewest number of impact evaluations overall. There is a focus on interpersonal communication and health education approaches, including home visits, facility-based and mixed approaches to interpersonal communication around reproductive health. There is a small number of studies of social marketing, mass media and education entertainment and provider training and service delivery adjustments targeting this area. However, there are several intervention gaps specific to reproductive health. We did not identify any evaluations of social media or m-health

6 Expert consultation on this issue suggested that a number of mass media evaluations were published before the publication date cut-off (the year 2000). Alternatively, a number may have been excluded from the map due to study designs that would not meet the inclusion criteria, such as a before and after comparison without a control group.

programmes targeting reproductive health, although there is one ongoing RCT of a mass media programme to promote the uptake of family planning services in Burkina Faso. There are also relatively few community mobilization programmes targeting reproductive health. The large number of evaluations of demand-side financing programmes typically target maternal or child health, with fewer targeting use of family planning methods. Finally, there are relatively few evaluations of packages of SBCE interventions targeting reproductive health.

Maternal health

The trends in the studies of interventions targeting maternal health largely follow the trends across RMNCH described above. A large proportion of the maternal health studies focus on interpersonal communication and health education approaches, demand-side financing or community mobilization, either alone or packaged with other SBCE interventions. A small number of studies evaluate mass media and education entertainment, social media and m-health, community participation and social accountability interventions and provider training and service delivery adjustments for maternal health. One difference of note is the number of social marketing studies, where we identify just one study targeting maternal health.

Newborn health

Also for studies of interventions targeting newborn health, we see a trend largely consistent with the trends across RMNCH, although there is an especially heavy focus in the newborn health area on interpersonal communication and health education approaches, particularly home visits and mixed interpersonal communication approaches. A number of studies also evaluate community mobilization, either alone or packaged with other SBCE interventions. Few studies evaluate mass media and education entertainment, social media and m-health, community participation and social accountability interventions and provider training and service delivery adjustments. We identified just one social marketing study targeting newborn health.

Child health

Child health is the health area with the largest number of included impact evaluations, with child health targeted in 70% of the included studies. The intervention types that have been studied follow the trends mentioned for the other health areas. A large proportion of the child health studies focus on interpersonal communication and health education approaches, particularly home visits or group-based approaches, demand-side financing or community mobilization, either alone or packaged with other SBCE interventions. Few studies evaluate mass media and education entertainment, social media and m-health, community participation and social accountability interventions and provider training and service delivery adjustments around child health. However, there are some differences of note. There are a relatively large number of child health studies that use an interpersonal communication approach combined with mass media and education entertainment. In addition, almost all of the included social marketing programmes targeted child health, including around WASH, malaria and infant and child feeding issues.

Outcomes

The most frequently measured outcomes were health-related outcomes, such as mortality and child growth and development, care seeking and care practices. This is in line with the focus of the Millennium Development Goals (MDGs) on mortality and care seeking, which coincided with the years of our inclusion criteria (2000 to 2016). Using the terminology of the EWEC Global Strategy, this would also correspond to the focus on the Survive agenda, with knowledge and care seeking for RMNCH interventions being on the pathway to reaching the final health outcomes.

There are several gaps in the outcomes studied. Very few evaluations measured outcomes such as community capacity or participation in health programming. Outcomes related to household communication, social norms and gender equity were also rarely reported. Finally, few studies reported on knowledge and attitudes of health providers for engagement or on provider communication and engagement skills, despite the large proportion of studies that involve interpersonal communication and health education activities. The role of these types of outcomes for achieving important health and social development goals is now better understood. There is, therefore, a need for well-designed studies to address these in the future.

The distribution of outcomes studied at the individual health area level largely reflects the distribution of outcomes at the aggregate RMNCH level. These findings highlight the need for the global health community to consider how research can better capture outcome, equity and human rights issues associated with the Thrive and Transform agendas in the EWEC Global Strategy.

Other findings

Studies are unevenly distributed across regions and countries. Sub-Saharan Africa and South East Asia, reflecting the highest regional burdens of maternal, neonatal and child mortality. Almost 60% of the included studies come from just 10 countries. There were no studies in several countries with a high maternal and infant mortality, notably Sierra Leone, Cote d'Ivoire, Liberia, Angola and Chad. This finding is largely consistent across the different health areas, although a greater proportion of the reproductive health studies take place in Africa than the other health areas.

Most studies were RCTs, with a relatively small proportion of quasi-experimental studies. However, there are relatively more quasi-experimental studies of maternal and reproductive health interventions than of newborn and child health. Few of the studies included qualitative components, process evaluation and information on costs or cost effectiveness, potentially leaving important questions around programme design, implementation and affordability unanswered. As the focus on sustainability will be even stronger in the era of the SDGs, the demand for studies to consider costs of interventions may increase.

Of the small proportion of impact evaluations that considered equity–by targeting the interventions at a vulnerable group, undertaking subgroup analysis or assessing an equity outcome–most targeted place of residence, typically a rural area, or socioeconomic status. Other important dimensions of equity such as ethnic group, language, culture, or disability

were rarely considered in impact evaluations. This trend is consistent across reproductive, maternal, newborn and child health.

Although not systematically captured in the results, the study team noted a lack of detailed information on interventions in the included impact evaluations. This made coding difficult, but more importantly reduces the potential for learning from what has already been studied. Work is underway to improve reporting on context and implementation issues (24), however, publication limitations and accessibility of the information will remain a challenge.

Summary of key findings on systematic reviews

There are a large number of systematic reviews, spread across the different health topics. The distribution of those reviews is however uneven, similar to the impact evaluation evidence base. A large proportion of the reviews focused on interpersonal communication and health education approaches, particularly home visits and group approaches. This includes a large number of high confidence reviews. There is also a large number of reviews of demand-side financing interventions, and also a number of reviews that cover community mobilization or community mobilization packages.

Surprisingly, considering the low number of impact evaluations of social media and m-health interventions across the health areas, a large number of reviews were identified. Many of these are of low or medium confidence, however. Commissioning more systematic reviews in this area is unlikely to contribute much to the knowledge base until new impact evaluations are published.

Although there are a number of high confidence systematic reviews that include some evaluations of community mobilization approaches, many of these have broad intervention inclusion criteria without a specific focus on systematically capturing the community mobilization literature. New systematic reviews focusing on community mobilization or community mobilization packages for the different health topics covered by the map, particularly WASH and infant feeding and nutrition where there are a number of impact evaluations and no high or medium confidence systematic reviews, may therefore be of value.

Similarly, while we identify a small number of high confidence reviews that include some evaluations of provider training and service delivery adjustments, and a small body of impact evaluation literature in this area, these reviews often provide only a cursory analysis of this intervention and it is not clear if they comprehensively cover the literature. There are no high or medium confidence reviews focusing exclusively on systematically covering this literature across any of the health topics.

There are fewer systematic reviews in the reproductive health area and only a small proportion were assessed as high confidence. The high confidence reviews are focused on key areas such as interpersonal communication and health education approaches for family planning method use after birth.

There are several intervention areas where there are small bodies of impact evaluations but no high confidence systematic reviews. These include demand-side financing, group-based interpersonal approaches, community mobilization and community mobilization packages.

Early child development is an area of growing interest. Several high confidence reviews have assessed outcomes including child growth and development and knowledge and attitudes of households. However, there are several gaps where new systematic reviews could be beneficial including those considering demand-side financing, specifically conditional cash transfers and their effect on child growth and development outcomes, as well as a review looking at parenting skills.

Outcomes such as parenting skills, household dynamics, community participation and social accountability were less frequently identified, reflecting the fact that these outcomes are rarely assessed in primary studies.

A significant proportion of the systematic reviews identified had methodological limitations. The issue is not necessarily a call for more reviews, but a call for better designed, conducted and reported reviews. Consideration should be given to ways of improving the quality of reviews to address the most important concerns. Reporting was often poor and in many cases, it was difficult to determine the scope of the review as the basic review inclusion criteria were not clearly presented. Limitations in reporting can be addressed by future studies adhering to reporting guidelines, such as PRISMA (25).

Limitations of the evidence map

This evidence map provides a rich source of information on existing impact evaluations and systematic reviews of SBCE interventions for RMNCH, but as with any such exercise, there are limitations.

Time, financial and human resource constraints meant that key health areas and interventions had to be prioritized over others, thus some health areas, interventions, and outcomes were not addressed.

The search strategy was systematic, but not as comprehensive as it would be for a specific systematic review.

This map focussed on effectiveness studies, which quantify the size of a chosen effect, thus qualitative research was not included unless it was part of a mixed methods study. To fully understand effectiveness, a broader array of study designs would need to be searched than those included here. Qualitative research is particularly important for understanding how and why interventions did or did not work in different contexts. However, this was beyond the scope of this map.

Studies may have been missed but several steps were taken to reduce this risk. The search of eight academic databases/ portals using a detailed search strategy was supplemented by a search of grey literature databases. Along with expert verification, other methods such as reference checking of included systematic reviews and other literature reviews were used to identify additional papers. For example, the search strategy did not include terms that captured any interrupted time series studies. The expert group pointed out some key studies that they thought were missed in the search, including interrupted time series, however these studies were not included as they did not meet the other study inclusion criteria.

The majority of the abstract and full text screening was conducted by individual reviewers. While measures were introduced to limit error, such as involving a second review in the case of uncertainty and having a second reviewer screen a random proportion of articles, having two reviewers independently assess articles for inclusion would have made the screening more robust.

This map includes studies published from 2000 to 2016. The expert group pointed out several studies which were not included due to the date of publication.

A quality assessment of included impact evaluations was not conducted, and thus unlike the case with systematic review findings, this evidence map does not identify areas with high confidence evaluation studies.

Finally, it was often difficult for the study team to categorize interventions. In many cases this was due to insufficient reporting of intervention characteristics in included studies. Therefore, categorizations were made based on the information that we had available which in some cases required some assumptions about the intervention in question.

Conclusion

Investing in SBCE interventions will be of increasing importance to achieve the SDGs and the goals set out in the EWEC Global Strategy. This evidence map provides a starting point for researchers, decision makers and programme managers to access the available research evidence on the effectiveness of SBCE interventions. Findings from this evidence map show that there are a considerable amount of impact evaluations and systematic reviews from which we can draw lessons learned and conclusions. Nonetheless, there are still important gaps in the evidence base pertaining to SBCE interventions for RMNCH. We identified a number of important findings that should be considered in the design and reporting of future impact evaluations and systematic reviews to help improve and advance research on SBCE interventions.

Because this map is limited to identifying and describing the evidence base of included studies and reviews, it is not a systematic review and does not synthesise the evidence, so the map does not provide conclusions as to the effectiveness of the interventions included.

We identified 457 impact evaluations and 142 systematic reviews published since 2000, with the trend for impact evaluations being one of year on year growth in publication of new studies.

With a rapidly growing evidence base, it is important to take stock before making additional research investments to ensure that scarce resources go to address gaps in our knowledge of these interventions.

Overall, the map identified a large and growing body of effectiveness research on SBCE interventions, however the distribution of the evidence base is uneven across interventions, outcomes, health topics and geography. The majority of studies measured health outcomes, but they do not assess the effects of interventions on broader social outcomes. There is a lack of studies considering equity, in particular, the effects on vulnerable populations. Those studies that considered equity, most only

considered targeting of an intervention to rural areas, or by socioeconomic status, and important dimensions of equity were rarely or never considered (such as ethnicity, language, culture, disability).

The intervention and outcome categories used for this evidence map were oriented by the policy literature and frameworks available at the time we began this exercise (14). However, new frameworks continue to be developed, for example a recent publication by Kaufman and colleagues (2017) provides another categorization of interventions and outcomes, specifically for childhood vaccination communication (26). To be able to draw lessons from the existing research, it would be useful for global organizations, country partners and researchers to start building common frameworks and terminology for SBCE across RMNCH areas.

The evidence map can be explored in more depth by health topics of interest. The online visualization, list of references for each topic area, summary of systematic reviews appraisals, as well as links to the article pdfs will facilitate access to and use of the research. Key findings of the SBCE evidence map around the impact evaluation and systematic review evidence base are summarised below.

Impact evaluations

There is a heavy emphasis in past impact evaluations on interpersonal communication and health education activities. Many of these activities were delivered by community health workers, often via home visits and were part of a package of interventions. Demand-side financing and community mobilization were also frequently studied. Interventions related to community participation and social accountability, mass media and education-entertainment, social media and m-health, social marketing, community based health insurance and provider training and service delivery adjustments were less studied.

The most frequently measured outcomes included mortality and child growth and development, with other more intermediate outcomes such as care seeking and household care practices. Using the terminology of the EWEC Global Strategy, this corresponds to the important focus on the Survive agenda, with knowledge and care seeking for RMNCH interventions being on the pathway to reaching the final health outcomes. These will continue to be important, but future research will need to consider outcomes important to the Thrive and Transform agendas as well.

Few studies measured outcomes such as those related to the enabling environment, for example health provider attitudes and communication skills, household communication, changes in social norms, perceptions of quality of health services and participation and accountability outcomes. As we move to the SDGs era and embrace the goals of the EWEC Global Strategy, there is a need for research to measure effects on broader social, health and development objectives. This includes more impact evaluations to assess gender transformation and equity, in particular for vulnerable populations.

Studies are concentrated in Africa and South-East Asia, reflecting the highest regional burdens of maternal and neonatal mortality. However, over half of the studies come from only 10 LMICs: Bangladesh, India, Mexico, China, Pakistan, Uganda, Kenya, Brazil, Ghana, and South Africa. There are countries with a high burden of maternal and infant mortality where we identified

no studies, particularly in West Africa. Future SBCE research should consider studies in high-burden countries where no studies were identified, including francophone Africa.

The studies included in this evidence map were predominately RCTs, and a few quasi-experimental studies. This suggests that there may be potential for more high-quality quasi-experimental studies in the RMNCH area. Moreover, few studies include qualitative components, process evaluation and information on costs.

Finally, the study team noted a lack of detailed information on the interventions studied in the impact evaluations. When interventions are not described well, it is difficult for readers to understand what was done, how it was done and how this links to observed effects. This had direct implications for the SBCE map (making coding difficult) and has broader implications for the usefulness and quality of studies, as well as the feasibility of undertaking systematic reviews. Therefore, future impact evaluations should prioritize mixed-method studies that carefully describe intervention design and include assessment of process, implementation and costs.

Systematic reviews

The systematic review evidence base is large but unevenly distributed, mirroring the distribution of identified impact evaluations. A large proportion focus on interpersonal communication and health education, including a number of high confidence reviews. It may be helpful to conduct a review of reviews of these to identify more specific lessons learned and gaps in the knowledge. Given the large number of existing impact evaluations and reviews for these interventions, there may be opportunities to use these to develop global guidance. Where feasible, guidance and reviews should attempt to look across health areas to determine the key intervention components and implementation characteristics.

A significant share of the systematic reviews were assessed to have methodological limitations, particularly those on healthy timing and spacing of pregnancy. There is also a considerable number of low or medium confidence systematic reviews of social media and m-health interventions, despite the low number of impact evaluations identified in this area. Additional systematic reviews in this area would not contribute much to the knowledge base until new impact evaluations are published.

There are several areas where new systematic reviews could be of value, however, including community mobilization packages for WASH, infant feeding and nutrition, and early child development.

Implications

This mapping exercise is the first step in identifying priority areas for rigorous impact evaluations and systematic reviews of SBCE interventions for RMNCH and key outcomes for the next five years. Based on the findings, a systematic research prioritization exercise should now be undertaken. We identify initial next steps that will help improve and advance research on SBCE interventions:

- It would be useful for global and country partners to work together to identify common intervention categories for SBCE interventions across RMNCH areas, highlighting specificities

of particular health areas/topics as needed. Having common frameworks and drawing lessons learned across RMNCH and different health areas, where possible, may expand the usefulness of the lessons we are drawing from the current research and implementation experience, and help inform future investment in SBCE research and programmes for RMNCH.

- Efforts could then follow to achieve consensus on priority areas for research and evidence synthesis. Where research priority areas are identified, further consensus on optimal study designs, key intervention components and key outcomes would be useful so that an evidence base can be built and synthesized over the next five to ten years.
- Further research on SBCE interventions should consider the measurement of distal and process outcomes, carefully considering what the core contributions SBCE interventions are making toward achieving the social, health and development goals.
- Research on SBCE interventions can also measure their contributions to the broader social outcomes aspired to in the new EWEC Global Strategy, including community participation and social accountability. The link to improved health may come from contributions to the enabling environment and improvement of social determinants as well as from direct health outcomes.
- More studies are needed to fill an important gap in measuring interventions to meet the needs of vulnerable populations. The map identifies gaps in targeting these populations and measuring direct and differential effects on them would be important. This includes incorporating more consistently considerations of equity (including gender, education, socioeconomic status, place of residence, ethnicity, culture and disability), and targeting research in high-burden countries and other countries where not studies were identified, such as francophone Africa.
- Future research should also consider the use of mixed-methods impact evaluations and systematic reviews, and studies that involve causal chain analysis and process evaluation techniques, to provide a more in-depth understanding of how change occurs. The evidence for SBCE would also benefit from more studies that include cost data.
- Further research can be undertaken to complement the findings from this evidence map, including on additional health areas (for example, expanding sexual and reproductive health); on other SBCE interventions and approaches that were not included; and with study designs that were not included, specifically qualitative research and research related to implementation and delivery mechanisms.
- Reporting of intervention implementation needs to improve in order for the quality of reviews to be improved, a problem encountered in this mapping exercise. WHO has recently released *Programme reporting standards for sexual, reproductive, maternal, newborn, child and adolescent health,* specifically intended to support programmes to better document key contextual and implementation factors (27).

References

1. UN Inter-agency for Child Mortality Estimation (IGME). Levels and trends in child mortality. New York: UNICEF, 2015.
2. Marston C, Hinton R, Kean S, Baral S, Ahuja A, Costello A, et al. Community participation for transformative action on women's, children's and adolescents' health. Bulletin of the World Health Organization. 2016;94(5):376.
3. Ki-Moon B. The road to dignity by 2030: Ending poverty, transforming all lives and protecting the planet. Synthesis report of the Secretary-General on the post-2015 sustainable development agenda. United Nations, 2014.
4. Global strategy for women's, children's and adolescents' health (2016-2030). New York: Every Woman Every Child, 2015.
5. Working with individuals, families and communities to improve maternal and newborn health. Geneva: World Health Organization, 2003.
6. The Ottawa Charter for health promotion. Ottawa, Canada: 1986.
7. American Association for the Advancement of Science. R&D federal research funding by discipline, 1970-2016. 2017 [Available from: https://www.aaas.org/page/historical-trends-federal-rd.].
8. WHO recommendations on health promotion interventions for maternal and newborn health. Geneva: World Health Organization, 2015.
9. The behavior change framework : A template for accelerating the impact of behavior change in USAID-supported MCH programs in 24 priority countries (draft). Washington, DC: United Stages Agency for International Development, 2015.
10. Snilstveit B, Vojtkova M, Bhavsar A, Stevenson J, Gaarder M. Evidence & Gap Maps: A tool for promoting evidence informed policy and strategic research agendas. Journal of clinical epidemiology. 2016;79:120-9.
11. Rankin K, Heard A, Diaz N. Adolescent sexual and reproductive health: The state of evidence on the impact of programming in low- and middle-income countries. New Delhi: International Initiative for Impact Evaluation (3ie), 2016.

12. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, et al. Our future: a Lancet commission on adolescent health and wellbeing. The Lancet. 2016;387(10036):2423-78.
13. Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation. Summary. Geneva: World Health Organization, 2017.
14. Partnership for Maternal Newborn & Child Health. A global review of the key interventions related to reproductive, maternal, newborn and child health (RMNCH). Geneva: World Health Organization, 2011.
15. Partnership for Maternal Newborn & Child Health, World Health Organization. A policy guide for implementing essential interventions for reproductive, maternal, newborn and child health (RMNCH): A multisectoral policy compendium for RMNCH. Geneva: World Health Organization, 2014.
16. Storey D, Lee K, Blake C, Lee H, DePasquale N. Social and behavior change interventions landscaping study: A global review. Baltimore: Center for Communication Programs, John Hopkins Bloomberg School of Public Health, 2011.
17. Snilstveit B, Bhatia R, Rankin K, Leach B. 3ie evidence gap maps: a starting point for strategic evidence production and use. 3ie Working Paper 28. New Delhi: International Initiative for Impact Evaluation (3ie); 2017.
18. World Bank Country and Lending Groups. 2017 [cited 3 July 2017]. Available from: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups.
19. Impact evaluation glossary. New Delhi: International Initiative for Impact Evaluation (3ie), 2012.
20. Snilstveit B, Eyers J, Bhavsar A, Gallagher E, Stevenson J. 3ie database of systematic reviews in international development: search strategy and procedures document. London: International Initiative for Impact Evaluation (3ie), 2014.
21. Thomas J, Brunton J, Graziosi S. Eppi-Reviewer 4: Software for research synthesis EPPI-Centre Software. London, UK: London Social Science Research Unit, UCL Institute of Education, 2010.
22. Trends in maternal mortality: 1990 to 2015: Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization, 2015.
23. Chersich M, Becerril-Montekio V, Becerra-Posada F, Dumbaugh M, Kavanagh J, Blaauw D, et al. Perspectives on the methods of a large systematic mapping of maternal health interventions. Globalization and health. 2016;12(1):51.
24. Kågesten AE, Tunçalp Ö, Portela A, Ali M, Tran N, Gülmezoglu AM. Programme reporting standards (PRS) for improving the reporting of sexual, reproductive, maternal, newborn, child and adolescent health programmes. BMC medical research methodology. 2017;17(1):117.
25. Moher D, Liberati A, Tetzlaff J, Altman DG, Group P. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. PLoS medicine. 2009;6(7):e1000097.
26. Kaufman J, Ryan R, Glenton C, Lewin S, Bosch-Capblanch X, Cartier Y, et al. Childhood vaccination communication outcomes unpacked and organized in a taxonomy to facilitate core outcome establishment. Journal of clinical epidemiology. 2017;84:173-84.
27. Programme reporting standards for sexual, reproductive, maternal, newborn, child and adolescent health. Geneva: World Health Organization, 2017.

Annex 1. Recent SBCE-related WHO guidance (up to May 2017)[7]

General

Healthy timing and spacing of pregnancy

Ensuring human rights in the provision of contraceptive information and services. Geneva; World Health Organization, 2014. Available at: http://www.who.int/reproductivehealth/publications/family_planning/human-rights-contraception/en/.

Medical eligibility criteria for contraceptive use, Fifth edition. Geneva; World Health Organization, 2015. Available at: http://www.who.int/reproductivehealth/publications/family_planning/MEC-5/en/.

Preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries. Geneva; World Health Organization, 2011. Available at: http://www.who.int/maternal_child_adolescent/documents/preventing_early_pregnancy/en/.

Selected practice recommendations for contraceptive use. Geneva; World Health Organization, 2016. Available at: http://www.who.int/reproductivehealth/publications/family_planning/SPR-3/en/.

Care during pregnancy, childbirth and after childbirth

WHO recommendations on postnatal care of the mother and newborn. Geneva; World Health Organization, 2013. Available at: http://www.who.int/maternal_child_adolescent/documents/postnatal-care-recommendations/en/.

WHO recommendation on community mobilization through facilitated participatory learning and action cycles with women's groups for maternal and newborn health. Geneva; World Health Organization, 2014. Available at: http://www.who.int/maternal_child_adolescent/documents/community-mobilization-maternal-newborn/en/.

WHO recommendations on health promotion interventions for maternal and newborn health 2015. Geneva; World Health Organization, 2015. Available at: http://www.who.int/maternal_child_adolescent/documents/health-promotion-interventions/en/.

WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization, 2016. Available at: http://www.who.int/nutrition/publications/guidelines/antenatalcare-pregnancy-positive-experience/en/.

7 Includes recommendations approved by the WHO Guideline Review Committee

WHO technical consultation on postpartum and postnatal care. Geneva: World Health Organization, 2010. Available at: http://www.who.int/maternal_child_adolescent/documents/WHO_MPS_10_03/en/.

Home visits for the newborn child. Geneva: World Health Organization & UNICEF, 2009. Available at: http://www.who.int/maternal_child_adolescent/documents/who_fch_cah_09_02/en/.

Infant/child feeding and nutrition

Baby-Friendly Hospital Initiative. Geneva: World Health Organization & UNICEF, 2009. Available at: http://www.who.int/nutrition/publications/infantfeeding/bfhi_trainingcourse/en/.

Communicable diseases and severe food shortage. Geneva: World Health Organization, 2010. Available at: http://www.who.int/diseasecontrol_emergencies/publications/food_shortage/en/.

Essential Nutrition Actions Improving maternal, newborn, infant and young child health and nutrition. Geneva: World Health Organization, 2013. Available at: http://www.who.int/nutrition/publications/infantfeeding/essential_nutrition_actions/en/.

Global recommendations on physical activity for health. Geneva: World Health Organization, 2010. Available at: http://www.who.int/dietphysicalactivity/publications/9789241599979/en/.

Guidelines on optimal feeding of low birth-weight infants in low- and middle-income countries. Geneva: World Health Organization, 2011. Available at: http://www.who.int/maternal_child_adolescent/documents/infant_feeding_low_bw/en/.

Infant and young child feeding. Geneva: World Health Organization, 2009. Available at: http://www.who.int/maternal_child_adolescent/documents/9789241597494/en/.

Infant feeding in areas of Zika virus transmission. Geneva: World Health Organization, 2016. Available at: http://www.who.int/nutrition/publications/guidelines/infantfeeding_zikavirus_transmission/en/.

Interventions on diet and physical activity: what works: summary report. Geneva: World Health Organization, 2009. Available at: http://www.who.int/dietphysicalactivity/publications/physical_activity_9789241598248/en/.

Updates on the management of severe acute malnutrition in infants and children. Geneva: World Health Organization, 2013. Available at: http://apps.who.int/iris/bitstream/10665/95584/1/9789241506328_eng.pdf?ua=1.

Pneumonia

Indoor air quality guidelines: household fuel combustion. Geneva: World Health Organization, 2014. Available at: http://www.who.int/indoorair/publications/household-fuel-combustion/en/

Malaria and dengue fever

Dengue: guidelines for diagnosis, treatment, prevention and control. Geneva: World Health Organization, 2009. Available at: http://www.who.int/csr/resources/publications/dengue_9789241547871/en/.

Annex 2. Detailed definitions of health topics, interventions and outcomes

Health topics

Health topic	Sub-topic
Healthy timing and spacing of pregnancy	Sexually active men and women, who do not intend pregnancy use a modern contraceptive until they are desirous of pregnancy After a live birth, women or their partners use a modern contraceptive method to avoid pregnancy for at least 24 months After a miscarriage or induced abortion, women or their partners use a modern contraceptive method to avoid pregnancy for at least six months
Care during pregnancy, childbirth and after childbirth	Pregnant women attend antenatal care visits with a skilled health professional within the first trimester of pregnancy Pregnant women attend at least four antenatal care sessions with a skilled health professional Pregnant women receive timely basic vaccinations Pregnant women do not consume alcohol or smoke during pregnancy Pregnant women have a birth preparedness and complications plan Pregnant women give birth at a health facility or in the presence of a skilled health professional After an uncomplicated vaginal birth in a health facility, healthy mothers and newborns should receive care in the facility for at least 24 hours after birth. If birth is at home, women and their newborn should receive postnatal care within 24 hours of birth Women and their newborns attend postnatal care with a skilled health professional on day 3 (48–72 hours), between days 7–14 after birth, and six weeks after birth Members of the household and the community recognize that smoking and second-hand smoke harm health and take appropriate measures

Health topic	Sub-topic
Care seeking for newborn illness	Caregivers seek prompt and appropriate care for signs and symptoms of newborn illness
Infant / child feeding and nutrition	Early initiation of breastfeeding (within one hour) after birth Mothers continue to exclusively breastfeed for six months after birth Mothers and care givers introduce appropriate complementary foods at 6 months, while continuing to breastfeed up to or beyond 2 years School-age children achieve adequate daily intake of diverse, fresh fruit and vegetables and receive supplementary foods when at risk of undernutrition School-age children undertake sufficient physical activity to reduce chance of obesity Mothers and caregivers provide appropriate management and treatment for malnutrition
Immunizations	Caregivers seek a full course of timely basic vaccinations for infants and children e.g. rotavirus, measles, pneumococcal conjugate vaccine, haemophilus influenzae type b (Hib), pertussis, DTP1, DTP3, OPV, IPV)
Care seeking for childhood Illnesses	Caregivers recognize when sick children need treatment outside the home and seek care from appropriate providers Caregivers follow health worker's advice about treatment, follow up and referral
Malaria and dengue fever	Members of the household take up malaria / dengue fever prevention and control interventions, such as the use of insecticide treated bed nets (ITNs), in malaria-endemic areas
Pneumonia	Caregivers adopt preventive behaviours as reflected in infant feeding and nutrition and immunization health areas, as well as take measures to reduce household air pollution Members of the household and the community recognize that smoking and secondhand smoke harm health and take appropriate measures
Diarrhoea	Caregivers adopt preventive behaviours, as reflected in infant feeding and nutrition, immunization and WASH health areas Caregivers provide appropriate treatment for children with diarrhoea at onset of symptoms

Health topic	Sub-topic
Water, Sanitation and Hygiene (WASH)	Members of the household dispose of faeces safely, including children's faeces, and handwash with soap at critical times (i.e., after defecation, after changing diapers and before food preparation and eating). Members of the household drink safe water
Early child development	Caregivers promote mental and social development by responding to a child's needs for care, and through talking, playing and providing a stimulating environment

Interventions

Intervention category	Intervention	Intervention description
Interpersonal communication and educational activities	Home visits	The primary objective of home visits is to bring RMNCH education, information and counselling directly to the home via a health professional or trained volunteer/ peer. Contact with the household may be provided face-to-face or indirectly by phone. Those delivering the household outreach may be physicians, nurses, midwives, paraprofessionals, traditional providers, cadres, trained peer-educators, other health workers and volunteers. These types of interventions may include the provision of print or electronic materials as part of the home visit. They also often include an element of training for the provider undertaking the household outreach / home visits.
	Facility-based interpersonal communication and counselling	These interventions involve a health professional of some kind providing RMNCH education, information and/or counselling one-on-one to individuals in a facility, such as a health centre. As above a key element of these interventions is the face-to-face interaction between the health professional and clients and may also include the provision of written and electronic educational aids, such as pamphlets, posters, cd rom etc. These types of interventions may include the provision of print or electronic materials as part of the facility interpersonal communication and counselling. They also often include an element of training for the provider undertaking the interpersonal communication.

Intervention category	Intervention	Intervention description
Interpersonal communication and educational activities (continue)	Group – any setting	Group-based interventions involve the provision of RMNCH information, education and/or counselling in a group-setting rather than one-to-one. Interventions can include meetings with a select group (e.g. pregnant women), village health clubs, community dialogue, client-provider forums, workshops, fairs and other events in different settings such as schools, health facilities and community settings., These interventions may also include the provision of written and electronic educational aids, such as pamphlets, posters, video etc. Those delivering the group-based interventions may be physicians, nurses, midwives, paraprofessionals, traditional providers, cadres, trained teachers, trained peer-educators, other health workers and volunteers. These types of interventions may include the provision of print or electronic materials as part of the group interpersonal communication and counselling. They also often include an element of training for the provider undertaking the interpersonal communication
Mass and social media	Mass media and entertainment education	Mass media refers to the use of a diverse set of technologies including the internet, television, print materials (e.g. newspapers, posters and leaflets), film and radio, which are capable of simultaneously—almost instantaneously—reaching audiences on a large scale, often over considerable distance. Such media may or may not have interactive capabilities. Mass media programmes are often theory-based and target a large population. For the purpose of this evidence map mass media also includes other types of written materials such as aletter to parents or spouse, pamphlet on breastfeeding and MNCHbooklets andhome based records. Like print materials, these can serve to inform, remind, educate and motivate people about specific RMNCH topics.

Intervention category	Intervention	Intervention description
Mass and social media (continue)	Mass media and entertainment education	Mass media are often used to deliver entertainment-education programmes or materials. These interventions have educational, motivational or persuasive messages delivered through an entertaining format, such as a radio health drama or health messages inserted into the storyline of a popular television programme. These interventions can use film, television, radio, comic books, traditional storytelling forms, as well as the internet to provide information and messages.
	Social marketing	Social marketing strategies use marketing concepts — product design, appropriate pricing, sales and distribution, and communications — to influence behaviours that benefit individuals and communities. Social marketing involves coordinating many communication forms and approaches to reinforce and complement each other. These can include: • advertising • social franchising • public relations • internet communication • community mobilization • counselling • print and electronic materials • network marketing All forms communicate the same content associated with the "product" and behavioural outcomes.
	Social media and m-health	These interventions refer to a variety of web-based and mobile technologies and software applications permit users to engage in dialogue with each other, often over great distances and share information. These interventions may take an individual, one to one approach, (e.g. SMS reminder of an upcoming appointment) or attempt to connect with people on a large scale (e.g. social media).

Intervention category	Intervention	Intervention description
Mass and social media (continue)	Social media and m-health (continue)	Interventions can include: • mHealth/mobile phone such as smartphone/ feature phone/tablet/personal data assistant (PDA) /other mobile devices, Short Message Service (SMS), Multimedia Messaging Service (MMS), Interactive Voice Response (IVR) • Helpline, hotlines • eHealth/eLearning/websites • Information Communication Technology • Digital Media • Social Media (e.g. Facebook and Twitter)
Interventions to address financial barriers	Demand-side financing	Demand–side financing offers a supplementary model to supply-side financing of health care in which some funds are instead channelled through, or to, prospective users. Demand side financing schemes to increase maternity healthcare utilization and promote maternal, perinatal, neonatal and infant health outcomes include (1): • unconditional cash transfers • conditional cash transfers • short-term payment to offset costs of access • vouchers for maternity services • vouchers for merit goods
	Community health insurance	Community-based health insurance schemes are a form of micro-insurance used to help low-income households manage risks and reduce their vulnerability in the face of financial shocks (2) Other schemes can include rural health insurance, mutual health insurance, revolving drug funds and community involvement in user-fee management.

Intervention category	Intervention	Intervention description
Community mobilization and participation activities	Community mobilization	Community mobilization is a community capacity-strengthening process through which community individuals, groups (including in schools), or organizations plan, carry out, and evaluate activities on a participatory and sustained basis to improve their health and other needs, either on their own initiative or stimulated by others (3). Community capacity refers to the skills, knowledge, and expertise of community members which individually and collectively constitute a community's ability to identify and address its needs (3). The objective of these approaches can include (4): • developing the general capacity of community members and groups to work effectively together as an end in itself, regardless of any particular aim or goal (for example supporting leadership, governance, management, problem solving etc.) • developing the technical knowledge and skills of community members to carry out a specific task or function (e.g. developing advocacy skills to advocate for a change in local government health policy), supporting communities to strengthen both their technical knowledge and skills and general capacity to work effectively together to achieve a common goal or results, such as maternal and child health etc. Community mobilization activities can be strategically integrated across different levels: households, communities, service delivery systems and the political environment.

Intervention category	Intervention	Intervention description
Community mobilization and participation activities (continue)	Community mobilization (continue)	Community mobilization can often also involve use of the following activities: • participatory learning and action cycles (e.g. women's groups) • community dialogue and working with community leaders, religious leaders, health service providers, Traditional Birth Attendants (TBAs) • stakeholder groups • participatory research and assessment • rapid rural appraisal • strength based strategies such as positive deviance approaches • community advocacy activities • community organized transport schemes • engaging school children as agents of change **Note:** many of these activities can overlap with community participation in planning and programmes. The intervention was coded based on the description provided in the studies but there is potential overlap for some studies
	Community participation in health service planning and programmes and social accountability	Interventions to increase community participation in planning and programmes involve activities to create ongoing relationships between community members and health service delivery. The objective is to institutionalize community participation in decision-making within health services and at the district and national levels to ensure the interests of the community are represented. Approaches to involve communities in decision-making around planning and programmes include: • health facility management committees • village health committees • participatory planning and budgeting processes (allowing communities to have a say in how budgets for their locality are spent) • participatory monitoring and evaluation processes such as community dialogue and collective planning (e.g. through interactive public events).

Intervention category	Intervention	Intervention description
Community mobilization and participation activities (continue)	Community participation in health service planning and programmes and social accountability (continue)	Social accountability refers to the broad range of actions and mechanisms that community members can use to hold the state, public officials and service providers to account for their obligations, as well as actions on the part of government, civil society, media and other societal actors that promote or facilitate these efforts (5). Approaches include: • community monitoring • social audits • public hearings and community meetings • citizen report cards and community scorecards • verbal and social autopsies • partnership defined quality • other client feedback mechanisms • citizen-led budget advocacy • community participation in verification/ validation of data for results-based financing
Service and programme strengthening activities	Provider training and service delivery adjustments	Provider training focuses on the training of health providers, and other service providers, such as teachers and pharmacists, in skills and techniques related to communication, health education and community engagement for example (6): • community participation and engagement • interpersonal communication • intercultural skills • gender and human rights • counselling Service delivery adjustments are the changes made to service delivery and programmes in response to community perceptions of quality of care or to improve community perceptions of quality of care.

Intervention category	Intervention	Intervention description
Other	Non-SBCE interventions	Includes activities such as clinical services, programme adjustments, household technology provision (e.g. WASH, cookstoves), other commodity provision (e.g. soap, fuel), livelihood activities and policy activities. These types of intervention are only included when combined with another included intervention and are coded for information only. They will not appear in the evidence map.

Outcomes

Broad outcome category	Outcome	Outcome definition
Knowledge and attitudes	Knowledge and attitudes of individuals and members of the households regarding RMNCH	Knowledge and attitudes of individuals and members of the household regarding care practices (self-care and caregiver) and care-seeking behaviour
	Social norms in the community for RMNCH	Social norms / normative beliefs in the community in relation RMNCH, particularly related to care practices and care seeking
	Knowledge and attitudes of health providers for community engagement	Health provider knowledge and attitudes regarding communication, health education and community engagement, including: • community participation and engagement • interpersonal communication • intercultural skills • gender and human rights • counselling

Broad outcome category	Outcome	Outcome definition
Household dynamics / communication	Couple / mothers / mothers-in law /parent-child communication	Communication between women and their partners / mothers / mothers-in-law in the household about RMNCH-related issues, particularly related to care practices and care seeking Parent and caregiver communication and interaction with children in their care
	Parenting skills	Parenting style and parenting skills of parents and caregivers
	Joint decision-making in the household	Joint decision-making by members of the household (e.g. woman and her partner) on RMNCH-related issues, particularly related to care practices and care seeking
Care practices	Self-care practices (prevention and treatment)	Individual and household self-care practices for the purpose of prevention and treatment
	Caregiver practices (prevention and treatment)	Prevention and treatment practices by caregivers for children under their care
	Household environmental practices	Individual / household adoption and use of environmental/infrastructure interventions to address for example, air pollution (e.g. cook stoves), mosquito breeding (covering containers), water, sanitation and hygiene (e.g. latrines; water jars) etc.
Care seeking behaviour	Routine care-seeking behaviour	Routine care seeking by individuals and caregivers, such as antenatal care, postnatal care, skilled care at birth, family planning, childhood immunization, etc.

Broad outcome category	Outcome	Outcome definition
	Care seeking for complications/illness	Individual and caregiver care seeking for illness and complications, such as childhood illness, complications during pregnancy and childbirth, etc.
Quality of care / satisfaction	Perception of quality of care / Satisfaction with services	Individual and community satisfaction with quality of care provided Individual and community satisfaction with provider communication and/or level of respect shown for their choices and preferences
	Provider communication and engagement skills	Health service provider interpersonal and intercultural competencies, counselling skills, skills in community participation and engagement
Community capacity, participation and accountability	Community capacity	In addition to outcomes for care-seeking behaviour and quality, other outcomes for community capacity include: • Capacity for collective action: (7)[16] • Learning opportunities and skills development • Resource mobilization • Leadership • Partnerships/linkages/ networking • Participatory decision-making • Sense of community • Communication • Organizational development

Broad outcome category	Outcome	Outcome definition
	Participation in planning and programmes	In addition to outcomes for community capacity and social accountability, other outcomes for community participation in planning and programmes include: programme design and service delivery that responds to the priorities and needs of communities
	Social accountability	In addition to outcomes for community capacity and community participation in planning and programmes, other social accountability outcomes include: improved efficiency of service delivery, governance processes and resource allocation decisions, or claiming rights

Broad outcome category	Outcome	Outcome definition
Health	Maternal, newborn, and child morbidity and disability	Maternal, newborn and child morbidity and / or disability
	Maternal, newborn, and child mortality	Maternal, newborn and/or child mortality
	Child growth and development	Physical, socio-emotional, language and cognitive development, nutrition
Cross-cutting	Gender equity / status of women	Differences in participation, benefits, outcomes, and impacts for women, men, boys, and girls Changes in gender relations (positive or negative) between men and women, and between girls and boys
	Social cohesion	The extent to which people feel included in their society, that they can participate in and contribute to their community
	Cost	Examination of the cost of interventions

References

1. Murray SF, Hunter BM, Bisht R, Ensor T, Bick D. Demand side financing measures to increase maternal health service utilisation and improve health outcomes: a systematic review of evidence from low and middle income countries. JBI Database of Systematic Reviews and Implementation Reports. 2012;10(58):4165-567.
2. Donfouet HPP, Mahieu P-A. Community-based health insurance and social capital: a review. Health economics review. 2012;2(1):5.
3. Howard-Grabman L, Snetro G. How to mobilize community for health and social change. Baltimore: Health Communication Partnership, USAID, 2003.
4. Snetro-Plewman G, Braun S, Howard-Grabman L, Crum P. Community Capacity Strengthening Guide Community Module, Version 1.0. Save the Children, 2014.
5. Social accountability sourcebook. Washington, DC: World Bank, 2002.
6. Working with individuals, families and communities to improve maternal and newborn health. Geneva: World Health Organization, 2003.
7. Liberato SC, Brimblecombe J, Ritchie J, Ferguson M, Coveney J. Measuring capacity building in communities: a review of the literature. BMC public health. 2011;11(1):850.

Annex 3. Detailed methods

Databases and other literature searched

Three main types of source information were searched as outlined below.

1. Publication database searches:
    - Cochrane Library (Wiley)
    - Econlit (Ovid)
    - Global Health (CABI) – Ovid
    - Global Health Library
    - Medline
    - Popline
    - Web of Science
    - Scopus
    - WHO Reproductive health library

2. Topical databases and organization searches: Targeted searches of specialist websites and databases, in particular, established online repositories of systematic reviews and impact evaluations on topics relevant to the research question were conducted as listed below:

Systematic review repositories

- 3ie database of systematic reviews
- Centre for Reviews and Dissemination DARE database
- Campbell Collaboration Library
- Department for International Development (DFID) - R4D
- EPPI-Centre
- Google Scholar
- Health Evidence.org
- IDEAS/RepEC
- Joanna Briggs Institute
- International prospective register of systematic reviews (PROSPERO)
- World Bank–(can also be searched for impact evaluations)
- MASCOT: http://eppi.ioe.ac.uk/webdatabases4/Intro.aspx?ID=11

Impact evaluation repositories

- Innovations for Poverty Action (IPA)
- J-Poverty Action Lab: http://www.poverty-action.org/project-evaluations

- International Impact Initiative (3ie) repository of impact evaluations
- Department for International Development (DFID) - R4D
- 3ie RIDIE (Registry for International Development Impact Evaluations): http://ridie.3ieimpact.org/
- Inter-American Development Bank Evaluations: http://www.iadb.org/en/office-of-evaluation-and-oversight/evaluations,1578.html
- USAID Development Experience Clearing House: https://dec.usaid.gov/dec/content/search.aspx

3. Bibliographic and expert searches: Bibliographies of reviews identified through the scoping exercise were screened for any other studies meeting the inclusion criteria. Reverse searching of the study bibliographies of included systematic reviews was also performed. Citation tracking was not performed for included impact evaluations due to the large number of included studies. Finally, experts, including the expert group were asked to nominate additional studies

Search

An information specialist assisted with development of a search strategy designed to identify studies meeting the inclusion criteria. A search string for searching online publication databases and search engines was compiled using an initial set of English search terms relevant to different components of the research question (interventions, populations, study designs). The search strategy was then adapted for each individual database. An example is provided below. The search strategies for additional databases are available on request from the authors.

Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) <1946 to Present>–Searched 16th July 2016

1. community health services/ or «early intervention (education)»/ or maternal-child health services/ or community health nursing/ or home health nursing/ or family planning services/ or home nursing/ or maternal health services/ or perinatal care/ or postnatal care/ or preconception care/ or prenatal care/ or reproductive health services/ or rural health services/ or rural nursing/ or women's health services/ or preventive health services/ or primary health care/ or child health services/ (209368)
2. ((maternal or women* or reproductive or «family planning» or child* or infant* or newborn* or neonatal or preventive or primary) adj health service*).ti,ab. (4050)
3. (community* or communities* or village* or local or rural or non-urban).ti,ab. (971622)
4. or/1-3 (1130014)
5. Birth Intervals/ or Pregnancy Rate/ or Reproductive Behavior/ or Contraception Behavior/ or Pregnancy Outcome/ (56996)
6. ((birth or pregnan* or reproductive) adj3 (interval* or spacing or rate* or outcome* or behavio* or control or contracepti* or «family planning»)).ti,ab. (80078)
7. child mortality/ or infant mortality/ or maternal mortality/ or perinatal mortality/ (35010)

8. ((child* or infant* or newborn* or neonatal or perinatal or maternal or mother*) adj2 (mortality or death* or survival)).ti,ab. (63853)
9. Child Development/ (38719)
10. (child* adj2 develop*).ti,ab. (31028)
11. Hand Hygiene/ (586)
12. (hand* adj2 (wash* or hygiene)).ti,ab. (5646)
13. Infant Food/ or Breast Feeding/ or Infant Formula/ or Bottle Feeding/ (41606)
14. ((infant* or child* or baby or babies or neonat* or newborn*) adj2 (food or feed* or breast feed* or breastfeed* or formula* or bottle feed* or bottle-feed* or supplement* or nutrition*)).ti,ab. (26977)
15. immunization programs/ or immunization/ or primary prevention/ (70750)
16. (immuniz* or immunis* or vaccinat*).ti,ab. (217005)
17. child welfare/ or child care/ or infant welfare/ or maternal welfare/ (31937)
18. exp Diarrhea/ec, pc [Economics, Prevention & Control] (4088)
19. (diarrhea* or diarrhoea*).ti,ab. (87304)
20. exp Malaria/ec, pc [Economics, Prevention & Control] (14131)
21. ((malaria* adj3 (prevent* or prophylaxis)) or antimalarial* or mosquito net* or bed net* or bednet* or bed-net* or insecticide-treated net* or ITNs).ti,ab. (19477)
22. (pneumonia adj2 (prevent* or control*)).ti,ab. (1090)
23. Pneumonia/ec, pc [Economics, Prevention & Control] (2563)
24. Information Seeking Behavior/ or Help-Seeking Behavior/ or Health Promotion/ (62669)
25. (health* adj2 (promot* or behavio* or educat* or counseling or counselling or information or care-seeking)).ti,ab. (122360)
26. ((Consumer* or patient* or communit*) adj3 (participat* or involv* or engage* or motivat* or mobilis* or mobiliz* or outreach or dialog*)).ti,ab. (94821)
27. consumer participation/ or patient participation/ (35129)
28. Mass Media/ (9655)
29. (mass media or telecommunication* or mass communication).ti,ab. (7382)
30. «marketing of health services»/ or social marketing/ (16611)
31. (marketing or advocacy or advertis*).ti,ab. (42476)
32. Electronic Mail/ or Internet/ or Text Messaging/ or Communication/ or Telemedicine/ (140199)
33. (email or e-mail or electronic mail or audiovisual or internet or telemedicine).ti,ab. (51888)
34. ((phone adj3 call*) or ((cell* or mobile or smart or google or nexus or iphone) adj3 (phone* or telephone*)) or smartphone* or smart-phone* or (blackberr* not extract) or (black-berr* not extract) or ((mobile adj3 health) not (van* or unit*)) or mhealth or m-health or e-health*

or ehea lth* or (electronic adj health) or (mobile adj3 technol*) or ((mobile or smartphone or smart-phone or phone or software) adj3 app*) or MMS or multimedia messaging service or SMS or short messag* service or (text* adj messag*) or text-messag* or voice messag* or interactive voice response or IVR).ti,ab. (38610)

35. Advertising as Topic/ (13610)
36. House Calls/ (2794)
37. ((house* or home) adj2 (call* or visit*)).ti,ab. (9032)
38. hotlines/ or communications media/ or audiovisual aids/ or radio/ or cell phones/ or television/ (29750)
39. (hotline* or radio or television or TV or phone* or telephon* or mobiles or campaign* or advert* or boards or newspaper* or maga?in* or brochure* or leaflet* or pamphlet* or cinema* or (mass adj (communication or media)) or internet or social media or blog* or facebook or twitter or instagram or podcast* or broadcast* or audiovisual or film* or movie* or edutainment).ti,ab. (367188)
40. teaching materials/ (6149)
41. (teach* adj2 material*).ti,ab. (924)
42. Social Media/ (2854)
43. Capacity Building/ (1303)
44. (capacity adj2 build*).ti,ab. (4139)
45. Community Health Aides/ (3861)
46. Home Health Aides/ (552)
47. Allied Health Personnel/ (10597)
48. Voluntary Workers/ (8351)
49. ((lay or voluntary or volunteer? or untrained or unlicensed or nonprofessional? or non professional?) adj5 (worker? or visitor? or attendant? or aide or aides or support$ or person$ or helper? or carer? or caregiver? or care giver? or consultant? or assistant? or staff or visit$ or midwife or midwives) adj3 (information or outreach or train* or educat* or capacity building)).ti,ab. (720)
50. ((paraprofessional? or paramedic or paramedics or paramedical worker? or paramedical personnel or allied health personnel or allied health worker? or support worker? or home health aide?) adj3 (information or outreach or train* or educat* or capacity building)).ti,ab. (880)
51. (trained adj3 (volunteer? or health worker? or mother?)).ti,ab. (1400)
52. ((community or village?) adj3 (health worker? or health care worker? or healthcare worker?)).ti,ab. (3364)
53. (community adj3 (volunteer? or aide or aides or support)).ti,ab. (5402)
54. ((birth or childbirth or labor or labour) adj (attendant? or assistant?)).ti,ab. (1768)

55. (peer adj (volunteer? or counsel$ or support or intervention? or educator*)).ti,ab. (3293)
56. (outreach or (home adj (care or aide or aides or nursing or support or intervention? or treatment? or visit$)) or ((care or aide or aides or nursing or support or intervention? or treatment? or visit$) adj3 (lay or volunteer? or voluntary))).ti,ab. (36852)
57. Consumer Advocacy/ (3159)
58. ((consumer* or patient* or communit*) adj2 advoca*).ti,ab. (3694)
59. social responsibility/ or moral obligations/ (21720)
60. ((communit* or social) adj2 (monitor* or particip* or empower* or control* or develop* or governanc* or superv* or «report* card*» or audit* or (informat* adj3 campaign*) or scorecard* or «score card*» or accountab* or watchdog* or democrati* or «people power» or responsibility or obligation*)).ti,ab. (32818)
61. Healthcare Financing/ (302)
62. ((financial or cash or pay$ or monetary or money) adj3 (transfer$ or measure$ or incentive$ or reward* or allowance$ or exclu$ or reform$ or gain$ or credit$1 or benefit$1)).ti,ab. (12288)
63. (((health* or medical) adj2 (financ* or budget* or cost* or insur*)) or ((social or community) adj3 (insurance? or financ$))).ti,ab. (76716)
64. Insurance, Health/ (31419)
65. Maternal-Child Health Centres/ (2274)
66. ((maternal or maternity or mother*) adj2 (waiting home* or birth* home*)).ti,ab. (41)
67. ((communit* or village* or rural) adj2 transport*).ti,ab. (182)
68. or/5-67 (1638720)
69. ((match* adj3 (propensity or coarsened or covariate)) or «propensity score» or («difference in difference*» or «difference-in-difference*» or «differences in difference*» or «differences-in-difference*» or «double difference*») or («quasi-experimental» or «quasi experimental» or «quasi-experiment» or «quasi experiment») or ((estimator or counterfactual) and evaluation*) or («instrumental variable*» or (IV adj2 (estimation or approach))) or «regression discontinuity»).ti,ab,kw. (20023)
70. (((experiment or experimental) adj2 (design or study or research or evaluation or evidence)) or (random* adj4 (trial or assignment or treatment or control or intervention* or allocat*))).ti,ab,kw. (335510)
71. Randomized Controlled Trial/ or Randomized Controlled Trials as Topic/ or random allocation/ or Propensity Score/ or Models, Econometric/ or Quasi-Experimental Studies/ (604293)
72. Program Evaluation/ or Evaluation Studies/ (266259)
73. ((impact adj2 (evaluat* or assess* or analy* or estimat* or measure)) or (effectiveness adj2 (evaluat* or assess* or analy* or estimat* or measure))).ti,ab,kw. (113059)
74. («program* evaluation» or «project evaluation» or «evaluation research» or «natural experiment*» or «program* effectiveness»).ti,ab,kw. (9122)
75. meta analysis/ (71057)

76. ((systematic* adj2 review*) or «meta-analy*» or «meta analy*»).ti,ab,kw. (155565)
77. or/69-76 (1254820)
78. Developing Countries.sh,kf. (77224)
79. Africa/ or Asia/ or Caribbean/ or West Indies/ or South America/ or Latin America/ or Central America/ (66295)
80. (Africa or Asia or Caribbean or West Indies or South America or Latin America or Central America).tw. (136466)
81. (Afghanistan or Albania or Algeria or Angola or Argentina or Armenia or Armenian or Azerbaijan or Bangladesh or Benin or Byelarus or Byelorussian or Belarus or Belorussian or Belorussia or Belize or Bhutan or Bolivia or Bosnia or Herzegovina or Hercegovina or Botswana or Brazil or Bulgaria or Burkina Faso or Burkina Fasso or Upper Volta or Burundi or Urundi or Cambodia or Khmer Republic or Kampuchea or Cameroon or Cameroons or Cameron or Camerons or Cape Verde or Central African Republic or Chad or China or Colombia or Comoros or Comoro Islands or Comores or Mayotte or Congo or Zaire or Costa Rica or Cote d'Ivoire or Ivory Coast or Cuba or Djibouti or French Somaliland or Dominica or Dominican Republic or East Timor or East Timur or Timor Leste or Ecuador or Egypt or United Arab Republic or El Salvador or Eritrea or Ethiopia or Fiji or Gabon or Gabonese Republic or Gambia or Gaza or Georgia Republic or Georgian Republic or Ghana or Grenada or Guatemala or Guinea or Guiana or Guyana or Haiti or Honduras or India or Maldives or Indonesia or Iran or Iraq or Jamaica or Jordan or Kazakhstan or Kazakh or Kenya or Kiribati or Korea or Kosovo or Kyrgyzstan or Kirghizia or Kyrgyz Republic or Kirghiz or Kirgizstan or Lao PDR or Laos or Lebanon or Lesotho or Basutoland or Liberia or Libya or Macedonia or Madagascar or Malagasy Republic or Malaysia or Malaya or Malay or Sabah or Sarawak or Malawi or Mali or Marshall Islands or Mauritania or Mauritius or Agalega Islands or Mexico or Micronesia or Middle East or Moldova or Moldovia or Moldovian or Mongolia or Montenegro or Morocco or Ifni or Mozambique or Myanmar or Myanma or Burma or Namibia or Nepal or Netherlands Antilles or Nicaragua or Niger or Nigeria or Muscat or Pakistan or Palau or Palestine or Panama or Paraguay or Peru or Philippines or Philipines or Phillipines or Phillippines or Papua New Guinea or Romania or Rumania or Roumania or Rwanda or Ruanda or Saint Lucia or St Lucia or Saint Vincent or St Vincent or Grenadines or Samoa or Samoan Islands or Navigator Island or Navigator Islands or Sao Tome or Senegal or Serbia or Montenegro or Seychelles or Sierra Leone or Sri Lanka or Solomon Islands or Somalia or Sudan or Suriname or Surinam or Swaziland or South Africa or Syria or Tajikistan or Tadzhikistan or Tadjikistan or Tadzhik or Tanzania or Thailand or Togo or Togolese Republic or Tonga or Tunisia or Turkey or Turkmenistan or Turkmen or Uganda or Ukraine or Uzbekistan or Uzbek or Vanuatu or New Hebrides or Venezuela or Vietnam or Viet Nam or West Bank or Yemen or Zambia or Zimbabwe).tw. (767010)
82. exp africa/ or exp africa, northern/ or algeria/ or egypt/ or libya/ or morocco/ or tunisia/ or exp «africa south of the sahara»/ or africa, central/ or cameroon/ or central african republic/ or chad/ or congo/ or «democratic republic of the congo»/ or equatorial guinea/ or gabon/ or africa, eastern/ or burundi/ or djibouti/ or eritrea/ or ethiopia/ or kenya/ or rwanda/ or somalia/ or south sudan/ or sudan/ or tanzania/ or uganda/ or africa, southern/ or angola/ or botswana/ or lesotho/ or malawi/ or mozambique/ or namibia/ or south

africa/ or swaziland/ or zambia/ or zimbabwe/ or africa, western/ or benin/ or burkina faso/ or cape verde/ or cote d'ivoire/ or gambia/ or ghana/ or guinea/ or guinea-bissau/ or liberia/ or mali/ or mauritania/ or niger/ or nigeria/ or senegal/ or sierra leone/ or togo/ or americas/ or exp caribbean region/ or exp west indies/ or exp central america/ or belize/ or costa rica/ or el salvador/ or guatemala/ or honduras/ or nicaragua/ or panama/ or panama canal zone/ or latin america/ or mexico/ or exp south america/ or argentina/ or bolivia/ or brazil/ or chile/ or colombia/ or ecuador/ or french guiana/ or guyana/ or paraguay/ or peru/ or suriname/ or uruguay/ or venezuela/ or asia/ or asia, central/ or kazakhstan/ or kyrgyzstan/ or tajikistan/ or turkmenistan/ or uzbekistan/ or exp asia, southeastern/ or borneo/ or brunei/ or cambodia/ or timor-leste/ or indonesia/ or laos/ or malaysia/ or mekong valley/ or myanmar/ or philippines/ or singapore/ or thailand/ or vietnam/ or asia, western/ or bangladesh/ or bhutan/ or india/ or sikkim/ or middle east/ or afghanistan/ or bahrain/ or iran/ or iraq/ or israel/ or jordan/ or kuwait/ or lebanon/ or oman/ or qatar/ or saudi arabia/ or syria/ or turkey/ or united arab emirates/ or yemen/ or nepal/ or pakistan/ or sri lanka/ or far east/ or china/ or beijing/ or macau/ or tibet/ or korea/ or mongolia/ or taiwan/ or indian ocean islands/ or comoros/ or madagascar/ or mauritius/ or reunion/ or seychelles/ or pacific islands/ or exp melanesia/ or exp micronesia/ or polynesia/ or pitcairn island/ or exp samoa/ or tonga/ or prince edward island/ or west indies/ or «antigua and barbuda»/ or bahamas/ or barbados/ or cuba/ or dominica/ or dominican republic/ or grenada/ or guadeloupe/ or haiti/ or jamaica/ or martinique/ or netherlands antilles/ or puerto rico/ or «saint kitts and nevis»/ or saint lucia/ or «saint vincent and the grenadines»/ or «trinidad and tobago»/ or united states virgin islands/ or oceania/ (863952)

83. ((developing or less* developed or under developed or underdeveloped or middle income or low* income or underserved or under served or deprived or poor*) adj (countr* or nation? or population? or world or state*)).ti,ab. (70868)
84. ((developing or less* developed or under developed or underdeveloped or middle income or low* income) adj (economy or economies or population*)).ti,ab. (1685)
85. (low* adj (gdp or gnp or gross domestic or gross national)).tw. (186)
86. (low adj3 middle adj3 countr*).tw. (6495)
87. (lmic or lmics or third world or lami countr*).tw. (4229)
88. transitional countr*.tw. (125)
89. or/78-88 (1286167)
90. 4 and 68 and 77 and 89 (9916)
91. limit 90 to yr=»2000-Current» (7551)

Screening and data extraction

Screening

Manual screening and text mining were used to assess studies for inclusion at the title and abstract stage. To ensure consistent application of screening criteria all screeners assessed the same sample of 100 abstracts. Any discrepancies were discussed within the team and inclusion criteria were clarified as necessary. When all screeners had been trained, a random sample of 1000 abstracts was screened as a quality control exercise.

An initial set of 2825 records was screened to permit text-mining training, permitting prioritiation of studies according to relevance. Text- mining technology was used through Eppi-Reviewer 4 to prioritize studies for screening based on relevance. One researcher screened each title/ abstract.

Due to time and resource constraints, full text papers were not screened independently by two people. But to minimize bias and human error a sample of studies was double-screened. Following this, any study where the first screener was uncertain about inclusion/ exclusion was allocated to screening by a second person. Finally, all studies identified for inclusion were screened by a second person before being included to the evidence map.

Data extraction

A data extraction form was used to extract metadata from all studies meeting the inclusion criteria. Data extracted included bibliographic details, intervention type, outcome type and definition, study design, geographical location and intervention scale.

The data extraction form was tested on a small subset of studies by everyone in the research team to ensure consistency in coding and to resolve any issues or ambiguities. Data extraction was then completed by a single coder, with the majority of data reviewed by a second coder.

In addition the following coding rules were applied:

a) RMNCH area was coded by looking at the effect of the intervention and not who the intervention was targeting. For example, interventions related to breastfeeding were coded as maternal, newborn and child. Where relevant, these have been coded to only newborn and/or child (effect of intervention), and not maternal (target of the intervention).

b) Several studies which included WASH or cookstove interventions targeted the household level, such as household uptake of latrines, hand washing etc. These studies were initially coded as maternal, newborn and child, but were coded as child. WASH colleagues in the expert group were consulted and agreed with this option, as many water and sanitation interventions are primarily evaluated by assessing the benefits for young children.

c) To avoid multiple coding of interventions, the categorization of interventions was revised to yield single interventions, as well as'packages' of interventions. If a studylooked at the effect of more than one intervention, e.g. interpersonal communication (IPC) and mass mediavs a control group, the study would show only once in the evidence map, that is under the package '(IPC) and mass media'. If the study had an additional arm, such as (IPC) and mass media vs mass media alone, vs control group, the study would show in the package '(IPC) and mass media' as well as in the category of 'mass media'. Not all interventions fit neatly into the categories, but they were placed where they fitted best.

d) Intervention categories were reviewed to make the distinction between some of the categories clearer and to split very broad intervention categories into more useful and descriptive categories. For example, community participation and social accountability;interpersonal communication and education conducted in groups and community mobilization; and provider SBCE training and SBCE service delivery adjustments. Some intervention categories were also merged when the expert group suggested there was too much overlap distinction was made between interpersonal communication and education conducted as home visits, one-on-one in a facility and interpersonal communication and education conducted in groups. A distinctionwas also made between community mobilization, which is a process of motivating collective action, and the intervention 'group interpersonal communication and education' whichincludes group discussions for health education and information sharing only.

e) Systematic reviews were coded by their 'intent', i.e. what the systematic review intended to look for, rather than their findings. For example, if the intent was to search for effects of home visits on maternal, newborn and child health, the systematic review was coded as M,N,C (health area) and home visits (intervention), regardless of whether the systematic review identified studies for these areas.

When the systematic review intent was not clear and the intervention description was very broad (e.g. interventions to improve child survival) we looked at the studies identified in the systematic review and coded the interventions accordingly.

Equity-coding

Data was extracted on the extent to which the included studies addressed vulnerable groups either because they may have less access to services or because programme benefits may be differently distributed. The PROGRESS-Plus framework was used to identify the relevant groups we drew on.

The following groups were considered:

- Place of residence: location of household e.g. distance from health facility; distinctions such as living in more remote areas.
- Ethnicity, culture and language: Any targeting or sub-group analysis, including for instance ethnic minority communities living in rural/remote areas.
- Gender: any studies undertaking a gender analysis, such as decision-making between men and women in the household; female/male participation on health committees.
- Socioeconomic status: this may be measured in different ways, including grouping results by income level, defining people as poor etc.
- Other vulnerable group: Open category, to be used iteratively to record details of any vulnerable groups identified a-priori.

It was planned that age disaggregation be captured in the coding. However, given that the evidence map addressed multiple health areas, i.e. reproductive, maternal, newborn and child, it was deemed that differentiating by age would not be useful. In addition, adolescent health has already been captured in a separate evidence map.

Studies were coded according to whether they:

- Assess a programme targeting a specific group considered vulnerable;
- Assess a programme aiming to reduce inequity or inequality;

Use a subgroup analysis to assess the effects on different groups. If a subgroup analysis was conducted, we assessed whether the sample size was sufficiently large for such an analysis.

Annex 4. Results for individual health areas

Reproductive health

Note to the Reader: *Each study was coded for all the health areas, health topics and outcomes addressed. However, when coding, each study was only coded for one intervention (either a single intervention or a package). For example a study on the promotion of birth spacing may also address care during pregnancy or newborn health. Thus, some interventions and outcomes listed for reproductive health may not seem directly relevant.*

An interactive platform that visually presents the findings for Reproductive Health can be found at this link: http://gapmaps.3ieimpact.org/evidence-maps/social-behavioural-and-community-engagement-interventions-reproductive-health

Characteristics and trends of the evidence base for impact evaluations

The search identified 50 impact evaluations, including four multiple-arm trials[8], targeting reproductive health, specifically healthy timing and spacing of pregnancy. Studies around the healthy timing and spacing of pregnancy were combined with other health topics (n=50), the most frequent being care during pregnancy, childbirth and after childbirth and immunizations. This probably reflects the focus on addressing post-partum family planning and integrated postnatal care for mothers and newborns

Distribution of studies across interventions

Figure 16 presents the distribution of impact evaluations[9] by the 18 SBCE interventions (singular interventions and packages of SBCE interventions), disaggregated by whether the intervention also included a non-SBCE component. The intervention category with the highest numbers of single component interventions was interpersonal communication (IPC) and health education activities (n=17). In this category, home visits (n=7) was the intervention most frequently studied, followed by facility-based (n=7), followed by group approaches (n=3). Packages of mixed IPC approaches were similar (n=7). More than half of these IPC and health education interventions were conducted in conjunction with non-SBCE interventions. IPC was also delivered in packages with mass media interventions in four studies.

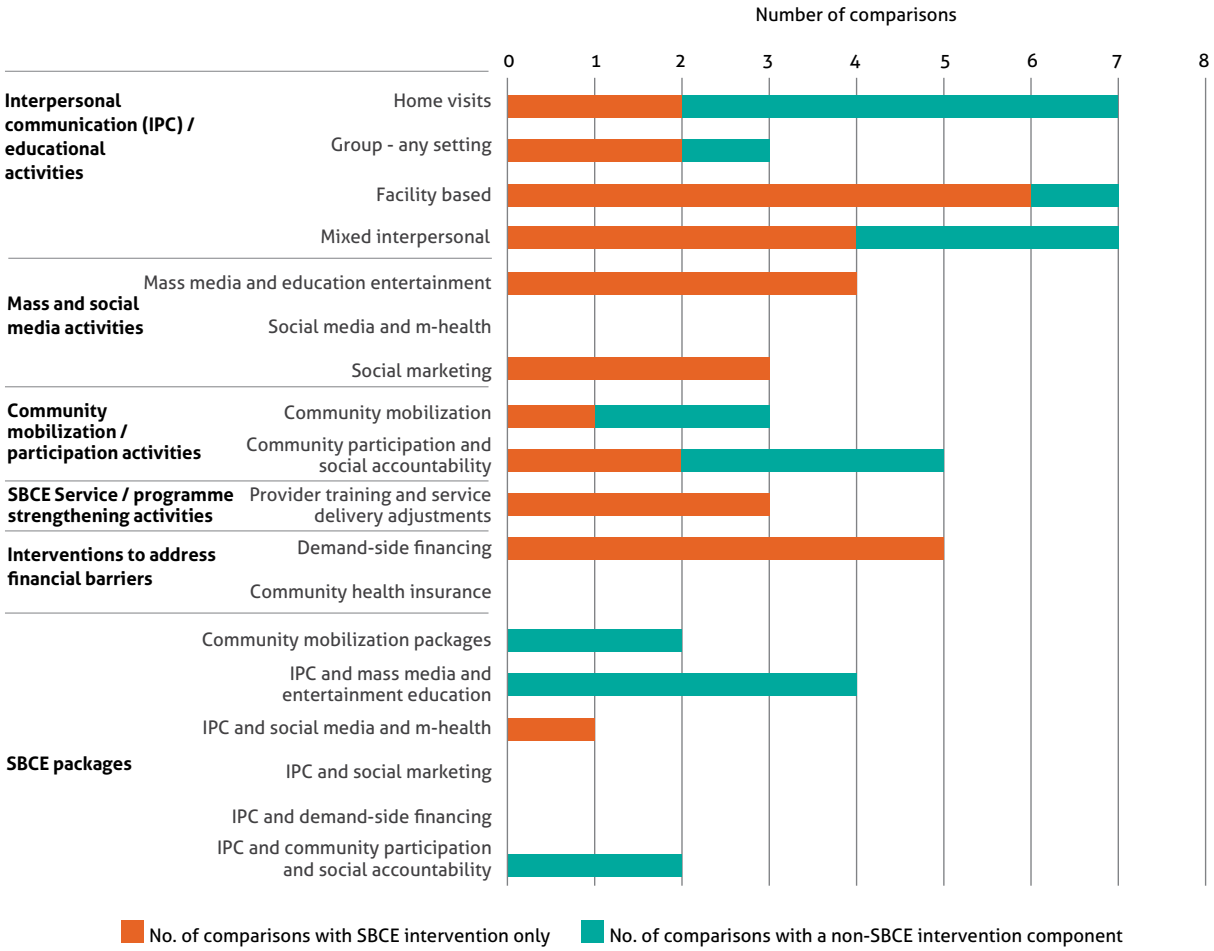
There were a small number of studies on community mobilization and community mobilization packages (n=5), demand-side financing (n=5), community participation in health service and programmes and social accountability (n=5) and mass media and entertainment education

8 Multi arm trials led to 56 unique comparisons being coded in the evidence map for interventions for healthy timing and spacing of pregnancy. Thus N=50 studies for all variable descriptions except for interventions where N=56.

9 For this section of the report, numbers refer to the number of comparisons, reflecting the inclusion of a number of multi arm trials testing different SBCE interventions. There are 56 comparisons.

(n=4). We identified no impact evaluations of social media and m-health interventions for reproductive health.

Figure 16 Reproductive health - Distribution of studies by intervention area



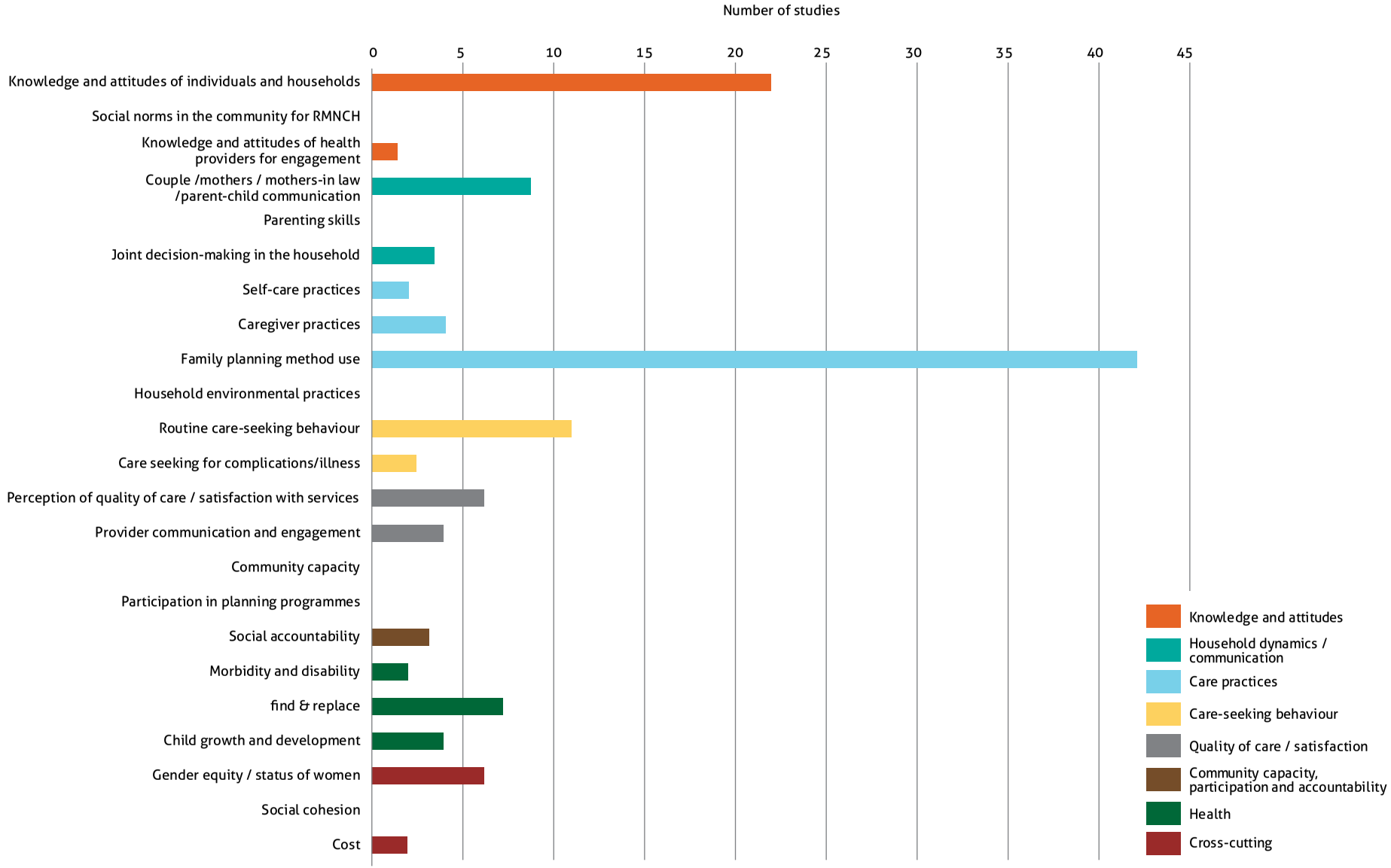
Note: Reflects studies/ comparisons for which each covers one intervention area

Outcomes assessed in included studies

The included studies assessed a range of outcomes (Figure 17). The most studied outcome was uptake of a family planning method (n=42). This was measured in various ways, including family planning method use, addressing unmet need for family planning and timing and spacing of pregnancy. Knowledge and attitudes of individuals and households was also frequently measured (n= 22). Nine studies measured household dynamics and communication, including couple communication, and three studies assessed joint-decision making in the household. Six studies included a measure of gender equity or the status of women.

None of the included studies measured social norms in the community. Three studies examined social accountability outcomes. In terms of quality of care / satisfaction with services, only six studies assessed individual and community satisfaction with quality of services and four studies measured provider communication and engagement skills. One study measured knowledge and attitudes of service providers for community engagement.

Figure 17 Reproductive health - Distribution of studies by outcomes



Geographical location

As with all the impact evaluations for RMNCH, most studies were performed in the WHO African Region (n=24), followed by South East Asia Region (n=12) and the Eastern Mediterranean Region (n=7). A few studies were identified from the Region of the Americas (n=5) and the Western Pacific Region (n=3) and only one study was performed in the European Region. In the African Region, most studies were performed in Uganda, Kenya and Ghana, with the remainder split across nine other countries.

Study types

The most common study designs used in the reproductive health area was a RCT (n=33). Of the 17 studies that used a quasi-experimental design, 10 studies used a difference-in-difference analysis or a statistical matching approach (n=9) to deal with selection bias and confounding. Two studies were mixed method evaluations, including a qualitative component.

Consideration of equity

An assessment was made of the extent to which the included studies for reproductive health considered equity in their assessment of the intervention or in the programme design. Just over half of the studies (n=27) considered equity. In the majority of these studies, the intervention targeted specific groups, especially those in particular places of residence (n=20), typically rural areas, or those of low socioeconomic status (n=9). Only two of the included studies targeted a specific group based on ethnicity, culture or language and only one based on religion. Just six of the reproductive health studies undertook subgroup analysis by any vulnerable group. One study assessed impact on an outcome measure of equity.

Ongoing impact evaluations

Six ongoing reproductive health impact studies were identified, including one multi-arm trial[10]. There are four evaluations of IPC and education activities, including mixed approaches (n=1), home visits (n=1) and facility-based IPC (n=1). Five of the identified ongoing reproductive studies are assessing impact on the use of family planning methods and routine care-seeking behaviour. A smaller number are assessing health outcomes like morbidity and disability (n=2), as well as couple / mothers / mothers-in law /parent-child communication (n=1), social accountability (n=1). Four are taking place in the African region (Uganda, Malawi, Burkina Faso, and a multi-arm trial in Zambia) and one each in India and Pakistan. All but the study in Pakistan are using RCT methods; the study in Pakistan will use a controlled before and after study approach using a difference-in differences analysis.

10 Given the multi-arm trials, 7 unique comparisons were therefore coded in the evidence map for Interventions for Healthy Timing and Spacing of Pregnancy. Thus n=6 studies for all variable descriptions except for interventions where n=7.

Characteristics and trends of the evidence base for systematic reviews

There were 28 systematic reviews and three ongoing reviews of interventions for healthy timing and spacing of pregnancy.

Distribution of reviews across interventions and outcomes

As in the impact evaluations for healthy timing and spacing and the systematic reviews for RMNCH, the largest intervention category in the systematic reviews was IPC and health education activities delivered as single interventions (n=24), packages of mixed IPC approaches (n=12) and packages of these approaches with other SBCE interventions (n=3). These were often assessed together with non-SBCE interventions. Another large category is demand-side financing interventions (n=12). There were 14 systematic reviews on the intervention category mass and social media, split fairly evenly across mass media and entertainment, education, social marketing and social media and m-health. There were very few studies of community participation in planning and programmes and social accountability and provider training and service delivery adjustments.

The outcome most often studied was uptake of family planning methods (n=18). Knowledge and attitudes of individuals and households (n=10) was also relatively frequently studied. Health outcomes such as morbidity and mortality were frequently assessed (n=19) whereas gender equity outcomes were rarely assessed (n=3) nor were social norms in the community (n=2).

Consideration of equity

Less than half of the systematic reviews considered equity, either by intervention / outcome inclusion criteria or by analysis method. Of these, nine of the reviews included interventions that targeted specific vulnerable groups.

Results of critical appraisal of systematic reviews

Each included systematic review was appraised for confidence in the methods and findings, based on a standardized checklist and, 57% of the identified systematic reviews were rated as low confidence, (n=16), which is considerably higher than the RMNCH of 40%. Only four of the 28 reviews were assessed as high confidence while eight were assessed as medium confidence.

Ongoing studies

Three ongoing systematic reviews on reproductive health topics were identified. Two of these reviews will include studies on the effectiveness of mixed interpersonal approaches for reproductive health and the other will include studies of provider training and service delivery adjustments. Two reviews are interested in routine care-seeking behaviour, and one of these is also interested in family planning method use. One of these reviews will focus on reproductive health in crisis settings.

Maternal health

An interactive platform that visually presents the findings for Maternal Health can be found at this link: http://gapmaps.3ieimpact.org/evidence-maps/social-behavioural-and-community-engagement-interventions-maternal-health

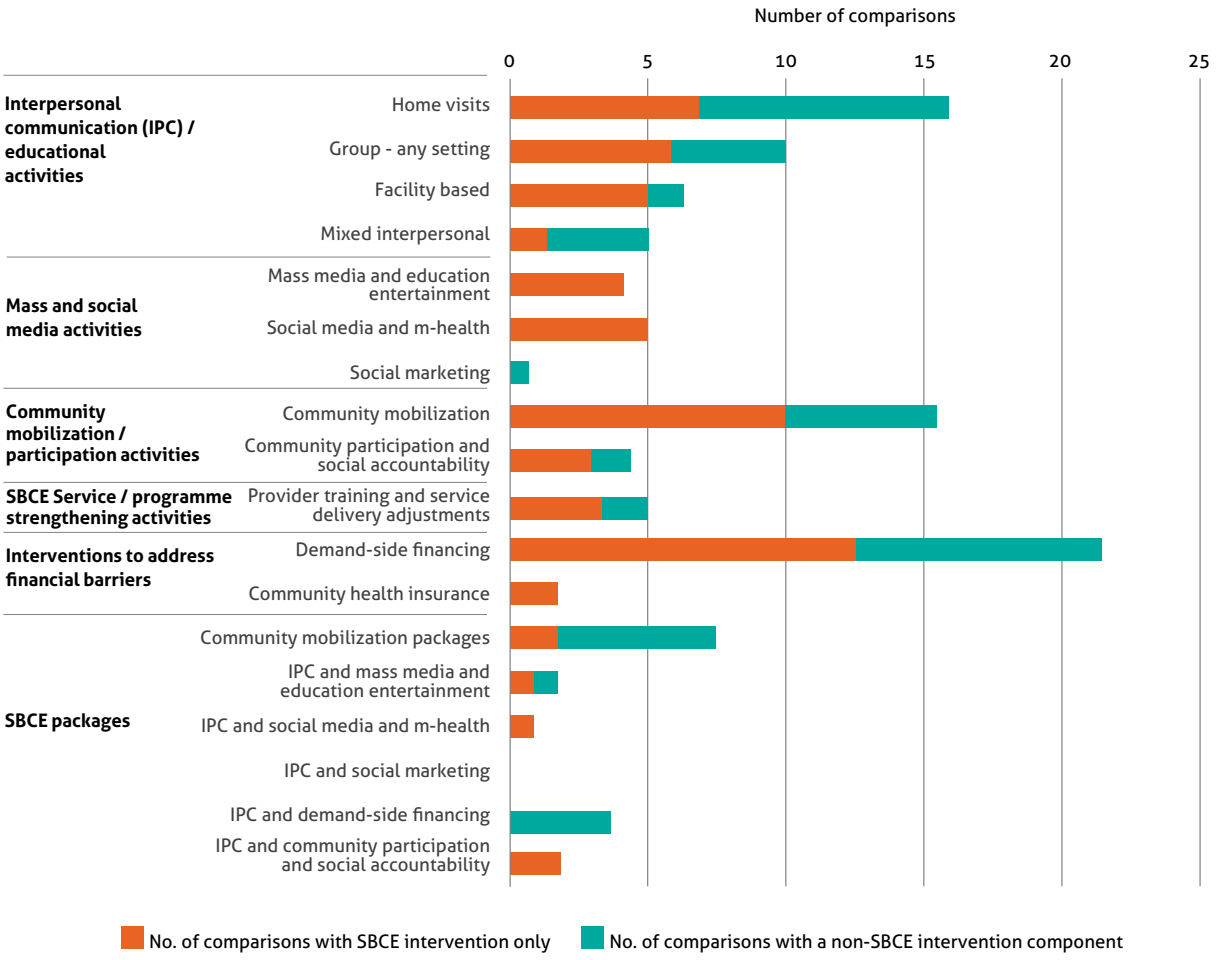
Characteristics and trends of the evidence base for impact evaluations

We identified 105 completed impact evaluations, including four multi-arm trials[11].

Most studies categorized as 'maternal health' address care during pregnancy, childbirth and after childbirth.

Distribution of studies across interventions

Figure 18 Maternal health - Distribution of studies by intervention area



Note: This graph reflects number of comparisons and not number of studies.

11 Due to the multi-arm trials there were 111 unique comparisons coded in the evidence map for maternal health. Thus n=105 studies for all variable descriptions except for interventions where n=111.

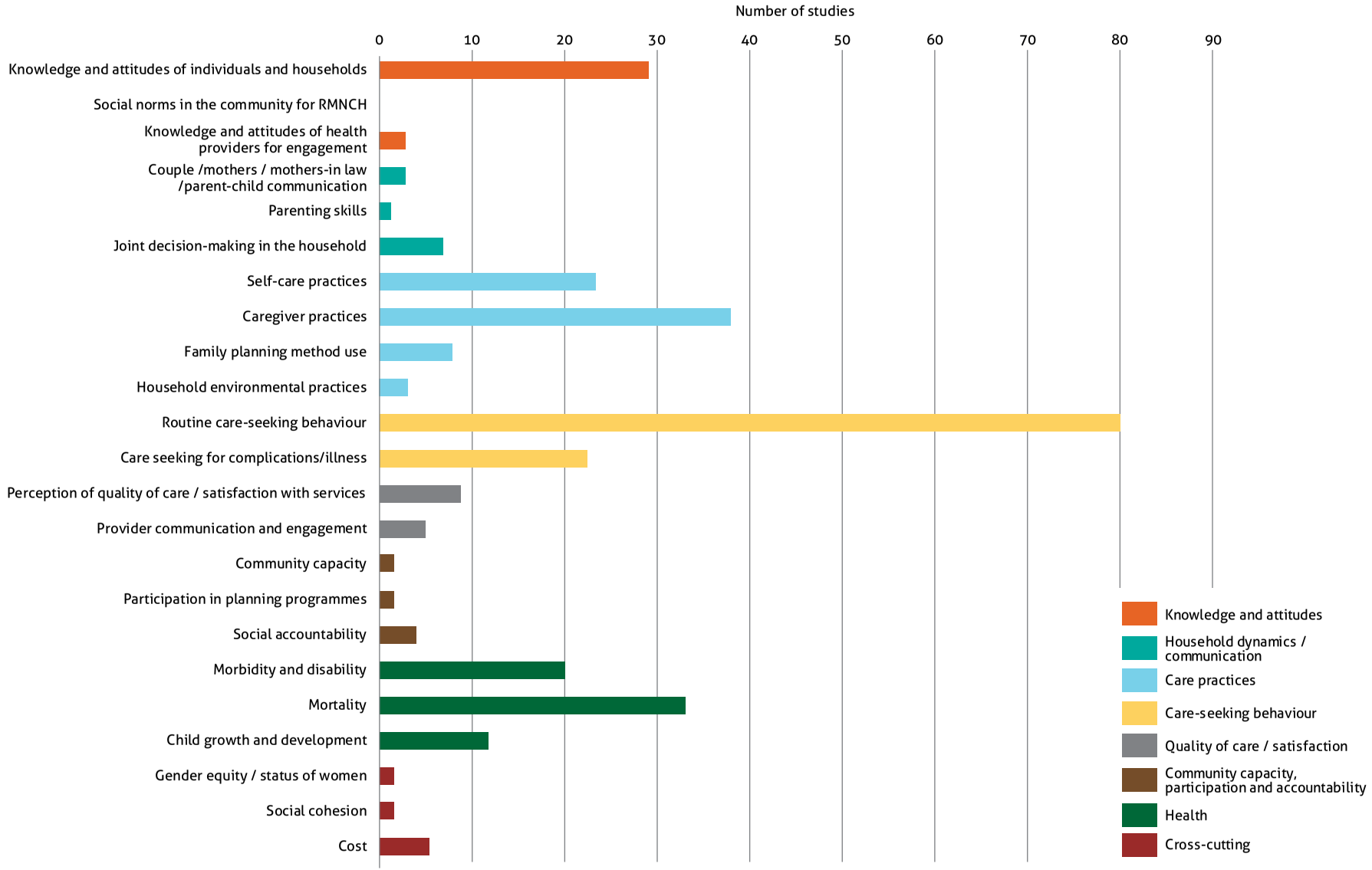
Programmes related to maternal health are often combined with interventions targeting other health areas. For example, many of the studies also related to infant feeding and nutrition (n=27), immunization (n=13) and care seeking for newborn and child illnesses (n=10 and 12, respectively), largely reflecting interventions with the pregnant woman or mother to affect newborn and child health as well.

Figure 18 displays SBCE interventions that were implemented as a singular intervention or package and those that include non-SBCE interventions. The interventions with the highest number of impact evaluations studied is IPC and health education activities, either delivered as single interventions (n=32), packages of mixed IPC approaches (n=5) and packages of these approaches with other SBCE interventions (n=8). Demand-side financing (n=24) was also frequently studied alone or as part of a package, as was community mobilization interventions (n=21). Four mass media and education entertainment interventions and five social media and m-health interventions were identified. There were only two package interventions containing mass media or education entertainment. The communication and health education interventions, particularly home visits, demand-side financing interventions and community mobilization interventions were those interventions that were most often implemented with non-SBCE components.

Outcomes assessed in included studies

Maternal health interventions can have an impact on a wide range of outcomes for both a woman's health as well as that of the newborn, child and household. Figure 19 presents the distribution of studies by outcomes assessed. The majority of outcomes studied were related to care seeking, care practices or health (morbidity and mortality outcomes). Of the 66 studies that looked at health outcomes, only 20 measured maternal morbidity or disability. Of the 33 maternal health studies that measured mortality, only 13 of these assessed maternal mortality, with the rest measuring either neonatal or child mortality. This may be due to difficulty measuring maternal mortality, or may reflect a group of studies assessing the impact of interventions during pregnancy on the health of the newborn and/or child.

Figure 19 Maternal health - Distribution of studies by outcomes



There is a paucity of studies measuring outcomes related to gender equity or strengthening supportive environments. Only three studies looked at joint decision-making in the household and three looked at household communication in terms of communication between couples, mothers and mothers-in law or between the parent and child. Only one study looked at gender equity/status of women. In terms of larger social norms or community capacity, only five studies measured outcomes related to community capacity, participation and accountability. No study measured outcomes related to social norms. This may reflect a tendency to focus on measurements of individual behaviour change, or less interest in measuring social outcomes that can be more difficult to quantify. Nine studies measured satisfaction with services or perceptions of quality.

Geographical location

Most studies focused on regions where maternal mortality and morbidity are highest. There were 41 studies from the South East Asia Region and 38 from the African Region. There are few studies from the other WHO regions, including none from the European Region. Nearly 40% of the studies addressing maternal health were performed in just four countries: India, Bangladesh, Nepal and Uganda. Only four studies were performed in francophone African countries, including Benin and Burkina Faso.

Study types

The most frequent study design used was a RCT (n=70), with only one of those including a qualitative component. Thirty-six studies used difference-in- differences as the mode of analysis and 11 used some form of statistical matching.

Consideration of equity

Most maternal studies (n=70) consider equity in some way, either through interventions targeted to specific groups or through subgroup analysis. Subgroup analysis was usually done by place of residence (n=11), typically rural versus urban area, level of education (n=11) or socioeconomic status (n=11). Interventions that targeted social groups, usually targeted them based on place of residence (rural vs urban, n=57), or based on low socioeconomic status (n=24). Only four studies directly assessed the impact on an inequality outcome.

Ongoing impact evaluations

Four ongoing maternal health studies were identified, corresponding to five unique comparisons of interventions. Two of these ongoing maternal studies will evaluate a home visits programme. One will evaluate a community mobilization package and the other a facility-based IPC programme. All of the studies are RCTs. One of these is a multi-arm trial in Zimbabwe, and the others are being performed in Bangladesh, Nepal and Indonesia. These studies will evaluate a broad range of outcomes including routine care-seeking behaviour (n=4), child growth and development (n=2), community capacity (n=1) and knowledge and attitudes of health providers for community engagement (n=1).

Characteristics and trends of the evidence base for systematic reviews

Sixty completed systematic reviews related to maternal health and six ongoing studies were identified.

Distribution of reviews across interventions and outcomes

In addition to addressing interventions related to care during pregnancy, childbirth and after childbirth (n=60), health topics covered by the systematic reviews of maternal health included interventions related to infant feeding and nutrition (n=19), care seeking for newborn illness (n=12) malaria (n=11) and immunizations (n=15).

Similar to the identified impact evaluations, the intervention area most frequently studied in the systematic reviews is IPC and health education activities, either delivered as single interventions (n=44), packages of mixed IPC approaches (n=26) and packages of these approaches with other SBCE interventions (n=5). Community mobilization interventions were also frequently studied, either alone, or as part of a package. (n=28). Less-studied intervention areas include provider training and service delivery adjustments (n=7) and demand-side financing (n=5).

The outcomes studied most often in the systematic reviews of maternal health were care practices (n=44) and care-seeking behaviours (n=60) as well as health outcomes (mortality and morbidity – n=74). As with the impact evaluations, household communication and dynamics, perceptions of quality, provider engagement and skills and social accountability were less predominant in the outcomes.

Consideration of equity in the systematic reviews

Equity was considered in 33% of the systematic reviews (n=21)–either through inclusion criteria or in the analysis. Twelve reviews explicitly included interventions designed to target specific groups, while five did subgroup analysis by a vulnerable group.

Results of critical appraisal of systematic reviews

In the area of maternal health, 45% of the systematic reviews (n=27) were assessed as lower confidence. The remaining reviews were assessed as having largely medium (n=16) or high (n=17) confidence in the findings of the review.

Ongoing studies

Six ongoing systematic reviews on maternal health topics were identified. These cover a range of intervention areas including social media and m-health (n=2), provider training and service delivery adjustments (n=1), community-based health insurance (n=1) and mixed IPC approaches (n=1). Two will look specifically at SBCE packages, one looking at IPC and demand-side financing and the other at IPC and social media and m-health. The reviews will also cover a diverse range of outcomes such as routine care-seeking behaviour (n=4), morbidity and disability (n=4), mortality (n=3). One study on social media and m-health will also look at cost-effectiveness. Finally, one of the reviews will consider maternal health in crisis settings.

Newborn health

An interactive platform that visually presents the findings for Newborn Health can be found at this link: http://gapmaps.3ieimpact.org/evidence-maps/social-behavioural-and-community-engagement-interventions-newborn-health

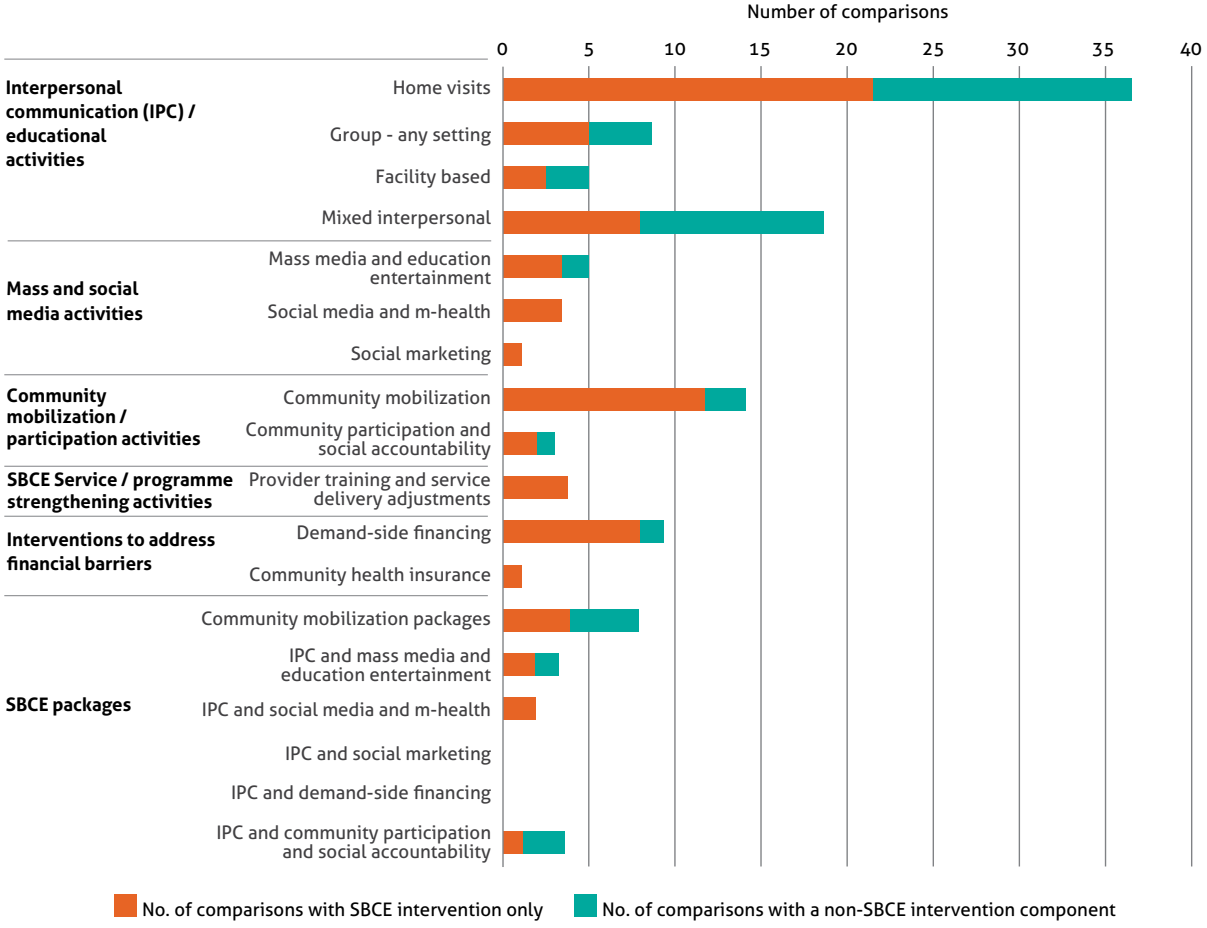
Characteristics and trends of the evidence base for impact evaluations

One hundred and fourteen completed studies, including four multi-arm trials[12], of interventions in the area of newborn health were identified.

Most studies categorized under the newborn health area address care during pregnancy, childbirth and after birth (n=72) and infant feeding and nutrition (n=65)–often early initiation of breastfeeding and exclusive breastfeeding–followed by care seeking for newborn Illness (n=20). A smaller number of studies targeted immunizations (n=11), malaria (n=6), diarrhoea (n=9) and pneumonia (n=5). Only one study looked at early child development.

Distribution of studies across interventions

Figure 20 Newborn health - Distribution of studies by intervention area



Note: This graph reflects number of comparisons and not number of studies

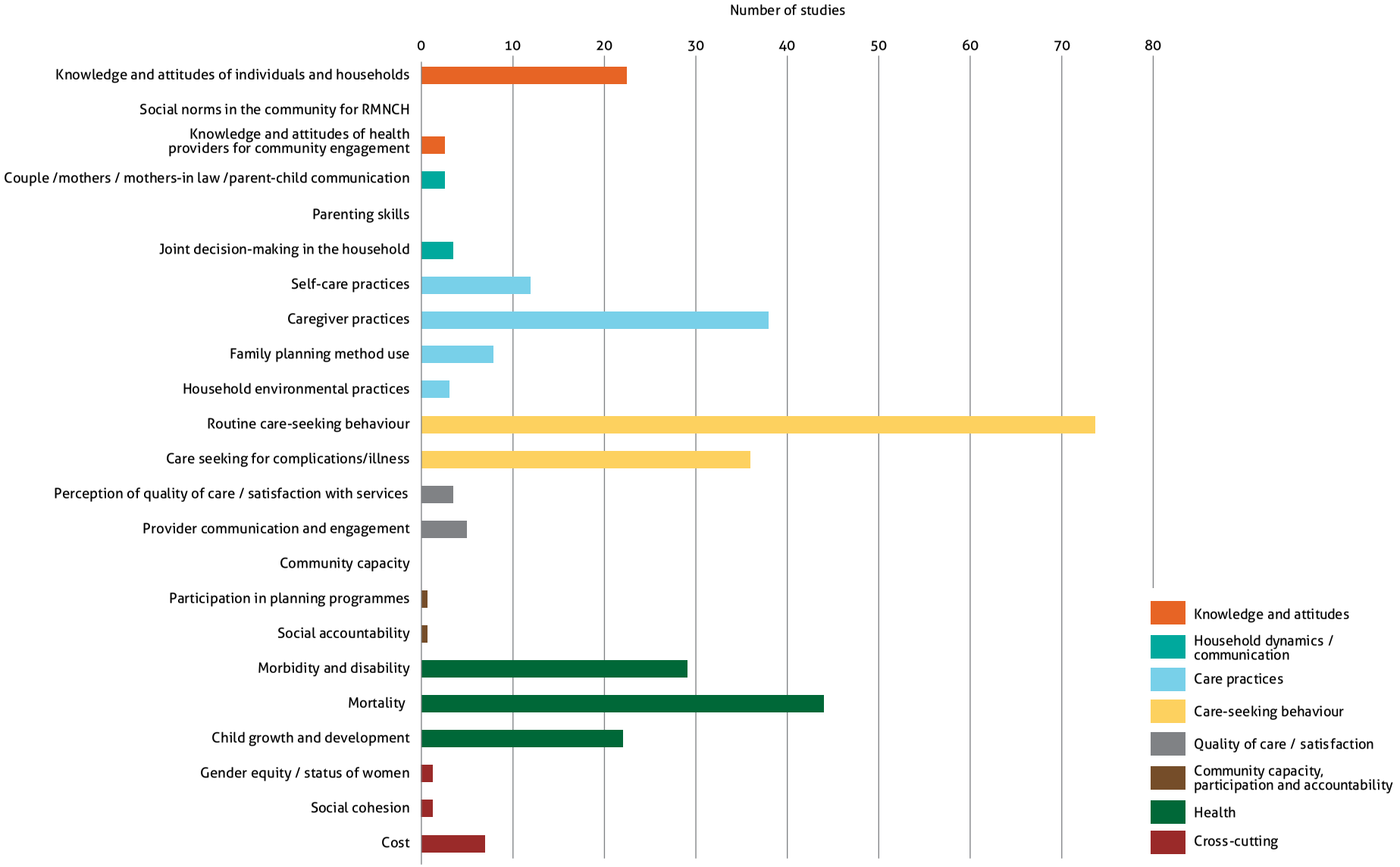
12 Given the multi arm trials, there were therefore 121 unique comparisons coded in the evidence map for newborn health. Thus n=115 tudies for all variable descriptions except for interventions where n=121.

Figure 20 presents the distribution of interventions studied in newborn health, disaggregated by whether the intervention also included a non-SBCE component. As in other health areas, the largest number of newborn health studies were studies of IPC and educational activities, either delivered as single interventions (n=49), packages of mixed IPC approaches (n=19) and packages of these approaches with other SBCE interventions (n=8). In this category, the intervention most frequently studied was home visits (n=36), 15 of which were delivered in combination with a non-SBCE intervention. Community mobilization interventions alone and in packages (n=20) were also frequently studied. The other intervention categories were less studied for newborn health. Only nine looked at demand-side financing, four studied mass media and education entertainment interventions and three looked at social media and m-health.

Outcomes assessed

Of the outcomes reported, caregiver practices (which includes early initiation of and exclusive breastfeeding) was the most commonly evaluated outcome in the newborn health studies (n=74). Routine care-seeking behaviour (n=49) and health-related outcomes (including newborn mortality (n=44), morbidity and disability (n=29), child growth and development (n=23), and care seeking for complications and illness (n=24)) were recorded in a relatively large proportion of the studies.

Figure 21 Newborn health - Distribution of studies by outcomes



A small number of studies assessed outcomes in the area of household dynamics and communication, quality of care and satisfaction with services, community participation and accountability. Seven studies included information on programme costs. There were no studies included that measured parenting skills, social norms in the community or community capacity.

Geographical distribution

There were 48 studies from the South East Asia Region, followed by 35 from the African Region and 12 from the Eastern Mediterranean Region. Fewer studies were found in the Region of the Americas (n=10) and the Western Pacific Region (n=7). Only two studies were conducted in the European Region.

Study types

Most newborn health studies included employed a randomized controlled trial study design (n=99) with the remainder having a quasi-experimental design. Of those studies using a quasi-experimental design, most used a difference-in-difference approach (n=14), with three studies using some sort of statistical matching. Two studies included a qualitative component and were classified as mixed-methods.

Consideration of equity

A number of the identified studies considered equity in more than one way. More than half of the studies assessed an intervention targeting a specific group, typically populations living in rural areas (n=50), or populations of low socioeconomic status (n=18). A few interventions also adopted targeting strategies by education (n=6), ethnicity, culture and language (n=5), and by religion (n=2).

In addition, ten studies conducted subgroup analysis for one or more vulnerable groups such as education (n=7) or socioeconomic status (n=6). Three studies undertook subgroup analysis by place of residence, ethnicity, culture and language, gender and other vulnerable groups.

Finally, 13 studies assessed the impact of the intervention on an outcome measure of inequity.

Characteristics and trends of the evidence base for systematic reviews

There were 51 completed and three ongoing systematic reviews of newborn health interventions.

Distribution of reviews across interventions and outcomes

Most of the reviews looked at interventions related to care during pregnancy, childbirth and after childbirth (n=38); 29 looked at infant feeding and nutrition. Fourteen reviews were concerned specifically with care seeking for newborn illness.

As with the newborn health impact evaluations, this health area is dominated by systematic reviews of IPC and health education interventions either delivered as single interventions (n=53), packages of mixed IPC (n=26) and packages of these approaches with other SBCE interventions (n= 3). For the single interventions, home visits were the intervention most frequently studied (n=26). Community mobilization approaches as either single interventions

(n=17) or as a package were also frequently studied (n=8), as were demand-side financing interventions (n=13). Social marketing approaches and mass media and entertainment education were less frequently studied.

Mortality is the most frequently studied outcome *(n=34)* followed by routine care seeking *(n=30)*, caregiver practices *(which includes breastfeeding) (n=25)*, child growth and development *(n=13)* and care seeking for complications or illness *(n=13)*.

Consideration of equity in the systematic reviews

Very few of the systematic reviews in newborn health areas considered equity, either by design of the review's inclusion criteria or by analysis (n=13). Of these reviews, eight looked at an intervention that targeted a specific vulnerable group, while four carried out subgroup analysis of results by group.

Results of critical appraisal of systematic reviews

Just under half of the systematic reviews (47%) were rated as being of low confidence in the findings based on the methodological approach.

Child health

An interactive platform that visually presents the findings for Child Health can be found at this link: http://gapmaps.3ieimpact.org/evidence-maps/social-behavioural-and-community-engagement-interventions-child-health

Characteristics and trends of the evidence base for impact evaluations

Child health is the health area most frequently studied across RMNCH, with 322 completed studies, including 21 multi-arm trials[13].

The majority of the child health studies were in infant/child feeding and nutrition health area (n=179), with 53 studies for WASH[14], followed by 34 for immunizations. Most other studies considered the common childhood illnesses including diarrhoea (n=29), pneumonia (n=22) and malaria (n=32). Care seeking for childhood illness was targeted in 28 studies.

Forty-nine studies involved early childhood development. These were mainly delivered through IPC interventions either alone (n=27) or as a package (n=14). These interventions were also commonly delivered through demand-side financing programmes (n=12). Child growth and development was the most commonly measured outcome for early childhood development (n=42), along with household environmental practices (n=15) and caregiver practices (n=9).

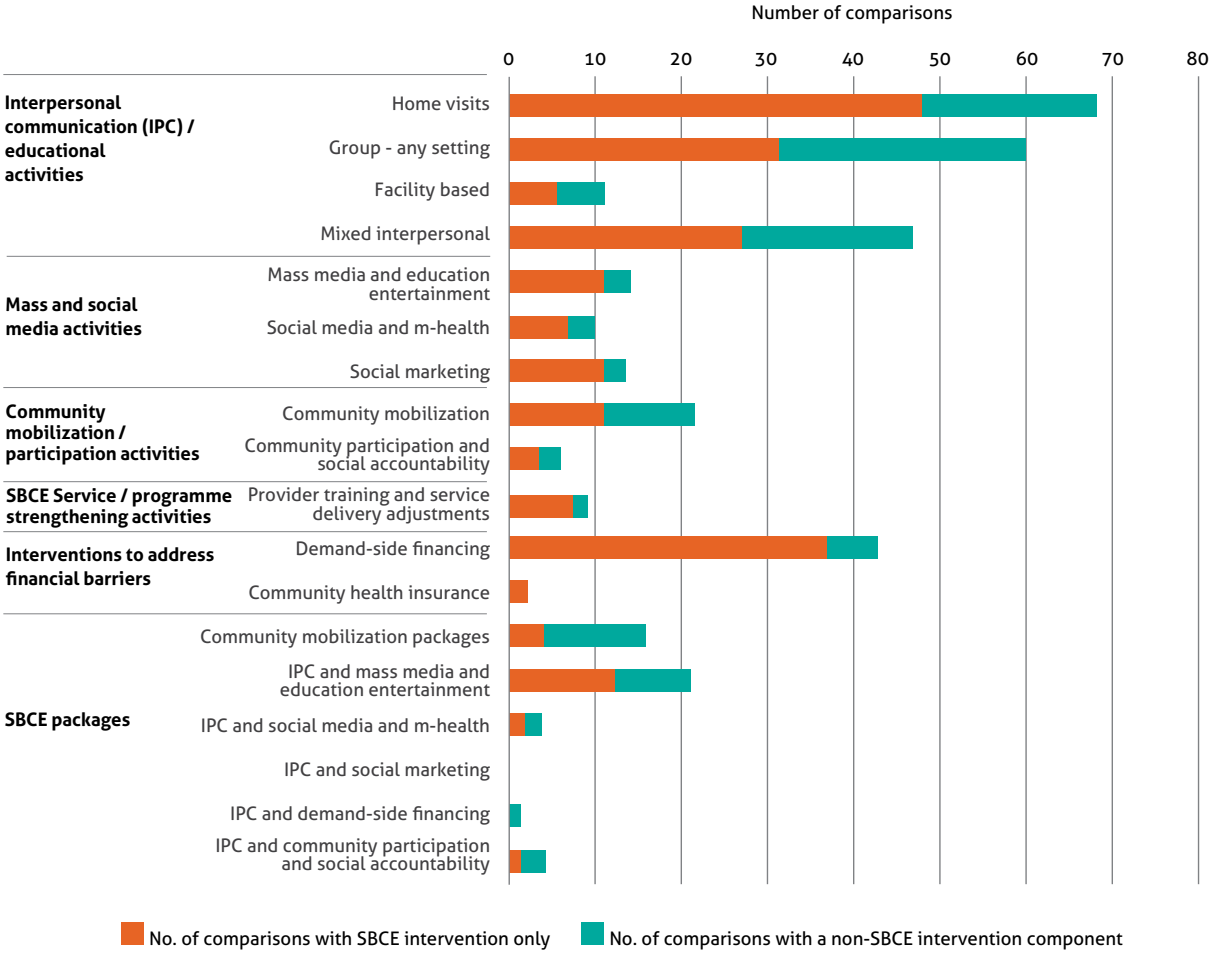
13 Multi-arm trials yielded 352 unique comparisons coded in the evidence map for child health. Thus n=320 studies for all variable descriptions except for interventions where n=349.

14 Note to the Reader: Several studies which included WASH or cookstove interventions targeted the household level, such as household uptake of latrines, hand washing etc. Rather than coding the study for maternal, newborn and child, these studieswere coded as child as many water and sanitation interventionsare primarily (or possibly only) evaluated by assessing the benefits for young children.

Distribution of studies across interventions

Figure 22 presents the distribution of studies by intervention area, disaggregated by whether the intervention also included a non-SBCE component. As with the other RMNCH health areas, IPC and health education interventions were the most frequently studied child health interventions delivered either as single interventions (n=141), packages of mixed IPC approaches (n=47) and packages of these approaches with other SBCE interventions (n=33). These are broken down into home visits (n=69), group IPC approaches (n=60) and facility-based IPC (n=12). Intervention packages combining interpersonal communication and mass media or education entertainment also appeared a large number of times (n=19). Demand-side financing, typically in the form of conditional cash transfer programmes, was also studied often (n=43), as were community mobilization interventions, delivered either on their own or as part of a package, (n=37).

Figure 22 Child health - Distribution of studies by interventions



There were relatively fewer studies of mass media and entertainment education interventions provided alone (n=10), and studies of social media and m-health programmes (n=10).

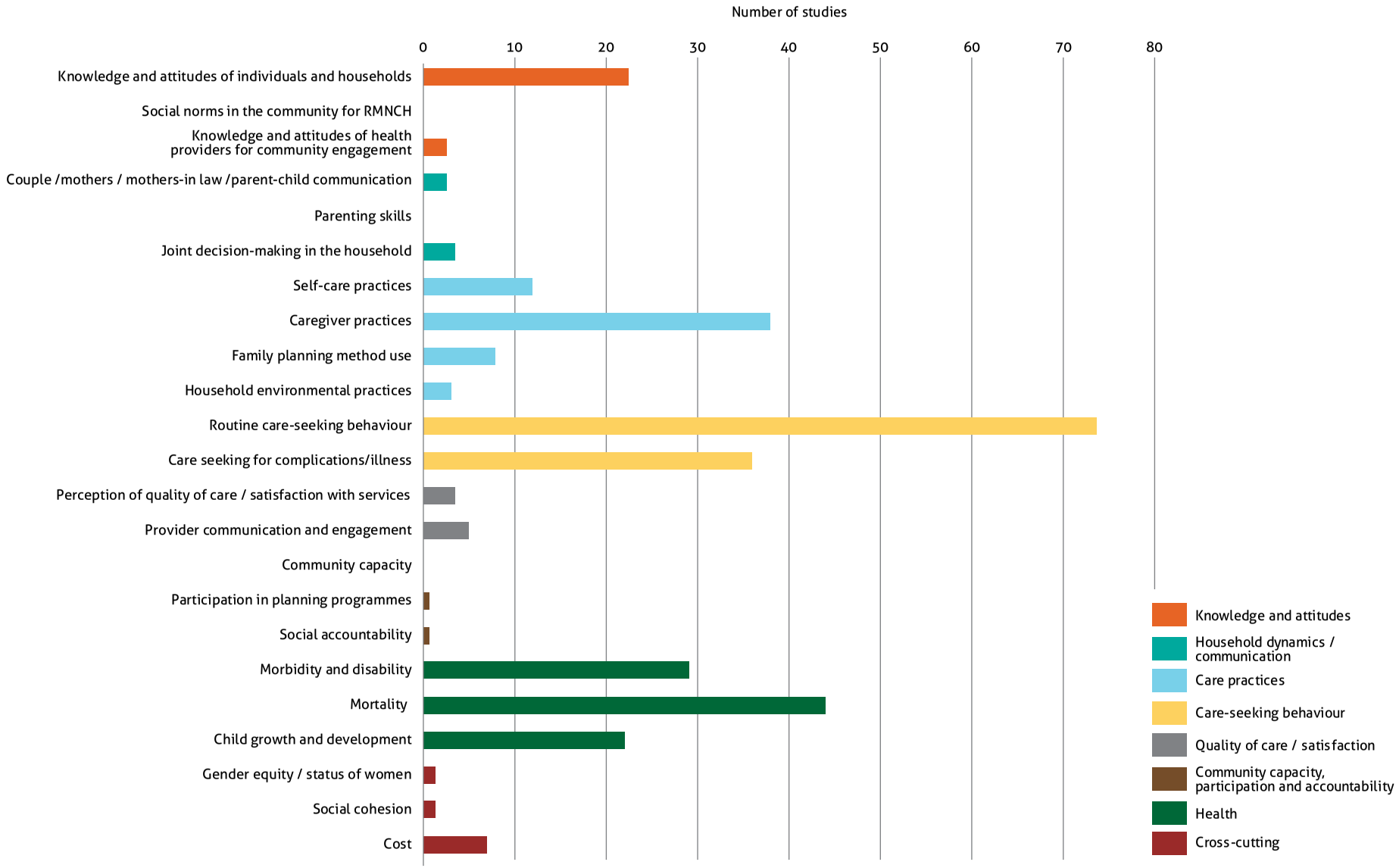
Outcomes assessed

Health outcomes and care practices were the two outcomes most commonly measured in the child health studies. Health outcomes can be broken down into morbidity and disability (n=82), mortality (n=26) and child growth and development (n=149).

Care practice outcomes were also frequently studied, including caregiver practices (n=143), and household environmental practices[15] (n=46). Self-care practices for the child were also frequently reported (n=30), usually dietary intake, physical activity and hand washing.

15 Reminder that studies which included WASH or cookstove interventions that targeted the household level, were coded as child asmany primarily (or possibly only) evaluated the benefits for children.

Figure 23 Child health outcomes



Geographical location

The regional distribution of studies for child health follows the overall pattern for the aggregated RMNC health areas. The majority of studies included were from the African Region (n=109) followed by the South East Asian Region (n=83) and the Region of the Americas (n=70). As for other health areas, a low number (n=6) were from the European Region.

Study types

Most of the child health studies were randomized controlled trials (n=254). The remaining 68 studies used a quasi-experimental study design with a comparison group and one or more analysis methods to adjust for selection bias and confounding, with 47 using difference-in-differences analysis and 25 using some form of statistical matching. Thirteen studies included a qualitative component and were characterized as mixed-methods studies.

Consideration of equity

Over 60% of the child health studies considered equity, with most looking at interventions targeting specific groups selected by place of residence and socioeconomic status.

Systematic review characteristics and trends

There were 91 systematic reviews of SBCE interventions relating to child health and eight ongoing reviews.

Distribution of reviews across interventions and outcomes

Infant/child feeding and nutrition was the most studied health topic area (n=45), followed by malaria (n=22), diarrhoea and WASH (n=17 for each).

The SBCE interventions most commonly included in systematic reviews on chid health are IPC and education interventions delivered as either single interventions (n=76) or packages of mixed IPC approaches (n=49). No reviews studied these approaches bundled with other SBCE interventions. Other commonly used interventions were demand-side financing (n=20), mass media and entertainment education (n=16) and community mobilization (n=15).

As with impact evaluations in this area, the most commonly evaluated outcomes in the child health systematic reviews were health outcomes (n=104), followed by care practices (n=62) and care-seeking behaviour (n=49).

Equity

Only 22 of the systematic reviews took equity into consideration in their design or analysis.

Critical appraisal of the systematic reviews

Overall, 40 reviews were assessed as being of low quality, 27 as medium quality, and 24 as high quality.

Annex 5. Impact evaluations and systematic reviews included in the Evidence Map

Included impact evaluations – completed

Abdel-Tawab N, Loza S, Zaki A. Helping Egyptian women achieve optimal birth spacing intervals through fostering linkages between family planning and maternal / child health services. New York: Population Council, Frontiers in Reproductive Health; 2008 (http://pdf.usaid.gov/pdf_docs/PNADN580.pdf, accessed 24 August 2017).

Abdullah AS, Hua F, Khan H, Xia X, Bing Q, Tarang K, Winickoff JP. Secondhand Smoke Exposure Reduction Intervention in Chinese Households of Young Children: A Randomized Controlled Trial. Acad Pediatr. 2015;15(6):588-98. doi: 10.1016/j.acap.2015.06.008.

Aboud FE, Akhter S. A cluster-randomized evaluation of a responsive stimulation and feeding intervention in Bangladesh. Pediatrics. 2011;127(5):e1191-7. doi: 10.1542/peds.2010-2160.

Aboud FE, Moore AC, Akhter S. Effectiveness of a community-based responsive feeding programme in rural Bangladesh: a cluster randomized field trial. Matern Child Nutr. 2008;4(4):275-86. doi: 10.1111/j.1740-8709.2008.00146.x.

Aboud FE, Shafique S, Akhter S. A Responsive Feeding Intervention Increases Children's Self-Feeding and Maternal Responsiveness but Not Weight Gain. J Nutr. 2009;139(9):1738-43. doi: 10.3945/jn.109.104885.

Aboud FE, Singla DR, Nahil MI, and Borisova I. Effectiveness of a parenting program in Bangladesh to address early childhood health, growth and development. Soc Sci Med. 2013;97:250-8. doi: 10.1016/j.socscimed.2013.06.020.

Acharya A, Lalwani T, Dutta R, Rajaratnam JK, Ruducha J, Varkey L C et al. Evaluating a large-scale community-based intervention to improve pregnancy and newborn health among the rural poor in India. Am J Public Health. 2015;105(1):144-152. doi: 10.2105/AJPH.2014.302092.

Adanikin AI, Onwudiegwu U, Loto OM. Influence of multiple antenatal counselling sessions on modern contraceptive uptake in Nigeria. Eur J Contracept Reprod Health Care. 2013;18(5):381-7. doi: 10.3109/13625187.2013.816672.

Agrasada GV, Gustafsson J, Kylberg E, Ewald U. Postnatal peer counselling on exclusive breastfeeding of low-birthweight infants: a randomized, controlled trial. Acta Paediatr. 2005;94(8):1109-15. doi: 10.1080/08035250510025752.

Aggarwal A. Impact evaluation of India's 'Yeshasvini' community based health insurance programme. Health Econ. 2010;19(suppl):5-35. doi: 10.1002/hec.1605.

Ahmed AH. Breastfeeding preterm infants: an educational program to support mothers of preterm infants in Cairo, Egypt. Pediatr Nurs. 2008;34(2):125-30.

Ahmed NH, Mohamed NA, El-Magrabi NM. Positive role of counseling about exclusive, prolonged breastfeeding to delay pregnancy. J Am Sci. 2013;9(3):139-47.

Ahmed S, Mitra SN, Chowdhury AM, Camacho LL, Winikoff B, Sloan NL. Community Kangaroo Mother Care: implementation and potential for neonatal survival and health in very low-income settings. J Perinatol. 2011;31(5):361-7. doi: 10.1038/jp.2010.131.

Aidam BA, Perez-Escamilla R, Lartey A. Lactation Counseling Increases Exclusive Breast-Feeding Rates in Ghana. J Nutr. 2005;135(7):1691-5.

Aker J. Comparing Cash and Voucher Transfers in a Humanitarian Context: Evidence from the Democratic Republic of Congo. Policy Research Working Paper 7469. Washington, DC: World Bank Group; 2015 (https://openknowledge.worldbank.org/handle/10986/22889, accessed 30 August 2017).

Akman M, Tüzün S, Uzuner A, Başgul A, Kavak Z. The influence of prenatal counselling on postpartum contraceptive choice. J Int Med Res. 2010;38(4):1243-9. doi: 10.1177/147323001003800405

Akresh R, de Walque D, Kazianga H. Evidence from a Randomized Evaluation of the Household Welfare Impacts of Conditional and Unconditional Cash Transfers Given to Mothers or Fathers. Policy Research Working Paper 7730. Washington, DC: World Bank Group; 2016 (http://documents.worldbank.org/curated/en/944741467047531083/pdf/WPS7730.pdf, accessed 24 August 2017).

Aksu H, Kucuk M, Duzgun G. The effect of postnatal breastfeeding education/support offered at home 3 days after delivery on breastfeeding duration and knowledge: a randomized trial. J Matern Fetal Neonatal Med. 2011;24(2):354-61. doi: 10.3109/14767058.2010.497569

Akter S, Roy SK, Thakur S K, Sultana M, Khatun W, Rahman R et al. Effects of third trimester counseling on pregnancy weight gain, birthweight, and breastfeeding among urban poor women in Bangladesh. Food and Nutrition Bulletin. 2012;33(3):194-201. doi: 10.1177/156482651203300304

Alderman H, Ndiaye B, Linnemayr S, Ka A, Rokx C, Dieng K et al. Effectiveness of a community-based intervention to improve nutrition in young children in Senegal: a difference in difference analysis. Public Health Nutr. 2009;12(5):667-73. doi: 10.1017/S1368980008002619.

Alderman H. Improving nutrition through community growth promotion: Longitudinal study of the nutrition and early child development program in Uganda. World Development. 2007;35(8):1376-89. doi: 10.1016/j.worlddev.2007.04.003

Alfonso YN, Bishai D, Bua J, Mutebi A, Mayora C, and Ekirapa-Kiracho E. Cost-effectiveness analysis of a voucher scheme combined with obstetrical quality improvements: quasi-experimental results from Uganda. Health Policy Plan. 2015;30(1):88-99. doi: 10.1093/heapol/czt100.

Alvirde-Garcia U, Rodriguez-Guerrero AJ, Henao-Moran S, Gomez-Perez FJ, Aguilar-Salinas CA. Resultados de un programa comunitario de intervención en el estilo de vida en niños [Results of a community based life style intervention program for children]. Salud Publica Mex. 2013; 55(Suppl 3):406-14.

Alzua ML, Pickering AJ, Djebbari H, Lopez C, Cardenas JC, Lopera MA, et al. Final report: Impact evaluation of community-led total sanitation (CLTS) in rural Mali. New York: UNICEF; 2015 (https://www.unicef.org/evaldatabase/files/CLTS_impact_eval_Mali_final_report.pdf, accessed 5 September 2017).

Amudhan S, Mani K, Rai SK, Pandav CS, Krishnan A. Effectiveness of demand and supply side interventions in promoting institutional deliveries—a quasi-experimental trial from rural north India. Int J Epidemiol. 2013;42(3):769-80. doi: 10.1093/ije/dyt071.

Andersson N, Nava-Aguilera E, Arosteguí J, Morales-Perez A, Suazo-Laguna H, Legorreta-Soberanis J et al. Evidence based community mobilization for dengue prevention in Nicaragua and Mexico (Camino Verde, the Green Way): cluster randomized controlled trial. BMJ. 2015;351:h3267. doi: 10.1136/bmj.h3267.

Anino OC, Were GM, Khamasi JW. Impact evaluation of Positive Deviance Hearth in Migori County, Kenya. Afri J Food Agri Nutr DEv. 2015;15(5):10578-10596.

Ansah E K, Narh-Bana S, Asiamah S, Dzordzordzi V, Biantey K, Dickson K et al. Effect of removing direct payment for health care on utilisation and health outcomes in Ghanaian children: a randomised controlled trial. PLoS Medicine. 2009;6(1):e1000007. doi: 10.1371/journal.pmed.1000007.

Ansari S, Abedi P, Hasanpoor S, Bani S. The effect of interventional program on breastfeeding self-efficacy and duration of exclusive breastfeeding in pregnant women in Ahvaz, Iran. Int Sch Res Notices. 2014;510793. doi: 10.1155/2014/510793.

Aracena M, Leiva L, Undurraga C, Krause M, Pérez C, Cuadra V et al. Evaluación de la efectividad de programas de visitas domiciliarias para madres adolescentes y sus hijos/as [Effectiveness of a home visit program for adolescent mothers and their children]. Rev Méd Chil. 2011;139:60-65. doi: 10.4067/S0034-98872011000100008.

Arifeen SE, Hoque DM, Akter T, Rahman M, Hoque ME, Begum K et al. Effect of the integrated management of childhood illness strategy on childhood mortality and nutrition in a rural area in Bangladesh: a cluster randomised trial. Lancet. 2009;374(9687):393-403. doi: 10.1016/S0140-6736(09)60828-X.

Armecin G, Behrman JR, Duazoa P, Ghuman S, Gultianoa S, King E et al. Early childhood development through an integrated program: evidence from the Philippines. Policy Research Working Paper 3922. Impact Evaluation Series no. 2. Washington, DC: World Bank Group;2006 (https://openknowledge.worldbank.org/handle/10986/8659, accessed 24 August 2017).

Arnold BF, Khush RS, Ramaswamy P, London AG, Rajkumar P, Ramaprabha P et al. Causal inference methods to study nonrandomized, preexisting development interventions. Proc Natl Acad Sci USA. 2010;107(52):22605-10. doi: 10.1073/pnas.1008944107.

Arnold B, Arana B, Mausezahl D, Hubbard A, Colford JM. Evaluation of a pre-existing, 3-year household water treatment and handwashing intervention in rural Guatemala. Int J Epidemiol. 2009;38(6):1651-61. doi: 10.1093/ije/dyp241.

Ashraf N, Field E, Lee J. Household bargaining and excess fertility: an experimental study in Zambia. Am Econ Rev. 2014;104(7):2210-37. doi: 10.1257/aer.104.7.2210.

Attanasio OP, Fernandez C, Fitzsimons EO, Grantham-McGregor SM, Meghir C,Rubio-Codina M. Using the infrastructure of a conditional cash transfer program to deliver a scalable integrated early child development program in Colombia: cluster randomized controlled trial. BMJ. 2014;349:g5785. doi: 10.1136/bmj.g5785

Attanasio O, Gómez LC, Heredia P, Vera-Hernández M. The short-term impact of a conditional cash subsidy on child health and nutrition in Colombia. Report Summary: Famillias 03. London: The Institute for Fiscal Studies; 2005 (https://www.ifs.org.uk/edepo/rs_fam03.pdf, accessed 24 August 2017).

August F, Pembe AB, Mpembeni R, Axemo P, Darj E. Community health workers can improve male involvement in maternal health: evidence from rural Tanzania. Glob Health Action. 2016;9:30064. doi: 10.3402/gha.v9.30064.

Aung T, Montagu D, Su Su Khin H, Win Z, San AK, McFarland W et al. Impact of a social franchising program on uptake of oral rehydration solution plus zinc for childhood diarrhea in myanmar: a community-level randomized controlled trial. J Trop Pediatr. 2014;60(3):189-97. doi: 10.1093/tropej/fmt108.

Ayiasi RM, Kolsteren P, Batwala V, Criel B, Orach CG. Effect of village health team home visits and mobile phone consultations on maternal and newborn care practices in Masindi and Kiryandongo, Uganda: a community-intervention trial. PLoS ONE. 2016;11(4):e0153051. doi: 10.1371/journal.pone.0153051.

Ayiasi RM, Muhumuza C, Bukenya J, Orach CG. The effect of prenatal counselling on postpartum family planning use among early postpartum women in Masindi and Kiryandongo districts, Uganda. Pan Afr Med J. 2015; 21:138. doi: 10.11604/pamj.2015.21.138.7026.

Azad K, Barnett S, Banerjee B, Shaha S, Khan K, Rego AR et al. Effect of scaling up women's groups on birth outcomes in three rural districts in Bangladesh: a cluster-randomised controlled trial. Lancet. 2010;375(9721):1193-202. doi: 10.1016/S0140-6736(10)60142-0.

Azmat SK, Hameed W, Hamza HB, Mustafa G, Ishaque M, Abbas G et al. Engaging with community-based public and private mid-level providers for promoting the use of modern contraceptive methods in rural Pakistan: results from two innovative birth spacing interventions. Reprod Health. 2016;13. doi: 10.1186/s12978-016-0145-9

Babalola S, Vonrasek C. Communication, ideation and contraceptive use in Burkina Faso: an application of the propensity score matching method. J Fam Plann Reprod Health Care. 2005;31(3):207-12. doi: 10.1783/1471189054484022.

Baheiraei A, Kharaghani R, Mohsenifar A, Kazemnejad A, Alikhani S, Milani HS et al. Reduction of secondhand smoke exposure among healthy infants in Iran: randomized controlled trial. Nicotine Tob Res. 2011;13(9):840-7. doi: 10.1093/ntr/ntr085.

Baird J, Ma S and Ruger JP. Effects of the World Bank's maternal and child health intervention on Indonesia's poor: evaluating the safe motherhood project. Soc Sci Med. 2011;72(12):1948-55. doi: 10.1016/j.socscimed.2010.04.038.

Banchonhattakit P, Tanasugarn C, Pradipasen M, Miner KR, and Nityasuddhi D. Effectiveness of school network for childhood obesity prevention (SNOCOP) in primary schools of Saraburi Province, Thailand. Southeast Asian J Trop Med Public Health.2009;40(4):816-34. doi: 10.1155/2012/608920.

Baqui AH, El-Arifeen S, Darmstadt GL, Ahmed S, Williams EK, Seraji HR et al. Effect of community-based newborn-care intervention package implemented through two service-delivery strategies in Sylhet district, Bangladesh: a cluster-randomised controlled trial. Lancet. 2008;371(9628):1936-44. doi: 10.1016/S0140-6736(08)60835-1.

Baqui AH, Williams E, El-Arifeen S, Applegate JA, Mannan I, Begum N et al. Effect of community-based newborn care on cause-specific neonatal mortality in Sylhet district, Bangladesh: findings of a cluster-randomized controlled trial. J Perinatol. 2016;36(1):71-6. doi: 10.1038/jp.2015.139.

Baqui AH, Williams EK, Rosecrans AM, Agrawal PK, Ahmed S, Darmstadt GL et al. Impact of an integrated nutrition and health programme on neonatal mortality in rural northern India. Bull World Health Organ. 2008;86(10):796-804 (http://www.who.int/bulletin/volumes/86/10/07-042226/en/, accessed 25 August 2017).

Barber SL, Gertler PJ. The impact of Mexico's conditional cash transfer programme, Oportunidades, on birthweight. Trop Med Int Health. 2008;13(11):1405–1414. doi: 10.1111/j.1365-3156.2008.02157.x.

Barber SL, Gertler PJ. Empowering women to obtain high quality care: evidence from an evaluation of Mexico's conditional cash transfer programme. Health Policy Plan. 2009; 24(1):18–25. doi: 10.1093/heapol/czn039.

Barber SL. Mexico's conditional cash transfer programme increases cesarean section rates among the rural poor. Euro J Public Health. 2010; 20(4):383-8. doi: 10.1093/eurpub/ckp184.

Barham T, Maluccio JA. Eradicating diseases: the effect of conditional cash transfers on vaccination coverage in rural Nicaragua. J Health Econ. 2009;28(3):611-21. doi: 10.1016/j.jhealeco.2008.12.010.

Barham T, Macours K, Maluccio JA. Boys' cognitive skill formation and physical growth: long-term experimental evidence on critical ages for early childhood interventions. Am Econ Rev. 2013;103(3):467-471. doi: 10.1257/aer.103.3.467.

Barham T. A healthier start: the effect of conditional cash transfers on neonatal and infant mortality in rural Mexico. J Dev Econ. 2011;94(1):74-85. doi: 10.1016/j.jdeveco.2010.01.003.

Bashour HN, Kharouf MH, Abdulsalam AA, El Asmar K, Tabbaa MA, Cheikha SA. Effect of postnatal home visits on maternal/infant outcomes in Syria: a randomized controlled trial. Public Health Nurs. 2008;25(2):115-25. doi: 10.1111/j.1525-1446.2008.00688.x.

Behrman JR ,Hoddinott J. Programme evaluation with unobserved heterogeneity and selective implementation: the Mexican PROGRESA impact on child nutrition. Oxf Bull Econ Stat. 2005;67(4):547-569. doi: 10.1111/j.1468-0084.2005.00131.x.

Bennear L, Tarozzi A, Pfaff A, Balasubramanya S, Ahmed KM, Van Geen A. Impact of a randomized controlled trial in arsenic risk communication on household water-source choices in Bangladesh. J Environ Econ Manag. 2013;65(2):225-240. doi: 10.1016/j.jeem.2012.07.006.

Bennett D, Asjad Naqvi SA, Schmidt WP. Constraints on compliance and the impact of health information in rural Pakistan. Health Econ. 2015;24(9):1065-81. doi: 10.1002/hec.3193.

Bezner Kerr R, Berti PR, Shumba L. Effects of a participatory agriculture and nutrition education project on child growth in northern Malawi. Public Health Nutr. 2011;14(8):1466-72. doi: 10.1017/S1368980010002545.

Bhandari N, Bahl R, Mazumdar S, Martines J, Black R E, Bhan M K et al. Effect of community-based promotion of exclusive breastfeeding on diarrhoeal illness and growth: a cluster randomised controlled trial. Lancet. 2003;361(9367):1418-23. doi: 10.1016/S0140-6736(03)13134-0.

Bhandari N, Mazumder S, Bahl R, Martines J, Black RE, Bhan M K et al. An educational intervention to promote appropriate complementary feeding practices and physical growth in infants and young children in rural Haryana, India. J Nutr. 2004;134(9):2342-8.

Bhandari N, Mazumder S, Taneja S, Sommerfelt H, Strand TA. Effect of implementation of Integrated Management of Neonatal and Childhood Illness (IMNCI) programme on neonatal and infant mortality: cluster randomised controlled trial. BMJ. 2012;344:e1634. doi: 10.1136/bmj.e1634

Bhutta ZA, Memon ZA, Soofi S, Salat MS, Cousens S, Martines J. Implementing community-based perinatal care: results from a pilot study in rural Pakistan. Bull World Health Organ. 2008;86(6):452-9. doi: 10.2471/BLT.07.045849.

Bhutta ZA, Soofi S, Cousens S, Mohammad S, Memon ZA, Ali I et al. Improvement of perinatal and newborn care in rural Pakistan through community-based strategies: a cluster-randomised effectiveness trial. Lancet. 2011;377(9763):403-12. doi: 10.1016/S0140-6736(10)62274-X.

Bieri FA, Gray DJ, Williams GM, Raso G, Yue-Sheng L, Yuan L et al. Health-education package to prevent worm infections in Chinese schoolchildren. N Engl J Med. 2013; 368:1603-1612. doi: 10.1056/NEJMoa1204885.

Binka FN, Bawah AA, Phillips JF, Hodgson A, Adjuik M, MacLeod B. Rapid achievement of the child survival millennium development goal: evidence from the Navrongo experiment in Northern Ghana. Trop Med Int Health. 2007;12(5):578-83. doi: 10.1111/j.1365-3156.2007.01826.x.

Biran A, Schmidt WP, Varadharajan KS, Rajaraman D, Kumar R, Greenland K et al. Effect of a behaviour-change intervention on handwashing with soap in India (SuperAmma): a cluster-randomised trial. Lancet Glob Health. 2014;2(3):e145-e154. doi: 10.1016/S2214-109X(13)70160-8.

Björkman M, Svensson J. Power to the people: evidence from a randomized field experiment of a community-based monitoring project in uganda. Policy Research Working Paper 4268. Washington, DC: World Bank Group; 2007 (https://openknowledge.worldbank.org/handle/10986/7447, accessed 25 August 2017).

Bjorkman M, Svensson J. Power to the people: evidence from a randomized field experiment on community-based monitoring in Uganda. Q J Econ. 2009;124(2):735-769. doi: 10.1162/qjec.2009.124.2.735.

Boisson S, Stevenson M, Shapiro L, Kumar V, Singh L P, Ward D et al. Effect of household-based drinking water chlorination on diarrhoea among children under five in Orissa, India: a double-blind randomised placebo-controlled trial. PLoS Medicine. 2013;10(8):e1001497. doi: 10.1371/journal.pmed.1001497.

Bonvecchio A, Pelto G H, Escalante E, Monterrubio E, Habicht J P, Nava F et al. Maternal knowledge and use of a micronutrient supplement was improved with a programmatically feasible intervention in Mexico. J Nutr. 2007;137(2):440-6. (http://jn.nutrition.org/content/137/2/440.long accessed on 25 September 2017).

Boone P, Elbourne D, Fazzio I, Fernandes S, Frost C, Jayanty C et al. Effects of community health interventions on under-5 mortality in rural Guinea-Bissau (EPICS): a cluster-randomised controlled trial. Lancet Glob Health. 2016;4(5):e328-35. doi: 10.1016/S2214-109X(16)30048-1.

Borghi J, Thapa B, Osrin D, Jan S, Morrison J, Tamang S et al. Economic assessment of a women's group intervention to improve birth outcomes in rural Nepal. Lancet. 2005;366(9500):1882-4. doi: 10.1016/S0140-6736(05)67758-6.

Borja-Vega C, Briceno B, Garcia V. Can intense exposure to hand-washing and hygiene information campaigns affect children's socio-emotional skills? Evidence from Senegal. Policy Research Working Paper 7472. Washington, DC: World Bank Group; 2015 (https://openknowledge.worldbank.org/handle/10986/23433, accessed 25 August 2017).

Borzekowski D, Henry HK. The impact of Jalan Sesama on the educational and healthy development of Indonesian preschool children: an experimental study. Int J Behav Dev. 2011;35(2):169-179. doi: 10.1177/0165025410380983.

Bouguen A, Filmer D, Macours K, Naudeau S. Impact evaluation of three types of early childhood development interventions in Cambodia. Policy Research Working Paper 6540. Washington, DC: World Bank Group; 2013 (https://openknowledge.worldbank.org/handle/10986/15900, accessed 25 August 2017).

Bowen A, Agboatwalla M, Ayers T, Tobery T, Tariq M, Luby S P. Sustained improvements in handwashing indicators more than 5 years after a cluster-randomised, community-based trial of handwashing promotion in Karachi, Pakistan. Trop Med Int Health. 2013;18(3):259-67. doi: 10.1111/tmi.12046.

Bowen H L. Impact of a mass media campaign on bed net use in Cameroon. Malar J. 2013;12:36. doi: 10.1186/1475-2875-12-36.

Brasington A, Abdelmegeid A, Dwivedi V, Kols A, Kim YM, Khadka N et al. Promoting healthy behaviors among egyptian mothers: a quasi-experimental study of a health communication package delivered by community organizations. PLoS ONE. 2016;11(3):e0151783. doi: 10.1371/journal.pone.0151783.

Briceno B, Chase C. Cost-efficiency of rural sanitation promotion: activity-based costing and experimental evidence from Tanzania. J Dev Eff. 2015;7(4):423-434. doi: 10.1080/19439342.2015.1105848.

Briceno B, Coville A, Martinez S. Promoting handwashing and sanitation: evidence from a large-scale randomized trial in rural Tanzania. Policy Research Working Paper 7164. Washington, DC: World Bank Group; 2015 (https://openknowledge.worldbank.org/handle/10986/21383, accessed 25 August 2017).

Britto PR, Engle P, Alderman H. Early intervention and caregiving: evidence from the Uganda Nutrition And Early Child Development Program. Child Health Educ. 2007;1(2):112-33. (http://www.childhealthandeducation.ca/articles/documents/4-Paper-Eng-Brito.pdf accessed 27 September 2017).

Brown VB, Oluwatosin OA, Akinyemi JO, Adeyemo AA. Effects of community health nurse-led intervention on childhood routine immunization completion in primary health care centers in Ibadan, Nigeria. J Community Health. 2016; 41(2):265-73. doi: 10.1007/s10900-015-0092-3.

Caldeira AP, Fagundes GC, de Aguiar GN. Educational intervention on breastfeeding promotion to the family health program team. Rev Saude Publica. 2008; 42(6):1027-33.

Cameron L, Shah M, Olivia S. Impact evaluation of a large-scale rural sanitation project in Indonesia. Policy Research Working Paper 6360. Washington, DC: World Bank Group; 2013 (https://openknowledge.worldbank.org/handle/10986/13166, accessed 25 August 2017).

Caprara A, Oliveira Lima JW, Rocha Peixoto AC, Vasconcelos Motta CM, Soares Nobre JM, Sommerfeld J et al. Entomological impact and social participation in dengue control: a cluster randomized trial in Fortaleza, Brazil. Trans R Soc Trop Med Hyg. 2015;109(2):99–105. doi: 10.1093/trstmh/tru187.

Cardenas S, Evans D, Holland P. Estimating the effects of a low-cost early stimulation and parenting education orogramme in Mexico. 3ie Impact Evaluation Report 57. New Delhi: International Initiative for Impact Evaluation; 2017 (http://www.3ieimpact.org/en/evidence/impact-evaluations/details/232/, accessed 25 August 2017).

Carlo WA, Goudar SS, Pasha O, Chomba E, Wallander JL, Biasini FJ et al. Randomized trial of early developmental intervention on outcomes in children after birth asphyxia in developing countries. J Pediatr. 2013;162(4):705-712.e3. doi: 10.1016/j.jpeds.2012.09.052.

Carvalho N, Thacker N, Gupta SS, Salomon JA. More evidence on the impact of India's conditional cash transfer program, Janani Suraksha Yojana: quasi-experimental evaluation of the effects on childhood immunization and other reproductive and child health outcomes. PLoS ONE. 2014;9(10):e109311. doi: 10.1371/journal.pone.0109311.

CDI Study Group. Community-directed interventions for priority health problems in Africa: results of a multicountry study. Bull World Health Organ. 2010;88(7):509-18. doi: 10.2471/BLT.09.069203.

Chang SM, Grantham-McGregor SM, Powell CA, Vera-Hernandez M, Lopez-Boo F, Baker-Henningham H et al. Integrating a oarenting intervention with routine primary health care: a cluster randomized trial. Pediatr. 2015;136(2):272-280. doi: 10.1542/peds.2015-0119.

Chankova S, Hatt L, Musange S. A community-based approach to promote household water treatment in Rwanda. J Water Health. 2012;10(1):116-29. doi: 10.2166/wh.2012.071.

Chase C, Do QT. Handwashing behavior change at scale evidence from a randomized evaluation in Vietnam. Policy Research Working Paper 6207. Washington, DC: World Bank; 2012 (https://openknowledge.worldbank.org/handle/10986/12056, accessed 25 August 2017).

Chen L, Du X, Zhang L, van Velthoven MH, Wu Q, Yang R et al. Effectiveness of a smartphone app on improving immunization of children in rural Sichuan Province, China: a cluster randomized controlled trial. BMC Public Health. 2016;16:909. doi: 10.1186/s12889-016-3549-0.

Chola L, Fadnes LT, Engebretsen IM, Tumwine JK, Tylleskar T, Robberstad B et al. Infant feeding survival and Markov transition probabilities among children under age 6 months in Uganda. Am J Epidemiol. 2013;177(5):453-62. doi: 10.1093/aje/kws254.

Christensen G, Dentz HN, Pickering AJ, Bourdier T, Arnold BF, Colford JM, Null C. Pilot cluster randomized controlled trials to evaluate adoption of water, sanitation, and hygiene interventions and their combination in rural western Kenya. Am J Trop Med Hyg. 2015;92:437-47.

Ciftci EK, Arikan D. The effect of training administered to working mothers on maternal anxiety levels and breastfeeding habits. J Clin Nurs. 2012;21(15-16):2170-8. doi: 10.1111/j.1365-2702.2011.03957.x.

Colbourn T, Nambiar B, Bondo A, Makwenda C, Tsetekani E, Makonda-Ridley A et al. Effects of quality improvement in health facilities and community mobilization through women's groups on maternal, neonatal and perinatal mortality in three districts of Malawi: MaiKhanda, a cluster randomized controlled effectiveness trial. Int Health. 2013; 5(3):180-95. doi: 10.1093/inthealth/iht011.

Coutinho SB, de Lira PI, de Carvalho Lima M and Ashworth A. Comparison of the effect of two systems for the promotion of exclusive breastfeeding. Lancet. 2005;366(9491):1094-100. doi: 10.1016/S0140-6736(05)67421-1.

Darmstadt GL, Choi Y, Arifeen SE, Bari S, Rahman SM, Mannan I et al. Evaluation of a cluster-randomized controlled trial of a package of community-based maternal and newborn interventions in Mirzapur, Bangladesh. Plos One. 2010;5(3):e9696. doi: 10.1371/journal.pone.0009696.

Darmstadt GL, El-Arifeen S, Choi Y, Bari S, Rahman SM, Mannan I et al. Household surveillance of severe neonatal illness by community health workers in Mirzapur, Bangladesh: coverage and compliance with referral. Health Policy Plan. 2010;25(2):112-24. doi: 10.1093/heapol/czp048.

Darmstadt GL, Kumar V, Yadav R, Singh V, Singh P, Mohanty S et al. Introduction of community-based skin-to-skin care in rural Uttar Pradesh, India. J Perinatol. 2006;26(10):597-604. doi: 10.1038/sj.jp.7211569.

Das A, Friedman J, Kandpal E, Ramana GN, Gupta RK, Pradhan MM et al. Strengthening malaria service delivery through supportive supervision and community mobilization in an endemic Indian setting: An evaluation of nested delivery models. Malar J. 2014;13:482. doi: 10.1186/1475-2875-13-482.

Das Gupta M, Lokshin M, Gragnolati M, Ivaschenko O. Improving child nutrition outcomes in India: can the integrated child development services program be more effective?. Policy Research Working Paper 3647. Washington, DC: World Bank; 2005 (https://openknowledge.worldbank.org/handle/10986/8301, accessed 25 August 2017).

De Brauw A, Peterman A. Can conditional cash transfers improve maternal health and birth outcomes? Evidence from El Salvador's Comunidades Solidarias Rurales. IFPRI Discussion Paper 01080. Washington, DC: International Food Policy Research Institute; 2011 (http://www.ifpri.org/publication/can-conditional-cash-transfers-improve-maternal-health-and-birth-outcomes, accessed 25 August 2017).

De La Cruz N, Crookston B, Gray B, Alder S, Dearden K. Microfinance against malaria: impact of Freedom from Hunger's malaria education when delivered by rural banks in Ghana. Trans R Soc Trop Med Hyg. 2009;03(12):1229-36. doi: 10.1016/j.trstmh.2009.03.018.

De Oliveira LD, Giugliani ER, Santo LC, Nunes LM. Impact of a strategy to prevent the introduction of non-breast milk and complementary foods during the first 6 months of life: a randomized clinical trial with adolescent mothers and grandmothers. Early Hum Dev. 2012;88(6):357-61. doi: 10.1016/j.earlhumdev.2011.09.010.

Deribew A, Birhanu Z, Sena L, Dejene T, Reda AA, Sudhakar M et al. The effect of household heads training on long-lasting insecticide-treated bed nets utilization: a cluster randomized controlled trial in Ethiopia. Malar J. 2012;11:99. doi: 10.1186/1475-2875-11-99.

Desai J, Tarozzi A. Microcredit, family planning programs, and contraceptive behavior: evidence from a field experiment in Ethiopia. Demography. 2011;48(2):749-82. doi: 10.1007/s13524-011-0029-0.

Desrochers RE, Siekmans K, Berti PR, Bramhill K, Buchan SA, Battah GK et al. Effectiveness of post-campaign, door-to-door, hang-up, and communication interventions to increase long-lasting, insecticidal bed net utilization in Togo (2011-2012): a cluster randomized, control trial. Malar J. 2014;13:260. doi: 10.1186/1475-2875-13-260.

Dillon A, Olney D, Ruel M, Nielsen J, Ouedraogo M, Pedehombga A et al. The diffusion of health knowledge through social networks: an impact evaluation of health knowledge asymmetries on child health. 3ie Grantee Final Report. New Delhi: International Initiative for Impact Evaluation; 2014 (http://www.3ieimpact.org/en/evidence/impact-evaluations/details/286/, accessed 25 August 2017).

Do MP, Kincaid DL. Impact of an entertainment-education television drama on health knowledge and behavior in Bangladesh: an application of propensity score matching. J Health Commun: In Perspect. 2006;11(3):301-25. doi: 10.1080/10810730600614045.

Domek GJ, Contreras-Roldan IL, O'Leary ST, Bull S, Furniss A, Kempe A et al. SMS text message reminders to improve infant vaccination coverage in Guatemala: a pilot randomized controlled trial. Vaccine. 2016;34(21):2437-43. doi: 10.1016/j.vaccine.2016.03.065.

Donegan S, Maluccio JA, Myers CK, Menon P, Ruel MT, Habicht JP. Two food-assisted maternal and child health nutrition programs helped mitigate the impact of economic hardship on child stunting in Haiti. J Nutr. 2010;140(6):1139-45. doi: 10.3945/jn.109.114272.

Dulli LS, Eichleay M, Rademacher K, Sortijas S, Nsengiyumva T. Meeting postpartum women's family planning needs through integrated family planning and immunization services: results of a cluster-randomized controlled trial in Rwanda. Global Health: Sci Pract. 2016;4(1):73-86. doi: 10.9745/GHSP-D-15-00291.

Eder C, Schooley J, Fullerton J, Murguia J. Assessing impact and sustainability of health, water, and sanitation interventions in Bolivia six years post-project. Evaluación de la repercusión y la sostenibilidad a seis años de las intervenciones relacionadas con salud, agua y saneamiento en Bolivia. Rev Panam Salud Pública. 2012;32(1):43-8. doi: 10.1590/S1020-49892012000700007.

Edraki M, Moravej H, Rambod M. Effect of home visit training program on growth and development of preterm infants: a double blind randomized controlled trial. Int J Community Based Nurs Midwifery. 2015;(1): 12–22.

El-Sayed H, Martines J, Rakha M, Zekry O, Abdel-Hak M, Abbas H. The effectiveness of the WHO training course on complementary feeding counseling in a primary care setting, Ismailia, Egypt. J Egypt Public Health Assoc. 2014;89(1):1-8. doi: 10.1097/01.EPX.0000443990.46047.a6.

Engebretsen IMS, Jackson D, Fadnes LT, Nankabirwa V, Diallo AH, Doherty T et al. Growth effects of exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa: the cluster-randomised PROMISE EBF trial. BMC Public Health. 2014;14:633. doi: 10.1186/1471-2458-14-633.

Ensor T, Green C, Quigley P, Badru AR, Kaluba D and Kureya T. Mobilizing communities to improve maternal health: results of an intervention in rural Zambia. Bull World Health Organ. 2014;92(1):51-9. doi: 10.2471/BLT.13.122721.

Espinoza-Gomez F, Hernandez-Suarez CM, Coll-Cardenas R. Educational campaign versus malathion spraying for the control of Aedes aegypti in Colima, Mexico. J Epidemiol Community Health. 2002;56(2):148-52. doi: 10.1136/jech.56.2.148.

Evans DK, Hausladen S, Kosec K, Reese N. Community-Based Conditional Cash Transfers in Tanzania: Results from a Randomized Trial. World Bank Study. Washington, DC: World Bank; 2014 (https://openknowledge.worldbank.org/handle/10986/17220, accessed 25 August 2017).

Fadnes LT, Nankabirwa V, Engebretsen IM, Sommerfelt H, Birungi N, Lombard C et al. Effects of an exclusive breastfeeding intervention for six months on growth patterns of 4-5 year old children in Uganda: the cluster-randomised PROMISE EBF trial. BMC Public Health. 2016;16:555. doi: 10.1186/s12889-016-3234-3.

Feldman BS, Zaslavsky AM, Ezzati M, Peterson KE, Mitchell M. Contraceptive use, birth spacing, and autonomy: an analysis of the Oportunidades program in rural Mexico. Stud Fam Plann. 2009;40(1):51-62. doi: 10.1111/j.1728-4465.2009.00186.x.

Feng XL, Shi G, Wang Y, Xu L, Luo H, Shen J et al. An impact evaluation of the Safe Motherhood Program in China. Health Econo. 2010;19:69-94. doi: 10.1002/hec.1593.

Fenn B, Bulti AT, Nduna T, Duffield A, Watson F. An evaluation of an operations research project to reduce childhood stunting in a food-insecure area in Ethiopia. Public Health Nutr. 2012;15(9):1746-54. doi: 10.1017/S1368980012001115.

Fernald LC, Gertler PJ, Neufeld LM. Role of cash in conditional cash transfer programmes for child health, growth, and development: an analysis of Mexico's Oportunidades. Lancet. 2008;371(9615):828-37. doi: 10.1016/S0140-6736(08)60382-7.

Fernald LC, Gertler PJ, Neufeld LM. 10-year effect of Oportunidades, Mexico's conditional cash transfer programme, on child growth, cognition, language, and behaviour: a longitudinal follow-up study. Lancet. 2009;374(9706):1997-2005. doi: 10.1016/S0140-6736(09)61676-7.

Fernald LC, Hidrobo M. Effect of Ecuador's cash transfer program (Bono de Desarrollo Humano) on child development in infants and toddlers: A randomized effectiveness trial. Soc Sci Med. 2011;72(9):1437-46. doi: 10.1016/j.socscimed.2011.03.005.

Ferre C, Sharif I. Can conditional cash transfers improve education and nutrition outcomes for poor children in Bangladesh? Evidence from a pilot project. Policy Research Paper 7077. Washington, DC: World Bank Group;2014 (https://openknowledge.worldbank.org/handle/10986/20511, accessed 25 August 2017).

Figueroa JL. Distributional effects of Oportunidades on early child development. Soc Sci Med. 2014;113:42-9. doi: 10.1016/j.socscimed.2014.04.044.

Fink G, Robyn PJ, Sié A, Sauerborn R. Does health insurance improve health? Evidence from a randomized community-based insurance rollout in rural Burkina Faso. J Health Econ. 2013;32(6):1043-56. doi: 10.1016/j.jhealeco.2013.08.003.

Fitzsimons E, Malde B, Mesnard A, Vera-Hernandez M. Nutrition, information, and household behaviour: experimental evidence from Malawi. J Dev Econ. 2016;122:113-26. doi: 10.1016/j.jdeveco.2016.05.002.

Flax VL, Negerie M, Ibrahim AU, Leatherman S, Daza E J, Bentley ME. Integrating group counseling, cell phone messaging, and participant-generated songs and dramas into a microcredit program increases Nigerian women's adherence to international breastfeeding recommendations. J Nutr. 2014;144(7):1120-4. doi: 10.3945/jn.113.190124.

Flores IF, Aguilar Fonseca ER, Flores RM, Vernon R, Solorzano J, Pavón S et al. Increasing use of the IUD through community and clinic based education activities in rural Honduras. New York: Population Council; 2007 (https://www.researchgate.net/publication/237585751_Increasing_use_of_the_IUD_through_Community_and_Clinic_based_Education_Activities_in_Rural_Honduras, accessed 25 August 2017).

Fotso JC, Bellhouse L, Vesel L, Jezman Z. Strengthening the home-to-facility continuum of newborn and child health care through mHealth: evidence from an intervention in rural Malawi. Afr Popul Stud. 2015;29(1):1663-82. doi: 10.11564/29-1-717.

Fotso JC, Robinson AL, Noordam AC, Crawford J. Fostering the use of quasi-experimental designs for evaluating public health interventions: insights from an mHealth project in Malawi. Afr Popul Stud. 2015;29(1):1607-1627. doi: 10.11564/29-1-713.

Fottrell E, Azad K, Kuddus A, Younes L, Shaha S, Nahar T et al. The effect of increased coverage of participatory women's groups on neonatal mortality in Bangladesh: a cluster randomized trial. JAMA Pediatr. 2013;167(9):816-25. doi: 10.1001/jamapediatrics.2013.2534.

Frith AL, Naved RT, Persson LA, Frongillo EA. Early prenatal food supplementation ameliorates the negative association of maternal stress with birth size in a randomised trial. Matern Child Nutr. 2015;11(4):537-49. doi: 10.1111/mcn.12047.

Frith AL, Naved RT, Persson LA, Rasmussen KM, Frongillo EA. Early participation in a prenatal food supplementation orogram ameliorates the negative association of food insecurity with quality of maternal-infant interaction. J Nutr. 2012;142(6):1095-101. doi: 10.3945/jn.111.155358.

Gabida M, Chemhuru M, Tshimanga M, Gombe NT, Takundwa L, Bangure D. Effect of distribution of educational material to mothers on duration and severity of diarrhoea and pneumonia, Midlands Province, Zimbabwe: a cluster randomized controlled trial. Int Breastfeeding J. 2015;10:13. doi: 10.1186/s13006-015-0037-6.

Galasso E, Umapathi N. Improving nutritional status through behavioural change: lessons from Madagascar. J Dev Eff. 2009;1(1):60-85. doi: 10.1080/19439340902727669.

Galasso E, Umapathi N, Yau J. Nutritional gains from extended exposure to a large-scale nutrition programme. J Afr Econ. 2011;20(5):673-703. doi: 10.1093/jae/ejq041.

Galiani S, Gertler PJ, Orsola-Vidal A, Ajzenman N. Promoting handwashing behavior: the effect of large-scale community and school-level interventions. SSRN. 2014 (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2450871 accessed 25 August 2017).

Gardner JM, Walker SP, Powell CA Grantham-McGregor S. A randomized controlled trial of a home-visiting intervention on cognition and behaviour in term low birth weight infants. J Pediatr. 2003;143(5):634-9. doi: 10.1067/S0022-3476(03)00455-4.

George CM, van Geen A, Slavkovich V, Singha A, Levy D, Islam T et al. A cluster-based randomized controlled trial promoting community participation in arsenic mitigation efforts in Singair, Bangladesh. Environ Health. 2012;11:41. doi: 10.1186/1476-069X-11-41.

George CM, Inauen J, Rahman SM, Zheng Y. The effectiveness of educational interventions to enhance the adoption of fee-based arsenic testing in Bangladesh: a cluster randomized controlled trial. Am J Trop Med Hyg. 2013;89(1):138-44. doi: 10.4269/ajtmh.12-0664.

George CM, Jung DS, Saif-Ur-Rahman KM, Monira S, Sack DA, Rashid MU et al. Sustained iptake of a hospital-based handwashing with soap and water treatment intervention (Cholera-Hospital-Based Intervention for 7 Days CHoBI7): a randomized controlled trial. Am J Trop Med Hyg. 2016;94(2):428-36. doi: 10.4269/ajtmh.

Gertler P, Boyce S. (2001). An Experiment in Incentive-Based Welfare: The Impact of PROGRESA on Health in Mexico. University of California, Berkeley. 2003 (https://www.researchgate.net/publication/4889021_An_experiment_in_incentive-based_welfare_The_impact_of_PROGRESA_on_health_in_Mexico, accessed 25 August 2017).

Ghodsbin F, Yazdani K, Jahanbin I, Keshavarzi S. The effect of home visit in the first six weeks after delivery on quality of life of primipara women referred to health centers affiliated to Shiraz University of Medical Sciences. Invest Educ Enferm. 2012;30(3):339-345. (http://www.scielo.org.co/pdf/iee/v30n3/v30n3a06.pdf accessed 26 September 2017).

Gies S, Coulibaly SO, Ky C, Ouattara FT, Brabin BJ, and D'Alessandro U. Community-based promotional campaign to improve uptake of intermittent preventive antimalarial treatment in pregnancy in Burkina Faso. Am J Trop Med Hyg. 2009;80(3):460-9. (http://www.ajtmh.org/content/journals/10.4269/ajtmh.2009.80.460#html_fulltext accessed 26 September 2017).

Gilligan D, Margolies A, Quiñones E, S Roy. Impact evaluation of cash and food transfers at early childhood development centers in Karamoja, Uganda. Final Impact Report. Washington, DC: International Food Policy Research Institute; 2013. (http://documents.wfp.org/stellent/groups/public/documents/resources/wfp257677.pdf accessed 16 September 2017)

Gilroy K, Winch PJ, Diawara A, Swedberg E, Thiero F, Kané M et al. Impact of IMCI training and language used by provider on quality of counseling provided to parents of sick children in Bougouni District, Mali. Patient Educ Couns. 2004;54(1):35-44. doi: 10.1016/S0738-3991(03)00189-7.

Goel S, Dogra V, Gupta SK, Lakshmi PV, Varkey S, Pradhan N et al. Effectiveness of Muskaan Ek Abhiyan (the smile campaign) for strengthening routine immunization in bihar, India. Indian Pediatr. 2012;49(2):103-8. (http://www.indianpediatrics.net/feb2012/103.pdf accessed 26 September 2017).

Goudar SS, Derman RJ, Honnungar NV, Patil KP, Swamy MK, Moore J et al. An intervention to enhance obstetric and newborn care in India: a cluster randomized-trial. Matern Child Health J. 2015;19(12):2698-706. doi: 10.1007/s10995-015-1792-0.

Gowani S, Yousafzai AK, Armstrong R, Bhutta ZA. Cost effectiveness of responsive stimulation and nutrition interventions on early child development outcomes in Pakistan. Ann N Y Acad Sci. 2014;1308:149-61. doi: 10.1111/nyas.12367.

Graves JM, Daniell WE, Harris JR, Obure AF, Quick R. Enhancing a safe water intervention with student-created visual aids to promote handwashing behavior in Kenyan primary schools. Int Q Community Health Educ. 2011;32(4):307-23. doi: 10.2190/IQ.32.4.d.

Guiteras R, Levinsohn J, Mobarak AM. Sanitation subsidies. Encouraging sanitation investment in the developing world: a cluster-randomized trial. Science. 2015;348(6237):903-6. doi: 10.1126/science.aaa0491.

Gultiano S, King E. A better start in life: evaluation results from an early childhood development program. Philipp J Dev. 2006;61(XXXIII):101-128. (https://dirp4.pids.gov.ph/ris/pjd/pidspjd06-childhood.pdf accessed 26 September 2017).

Habib MA, Soofi S, Sadiq K, Samejo T, Hussain M, Mirani M et al. A study to evaluate the acceptability, feasibility and impact of packaged interventions ("Diarrhea Pack") for prevention and treatment of childhood diarrhea in rural Pakistan. BMC Public Health. 2013; 13:922. doi: 10.1186/1471-2458-13-922.

Habib-Mourad C, Ghandour LA, Moore HJ, Nabhani-Zeidan M, Adetayo K, Hwalla N et al. Promoting healthy eating and physical activity among school children: findings from Health-E-PALS, the first pilot intervention from Lebanon. BMC Public Health. 2014;14:940. doi: 10.1186/1471-2458-14-940.

Haider R, Ashworth A, Kabir I, Huttly SR. Effect of community-based peer counsellors on exclusive breastfeeding practices in Dhaka, Bangladesh: a randomised controlled trial. Lancet. 2000;356(9242):1643-7.

Hamad R, Fernald LC, Karlan DS. Health education for microcredit clients in Peru: a randomized controlled trial. BMC Public Health. 2011;11(1):51. doi: 10.1186/1471-2458-11-51.

Hammer J, Spears D. Village sanitation and children's human capital: evidence from a randomized experiment by the Maharashtra government. Policy Research Working Paper 6580. Washington, DC:World Bank;2013(https://openknowledge.worldbank.org/handle/10986/16014,accessed 25 August 2017).

Handa S, Seidenfeld D, Davis B, Tembo G, Zambia cash transfer evaluation: the social and productive impacts of Zambia's child grant. J Policy Anal Manage. 2015;35(2):357-387. doi: 10.1002/pam.21892.

Handa S, Peterman A, Seidenfeld D, Tembo G. Income transfers and maternal health: evidence from a national randomized social cash transfer program in Zambia. Health Econ, 2016;25(2):225-36. doi: 10.1002/hec.3136.

Hanson C, Manzi F, Mkumbo E, Shirima K, Penfold S, Hill Z et al. Effectiveness of a home-based counselling strategy on neonatal care and survival: a cluster-randomised trial in six districts of rural Southern Tanzania. PLoS Med. 2015;12(9):e1001881. doi: 10.1371/journal.pmed.1001881.

Haque MF, Hussain M, Sarkar AK, Hoque MM, Ara FA, Sultana S. Breast-feeding counselling and its effect on the prevalence of exclusive breast-feeding. J Health Popul Nutr. 2002;20(4):312-6. (http://www.jstor.org/stable/23498919 accessed 26 September 2017).

Harris-Fry HA, Azad K, Younes L, Kuddus A, Shaha S, Nahar T et al. Formative evaluation of a participatory women's group intervention to improve reproductive and women's health outcomes in rural Bangladesh: a controlled before and after study. J Epidemiol Community Health. 2016;70(7):663-70. doi: 10.1136/jech-2015-205855.

Harutyunyan A, Movsisyan N, Petrosyan V, Petrosyan D, Stillman F. Reducing children's exposure to secondhand smoke at home: a randomized trial. Pediatr. 2013;132(6):1071-80. doi: 10.1542/peds.2012-2351.

He D, Cheng YM, Wu SZ, Decat P, Wang ZJ, Minkauskiene M et al. Promoting contraceptive use more effectively among unmarried male migrants in construction sites in China: a pilot intervention trial. Asia Pac J Public Health. 2012;24(5):806-15. doi: 10.1177/1010539511406106.

Heidari Z, Keshvari M, Kohan S. Clinical trial to comparison the effect of family-centered educational-supportive program on mothers' empowerment in breast-feeding. Int J Pediatr. 2016;4(3):1445-1451. doi: 10.22038/IJP.2016.6556.

Hemminki E, Long Q, Zhang WH, Wu ZC, Raven J, Tao F et al. Impact of financial and educational interventions on maternity care: results of cluster randomized trials in rural China, CHIMACA. Matern Child Health J. 2013;17(2):208-21. doi: 10.1007/s10995-012-0962-6.

Hetzel MW, Iteba N, Makemba A, Mshana C, Lengeler C, Obrist B et al. Understanding and improving access to prompt and effective malaria treatment and care in rural Tanzania: The ACCESS Programme. Malar J. 2007;6:83. doi: 10.1186/1475-2875-6-83.

Hien le TT, Takano T, Seino K, Ohnishi M, Nakamura K. Effectiveness of a capacity-building program for community leaders in a healthy living environment: a randomized community-based intervention in rural Vietnam. Health Promot Int. 2008;23(4):354-64. doi: 10.1093/heapro/dan035.

Higgins-Steele A, Noordam AC, Crawford J, Fotso JC. Improving care-seeking for facility-based health services in a rural, resource-limited setting: Effects and potential of an mHealth project. Afr Popul Stud. 2015;29(1):1643-1662. doi: 10.11564/29-1-715.

Ho LW, Shi Y, Luo R, Zhang L, Rozelle S. Improving the health and education of elementary schoolchildren in rural China: iron supplementation versus nutritional training for parents. J Dev Stud. 2014;50(4):502-519. doi: 10.1080/00220388.2013.866223.

Hoshi T, Banda PM, Pemba DF, Sunahara T, Minakawa N. Beyond buzzing: mosquito watching stimulates malaria bednet use-a household-based cluster-randomized controlled assessor blind educational trial. Emerg Microbes Infect. 2013;2(10):e67. doi: 10.1038/emi.2013.67.

Hossain MI, Nahar B, Hamadani JD, Ahmed T, Brown KH. Effects of community-based follow-up care in managing severely underweight children. J Pediatr Gastroenterol Nutr. 2011;53(3):310-9. doi: 10.1097/MPG.0b013e31821dca49.

Hotz C, Loechl C, de Brauw A , Eozenou P, Gilligan D, Moursi M et al. A large-scale intervention to introduce orange sweet potato in rural Mozambique increases vitamin A intakes among children and women. Br J Nutr. 2012;108(1):163-76. doi: 10.1017/S0007114511005174.

Hotz C, Loechl C, Lubowa A, Tumwine JK, Ndeezi G, Masawi A N et al. Introduction of beta -carotene-rich orange sweet potato in rural Uganda resulted in increased vitamin A intakes among children and women and improved vitamin A status among children. J Nutr. 2012;142(10):1871-1880. doi: 10.3945/jn.111.151829.

Hou Xiaohui. Can drought increase total calorie availability? The impact of drought on food consumption and the mitigating effects of a conditional cash transfer program. Econ Dev Cult Change. 2010;58:713-37. doi: 10.1086/652477.

Houweling TA, Tripathy P, Nair N, Rath S, Rath S, Gope R et al. The equity impact of participatory women's groups to reduce neonatal mortality in India: secondary analysis of a cluster-randomised trial. Int J Epidemi. 2013;42(2):520-32. doi: 10.1093/ije/dyt012.

Hu C, Ye D, Li Y, Huang Y, Li L, Gao Y, Wang S. Evaluation of a kindergarten-based nutrition education intervention for pre-school children in China. Public Health Nutr. 2010;13(2):253-60. doi: 10.1017/S1368980009990814.

Huerta MC. Child health in rural Mexico: Has progresa reduced children's morbidity risks?. Soc Policy Adm. 2006;40(6):652-677. doi: 10.1111/j.1467-9515.2006.00525.x.

Hutchinson PL, Meekers D. Estimating causal effects from family planning health communication campaigns using panel data: the "your health, your wealth" campaign in Egypt. PLoS ONE. 2012;7(9):e46138. doi: 10.1371/journal.pone.0046138

Hutchinson P, Wheeler J. Advanced methods for evaluating the impact of family planning communication programs: evidence from Tanzania and Nepal . Stud Fam Plann. 2006;37 (3):169-86. doi: 10.1111/j.1728-4465.2006.00096.x.

Ijumba P, Doherty T, Jackson D, Tomlinson M, Sanders D, Swanevelder S et al. Effect of an integrated community-based package for maternal and newborn care on feeding patterns during the first 12 weeks of life: a cluster-randomized trial in a South African township. Public Health Nutr. 2015;18(14):2660-8. doi: 10.1017/S1368980015000099.

Inayati DA, Scherbaum V, Purwestri RC, Wirawan NN, Suryantan J, Hartono S et al. Combined intensive nutrition education and micronutrient powder supplementation improved nutritional status of mildly wasted children on Nias Island, Indonesia. Asia Pac J Clin Nutr. 2012;21(3):361-73. (http://apjcn.nhri.org.tw/server/APJCN/21/3/361.pdf accessed 27 September 2017).

Jacobs E, Brambila C, Vernon R. Reproductive health care in the postnatal period in Guatemala. New York: Population Council, Frontiers in Reproductive Health; 2002 (http://pdf.usaid.gov/pdf_docs/Pnacs221.pdf, accessed 30 August 2017).

Jacobs KL. Nutrition interventions in Northern Ghana: determinants of participation and impacts on knowledge and practices. California: University of California, Davis; 2006.

Jaime P C, Machado F M, Westphal M F, Monteiro C A. Nutritional education and fruit and vegetable intake: a randomized community trial. Revista de Saude Publica. 2007; 41(1):154-7. doi: 10.1590/S0034-89102006005000014.

Jakobsen MS, Sodemann M, Biai S, Nielsen J, Aaby P. Promotion of exclusive breastfeeding is not likely to be cost effective in West Africa. A randomized intervention study from Guinea-Bissau. Acta paediatr Esp. 2008;97(1):68-75. doi: 10.1111/j.1651-2227.2007.00532.x.

Janssens W, Rosemberg C. The impact of a caribbean home-visiting child development program on cognitive Skills. Econ Educ Rev. 2014;39:22-37. doi: 10.1016/j.econedurev.2013.12.003.

Janssens W. Externalities in program evaluation: the impact of a women's empowerment program on immunization. J Eur Econ Assoc. 2011;9(6):1082-1113. doi: 10.1111/j.1542-4774.2011.01041.x.

Janssens W. Measuring externalities in program evaluation: spillover effects of a women's empowerment programme in rural India. Tinbergen Institute Discussion Paper. Amsterdam: Tinbergen Institute; 2006. doi: 10.2139/ssrn.672304

Jennings L, Yebadokpo A, Affo J, Agbogbe M. Use of job aids to improve facility-based postnatal counseling and care in rural Benin. Matern Child Health J. 2015;19(3):557-65. doi: 10.1007/s10995-014-1537-5.

Jiang J, Xia X, Greiner T, Wu G, Lian G, Rosenqvist U. The effects of a 3-year obesity intervention in schoolchildren in Beijing. Child Care Health Dev. 2007;33(5):641-6. doi: 10.1111/j.1365-2214.2007.00738.x.

Jin X, Sun Y, Jiang F, Ma J, Morgan C, Shen X. "Care for Development" intervention in rural China: a prospective follow-up study. J Dev Behav Pediatr. 2007;28(3):213-8. doi: 10.1097/dbp.0b013e31802d410b.

Jinadu MK, Adegbenro CA, Esmai AO, Ojo AA, Oyeleye BA. Health promotion intervention for hygienic disposal of children's faeces in a rural area of Nigeria. Health Educ J. 2007; 66(3):222-228. doi: 10.1177/0017896907080120.

Johri M, Chandra D, Koné KK, Dudeja S, Sylvestre MP, Sharma JK et al. Interventions to increase immunisation coverage among children 12-23 months of age in India through participatory learning and community engagement: pilot study for a cluster randomised trial. BMJ Open 2015;5:e007972. doi: 10.1136/bmjopen-2015-007972.

Joshi S, Schultz TP. Family planning and women's and children's health: long-term consequences of an outreach program in Matlab, Bangladesh. Demography. 2013;50(1):149-80. doi: 10.1007/s13524-012-0172-2.

Joshi S, Sivaram A. Does it pay to deliver? An evaluation of india's safe motherhood program. World Dev. 2014;64:434-447. doi: 10.1016/j.worlddev.2014.06.004.

Kabahenda M, Mullis RM, Erhardt JG, Northrop-Clewes C, Nickols SY. Nutrition education to improve dietary intake and micronutrient nutriture among children in less-resourced areas: a randomised controlled intervention in Kabarole district, western Uganda. S Afr J Clin Nutr. 2011;24(2):83-88. doi: 10.1080/16070658.2011.11734355.

Kabakian-Khasholian T, Campbell OMR. Impact of written information on women's use of postpartum services: a randomised controlled trial. Acta Obstet Gynecol Scand. 2007;86(7):793-798. doi: 10.1080/00016340701365340.

Kagitcibasi C, Sunar D, Bekman S. Long-term effects of early intervention: Turkish low-income mothers and children. J Appl Dev Psychol. 2001;22(4):333-361. doi: 10.1016/S0193-3973(01)00071-5.

Kahn C, Iraguha M, Baganizi M, Kolenic GE, Paccione GA, Tejani N. Cash transfers to increase antenatal care utilization in Kisoro, Uganda: a pilot study. Afr J Reprod Health. 2015;19(3):144-50. (https://www.ajol.info/index.php/ajrh/article/view/124905/114422 accessed 27 September 2017).

Kamiya Y, Yoshimura, Islam MT. An impact evaluation of the Safe Motherhood Promotion Project in Bangladesh: evidence from Japanese aid-funded technical cooperation. Soc Sci Med. 2013;83:34-41. doi: 10.1016/j.socscimed.2013.01.035.

Kangwana BP, Kedenge SV, Noor AM, Alegana VA, Nyandigisi AJ, Pandit J et al. The effect of an anti-malarial subsidy programme on the quality of service provision of artemisinin-based combination therapy in Kenya: a cluster-randomized, controlled trial. Malar J. 2013;12:81. doi: 10.1186/1475-2875-12-81.

Kapur D, Sharma S, Agarwal KN. Effectiveness of nutrition education, iron supplementation or both on iron status in children. Indian Pediatr. 2003;40(12):1131-44. (http://www.indianpediatrics.net/dec2003/dec-1131-1144.htm accessed 27 September 2017)

Karout N, Altuwaijri S. Impact of health education on community knowledge, attitudes and behaviour towards solid waste management in Al Ghobeiry, Beirut. East Mediterr Health J. 2012;18(7):777-85. (http://apps.who.int/iris/bitstream/10665/118185/1/2012_18_7_0777_0785.pdf accessed 27 Septmeber 2017).

Keating J, Hutchinson P, Miller JM, Bennett A, Larsen D A, Hamainza B et al. A quasi-experimental evaluation of an interpersonal communication intervention to increase insecticide-treated net use among children in Zambia. Malar J. 2012;11:313. doi: 10.1186/1475-2875-11-313.

Keefer P, Khemani S. The government response to informed citizens: new evidence on media access and the distribution of public health. World Bank Econ Rev. 2016;30(2):233-267. doi: 10.1093/wber/lhv040.

Khan AI, Hawkesworth S, Ekstrom EC, Arifeen S, Moore SE, Frongillo EA et al. Effects of exclusive breastfeeding intervention on child growth and body composition: the MINIMat trial, Bangladesh. Acta Paediatr. 2013;102(8):815-23. doi: 10.1111/apa.12282.

Khayyati F, Mansouri M. The effect of training movies on exclusive breastfeeding. Pak J Med Sci. 2009;25(3):434-438. (https://www.pjms.com.pk/issues/aprjun209/pdf/19.article18.pdf accessed 27 September 2017)

Khoramabadi M, Dolatian M, Hajian S, Zamanian M, Taheripanah R, Sheikhan Z et al. Effects of education based on health belief model on dietary behaviors of Iranian pregnant women. Glob H Health Sci. 2012;8(2):230-239. doi: 10.5539/gjhs.v8n2p230.

Khresheh R, Suhaimat A, Jalamdeh F, Barclay L. The effect of a postnatal education and support program on breastfeeding among primiparous women: a randomized controlled trial. Int J Nurs Stud. 2011;48(9):1058-65. doi: 10.1016/j.ijnurstu.2011.02.001.

Kilian A, Balayo C, Feldman M, Koenker H, Lokko K, Ashton RA et al. The effect of single or repeated home visits on the hanging and use of insecticide-treated mosquito nets following a mass distribution campaign-a cluster randomized, controlled trial. PLoS ONE. 2015;10(3):e0119078. doi: 10.1371/journal.pone.0119078.

Kilicarslan Torune E, Ayaz S, Altay N, Akgun Citak E, Sahin S. Efficacy of a school-based healthy life program in Turkey. Child Health Care. 2014;44(1):69-86. doi: 10.1080/02739615.2014.880918.

Kim DA, Hwong AR, Stafford D, Hughes DA, O'Malley AJ, Fowler JH et al. Social network targeting to maximise population behaviour change: a cluster randomised controlled trial. Lancet. 2015;386(9989):145-53. doi: 10.1016/S0140-6736(15)60095-2.

Kincaid DL, Do MP. Multivariate causal attribution and cost-effectiveness of a national mass media campaign in the Philippines. J Health Commun. 2006;11(Suppl 2):69-90. doi: 10.1080/10810730600974522.

Kirkwood BR, Manu A, ten Asbroek AH, Soremekun S, Weobong B, Gyan T et al. Effect of the Newhints home-visits intervention on neonatal mortality rate and care practices in Ghana: a cluster randomised controlled trial. Lancet. 2013;381(9884):2184-92. doi: 10.1016/S0140-6736(13)60095-1.

Klein PS, Rye H. Interaction-oriented early intervention in Ethiopa–The MISC approach. Infants Young Child. 2004;17(4):340-354. doi: 10.1097/00001163-200410000-00007.

Kouyaté B, Somé F, Jahn A, Coulibaly B, Eriksen J, Sauerborn R et al. Process and effects of a community intervention on malaria in rural Burkina Faso: randomized controlled trial. Malar J. 2008;7:50. doi: 10.1186/1475-2875-7-50.

Krenn S, Cobb L, Babalola S, Odeku M, Kusemiju B. Using behavior change communication to lead a comprehensive family planning program: the Nigerian Urban Reproductive Health Initiative. Glob Health Sci Pract. 2014;2(4):427–443. doi: 10.9745/GHSP-D-14-00009.

Krezanoski PJ, Comfort AB, Hamer DH. Effect of incentives on insecticide-treated bed net use in sub-Saharan Africa: a cluster randomized trial in Madagascar. Malar J. 2010;9:186. doi: 10.1186/1475-2875-9-186.

Kunene B, Beksinska M, Zondi S, Mthembu N, Mullick S, Ottolenghi E et al. Involving men in maternity care. CiteSeerX Scientific Literature Digital Library; 2004 (http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.175.8898, accessed 25 August 2017).

Kulwa KB, Verstraeten R, Bouckaert KP, Mamiro P , Kolsteren PW, Lachat C. Effectiveness of a nutrition education package in improving feeding practices, dietary adequacy and growth of infants and young children in rural Tanzania: rationale, design and methods of a cluster randomised trial. BMC Public Health. 2014;14:1077. doi: 10.1186/1471-2458-14-1077.

Kumar V, Mohanty S, Kumar A, Misra RP, Santosham M, Awasthi S et al. Effect of community-based behaviour change management on neonatal mortality in Shivgarh, Uttar Pradesh, India: a cluster-randomised controlled trial. Lancet. 2008;372(9644):1151-62. doi: 10.1016/S0140-6736(08)61483-X.

Kumar V, Kumar A, Das V, Srivastava NM, Baqui AH, Santosham M et al. Community-driven impact of a newborn-focused behavioral intervention on maternal health in Shivgarh, India. Int J Gynecol Obstet. 2012;117(11):48-55. doi: 10.1016/j.ijgo.2011.10.031.

Kupratakul J, Taneepanichskul S, Voramongkol N, Phupong V. A randomized controlled trial of knowledge sharing practice with empowerment strategies in pregnant women to improve exclusive breastfeeding during the first six months postpartum. J Med Assoc Thai. 2010;93(9):1009-18. (http://bsris.swu.ac.th/iprc/8th/031_43_8_Jutamart.pdf accessed 27 September 2017).

Kusuma D, Cohena J, McConnell M, Bermana P. Can cash transfers improve determinants of maternal mortality? Evidence from the household and community programs in Indonesia. Soc Sci Med. 2016;163:10-20. doi: 10.1016/j.socscimed.2016.06.020.

Langendorf C, Roederer T, de Pee S , Brown D, Doyon S, Mamaty AA et al. Preventing acute malnutrition among young children in crises: a prospective intervention study in Niger. PLoS Medicine. 2014;11(9):e1001714. doi: 10.1371/journal.pmed.1001714.

Langford R, Lunn P, Panter-Brick C. Hand-washing, subclinical infections, and growth: a longitudinal evaluation of an intervention in Nepali slums. Am J Hum Biol. 2011;23(5):621-9. doi: 10.1002/ajhb.21189.

Langston A, Weiss J, Landegger J, Pullum T, Morrow M, Kabadege M et al. Plausible role for CHW peer support groups in increasing care-seeking in an integrated community case management project in Rwanda: a mixed methods evaluation. Glob Health Sci Pract. 2014;2(3):342-54. doi: 10.9745/GHSP-D-14-00067.

Lansdown R, Ledward A, Hall A, Issae W, Yona E, Matulu J et al. Schistosomiasis, helminth infection and health education in Tanzania: achieving behaviour change in primary schools. Health Educ Res. 2002;17(4):425-33. doi: 10.1093/her/17.4.425.

Le Roux IM, le Roux K , Comulada WS, Greco EM, Desmond KA, Mbewu N et al. Home visits by neighborhood Mentor Mothers provide timely recovery from childhood malnutrition in South Africa: results from a randomized controlled trial. Nutr J. 2010;9:56. doi: 10.1186/1475-2891-9-56.

Le Roux IM, le Roux K, Mbeutu K, Comulada WS, Desmond KA, Rotheram-Borus MJ. A randomized controlled trial of home visits by neighborhood mentor mothers to improve children's nutrition in South Africa. Vulnerable Child Youth Stud. 2011;6(2): 91–102. doi: 10.1080/17450128.2011.564224

Le Roux IM, Tomlinson M, Harwood JM, O'Connor MJ, Worthman CM, Mbewu N et al. Outcomes of home visits for pregnant mothers and their infants: a cluster randomized controlled trial. Aids. 2013;27(9):1461-71. doi: 10.1097/QAD.0b013e3283601b53.

LeFevre AE, Shillcutt SD, Waters HR, Haider S, El Arifeen S , Mannan I et al. Economic evaluation of neonatal care packages in a cluster-randomized controlled trial in Sylhet, Bangladesh. Bull World Health Organ. 2013;91:736-745. doi: 10.2471/BLT.12.117127.

Leite AJ, Puccini RF, Atalah AN, Alves Da Cunha AL, Machado MT. Effectiveness of home-based peer counselling to promote breastfeeding in the northeast of Brazil: a randomized clinical trial. Acta paediatr. 2005;94(6):741-6. doi: 10.1080/08035250410023854.

León M, Younger SD. Transfer payments, mothers' income and child health in ecuador. J Dev Stud. 2007;43(6):1126-1143. doi: 10.1080/00220380701466708.

Leroy JL, Gadsden P, Rodriguez-Ramirez S, de Cossio TG. Cash and in-kind transfers in poor rural communities in Mexico increase household fruit, vegetable, and micronutrient consumption but also lead to excess energy consumption. J Nutr. 2010;140(3):612-7. doi: 10.3945/jn.109.116285.

Leroy JL, Garcia-Guerra A, García R, Dominguez C, Rivera J, Neufeld LM. The Oportunidades program increases the linear growth of children enrolled at young ages in urban Mexico. J Nutr. 2008;138(4):793-8. (http://jn.nutrition.org/content/138/4/793.full.pdf accessed 27 September 2017).

Levine D, Polimeni R, Ramage I. Insuring health or insuring wealth? An experimental evaluation of health insurance in rural Cambodia. IRLE Working Paper No. 109-14. California: Berkley University of California; 2014(http://irle.berkeley.edu/files/2014/Insuring-Health-or-Insuring-Wealth.pdf, accessed 30 August 2017).

Lewycka S, Mwansambo C, Rosato M, Kazembe P, Phiri T, Mganga A et al. Effect of women's groups and volunteer peer counselling on rates of mortality, morbidity, and health behaviours in mothers and children in rural Malawi (MaiMwana): a factorial, cluster-randomised controlled trial. Lancet. 2013;381(9879):1721-35. doi: 10.1016/S0140-6736(12)61959-X.

Liambila W, Obare F, Keesbury J. Can private pharmacy providers offer comprehensive reproductive health services to users of emergency contraceptives? Evidence from Nairobi, Kenya. Patient Education and Counseling. 2010; 81(3):368-73. doi: 10.1016/j.pec.2010.09.001.

Lim S S, Dandona L, Hoisington JA, James SL, Hogan MC, Gakidou E. India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. Lancet. 2010;375(9730):2009-23. doi: 10.1016/S0140-6736(10)60744-1.

Lindquist ED, George CM, Perin J, Neiswender de Calani KJ, Norman WR, Davis TP et al. A cluster randomized controlled trial to reduce childhood diarrhea using hollow fiber water filter and/or hygiene-sanitation educational interventions. Am J Trop Med Hyg. 2014;91(1):190-7. doi: 10.4269/ajtmh.13-0568.

Linnemayr S, Alderman H. Almost random: evaluating a large-scale randomized nutrition program in the presence of crossover. Policy Research Working Paper 4784. Washington, DC: World Bank; 2008 (https://openknowledge.worldbank.org/handle/10986/6293, accessed 5 September 2017).

Liu N, Mao L, Sun X, Liu L, Yao P, Chen B. The effect of health and nutrition education intervention on women's postpartum beliefs and practices: a randomized controlled trial. BMC Public Health. 2009;9:45. doi: 10.1186/1471-2458-9-45.

Lokshin M, Das Gupta M, Gragnolati M, Ivaschenko O. Improving child nutrition? The integrated child development services in India. Dev Change. 2005;36(4):613-640. doi: 10.1111/j.0012-155X.2005.00427.x.

Louzada ML, Campagnolo PD, Rauber F, Vitolo MR. Long-term effectiveness of maternal dietary counseling in a low-income population: a randomized field trial. Pediatr. 2012;129(6):e1477-84. doi: 10.1542/peds.2011-3063.

Luby SP, Agboatwalla M, Painter J, Altaf A, Billhimer W, Keswick B et al. Combining drinking water treatment and hand washing for diarrhoea prevention, a cluster randomised controlled trial. Trop Med Int Health. 2006;11(4):479-89. doi: 10.1111/j.1365-3156.2006.01592.x.

Luby SP, Agboatwalla M, Painter J, Altaf A, Billhimer W L, Hoekstra RM. Effect of intensive handwashing promotion on childhood diarrhea in high-risk communities in Pakistan: a randomized controlled trial. J Am Med Assoc. 2004;291(21):2547-54. doi: 10.1001/jama.291.21.2547.

Luby SP, Kadir MA, Yushuf Sharker MA, Yeasmin F, Unicomb L, Sirajul Islam M. A community-randomised controlled trial promoting waterless hand sanitizer and handwashing with soap, Dhaka, Bangladesh. Trop Med Int Health. 2010;15(12):1508-16. doi: 10.1111/j.1365-3156.2010.02648.x.

Luby SP, Agboatwalla M, Feikin DR, Painter J, Billhimer W, Altaf A et al. Effect of handwashing on child health: a randomised controlled trial. Lancet. 2005;366(9481):225-233. doi: 10.1016/S0140-6736(05)66912-7.

Lund S, Hemed M, Nielsen BB, Said A, Said K, Makungu MH et al. Mobile phones as a health communication tool to improve skilled attendance at delivery in Zanzibar: a cluster-randomised controlled trial. BJOG. 2012;119(10):1256-64. doi: 10.1111/j.1471-0528.2012.03413.x.

Lund S, Nielsen BB, Hemed M, Boas IM, Said A, Said K et al. Mobile phones improve antenatal care attendance in Zanzibar: a cluster randomized controlled trial. BMC Pregnancy Childbirth. 2014;14:29. doi: 10.1186/1471-2393-14-29.

Luoto J, Levine D, Albert J, Luby S. Nudging to use: achieving safe water behaviors in Kenya and Bangladesh. J Dev Econ. 2014;110:13-21. doi: 10.1016/j.jdeveco.2014.02.010.

Luseno WK, Singh K, Handa S, Suchindran C. A multilevel analysis of the effect of Malawi's Social Cash Transfer Pilot Scheme on school-age children's health. Health Policy Plan. 2014;29(4):421-32. doi: 10.1093/heapol/czt028.

Lutalo T, Kigozi G, Kimera E, Serwadda D, Wawer M J, Zabin LS et al. A randomized community trial of enhanced family planning outreach in Rakai, Uganda. Stud Fam Plann. 2010;41(1):55-60. doi: 10.1111/j.1728-4465.2010.00224.x.

Macinko J, Guanais F C, de Fatima M, de Souza M. Evaluation of the impact of the Family Health Program on infant mortality in Brazil, 1990-2002. J Epidemiol Community Health. 2006;60(1):13-9. doi: 10.1136/jech.2005.038323.

Macours K, Schady N, Vakis R. Cash transfers, behavioral changes, and cognitive development in early childhood: evidence from a randomized experiment. Am Econ J: Appl Econ. 2012;4(2):247-273. doi: 10.1257/app.4.2.247.

Magoma M, Requejo J, Campbell O, Cousens S, Merialdi M, Filippi V. The effectiveness of birth plans in increasing use of skilled care at delivery and postnatal care in rural Tanzania: a cluster randomised trial. Trop Med Int Health. 2013;18(4):435-43. doi: 10.1111/tmi.12069.

Mahamed F, Parhizkar S, Raygan SA . Impact of family planning health education on the knowledge and attitude among Yasoujian women. Glob J Health Sci. 2012;4(2):110-8. doi: 10.5539/gjhs.v4n2p110.

Malek MA, Saha R, Chowdhury P, Khan T, Mohammad I. Water quality information, WATSAN-agriculture hygiene messages and water testing with school students: Experimental evidence for behavioral changes in Bangladesh. International Association of Agricultural Economists 2015 Conference, August 9-14, Milan, Italy (http://ageconsearch.umn.edu/record/211681, accessed 5 September 2017).

Målqvist M, Hoa DPT, Persson LA, Selling KE. Effect of facilitation of local stakeholder groups on equity in neonatal survival; results from the NeoKIP trial in Northern Vietnam. PLoS One. 2015;10(12):e0145510. doi: 10.1371/journal.pone.0145510.

Manandhar DS, Osrin D, Shrestha BP, Mesko N, Morrison J, Tumbahangphe KM et al. Effect of a participatory intervention with women's groups on birth outcomes in Nepal: cluster-randomised controlled trial. Lancet. 2004;364(9438):970-9. doi: 10.1016/S0140-6736(04)17021-9.

Manu A, Hill Z, Ten Asbroek AH, Soremekun S, Weobong B, Gyan T et al. Increasing access to care for sick newborns: evidence from the Ghana Newhints cluster-randomised controlled trial. BMJ Open. 2016;6:e008107. doi: 10.1136/bmjopen-2015-008107.

Marais S, Jordaan E, Viljoen D, Olivier L, de Waal J, Poole C. The effect of brief interventions on the drinking behaviour of pregnant women in a high-risk rural South African community: a cluster randomised trial. Early Child Dev Care. 2011;181(4):463-474. doi: 10.1080/03004430903450392.

Marsh D R, Pachón H, Schroeder DG, Ha TT, Dearden K, Lang TT et al. Design of a prospective, randomized evaluation of an integrated nutrition program in rural Viet Nam. Food Nutr Bull. 2002;23(4 Suppl):36-47. (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.607.732&rep=rep1&type=pdf accessed 27 September 2017).

Mäusezahl D, Christen A, Pacheco GD, Tellez FA, Iriarte M, Zapata ME et al. Solar drinking water disinfection (SODIS) to reduce childhood diarrhoea in rural Bolivia: a cluster-randomized, controlled trial. PLoS Med. 2009;6(8):e1000125. doi: 10.1371/journal.pmed.1000125.

Mazumder S, Taneja S, Bahl R, Mohan P, Strand TA, Sommerfelt H et al. Effect of implementation of Integrated Management of Neonatal and Childhood Illness programme on treatment seeking practices for morbidities in infants: cluster randomised trial. BMJ. 2014;349:g4988. doi: 10.1136/bmj.g4988.

McConnell M, Ettenger A, Rothschild CW, Muigai F, Cohen J. Can a community health worker administered postnatal checklist increase health-seeking behaviors and knowledge?: evidence from a randomized trial with a private maternity facility in Kiambu County, Kenya. BMC Pregnancy Childbirth. 2016;16:136. doi: 10.1186/s12884-016-0914-z.

McQuestion MJ, Velasquez A. Evaluating program effects on institutional delivery in Peru. Health Policy. 2006;77(2):221-32. doi: 10.1016/j.healthpol.2005.07.007.

Mehdizadeh A, Roosta F, Chaichian S, Alaghehbandan R. Evaluation of the impact of birth preparation courses on the health of the mother and the newborn. Am J Perinatol. 2005;22(1):7-9. doi: 10.1055/s-2004-837738.

Merttens F, Hurrell A, Marzi M, Attah R, Farhat M, Kardan A et al. Kenya hunger safety net programme monitoring and evaluation component. Impact Evaluation Final Report: 2009 to 2012. Oxford: Oxford Policy Management; 2013 (https://www.oecd.org/derec/

unitedkingdom/Evaluation-of-the-Hunger-Safety-Net-Programme-Kenya.pdf, accessed 5 September 2017).

Midhet F, Becker S. Impact of community-based interventions on maternal and neonatal health indicators: results from a community randomized trial in rural Balochistan, Pakistan. Reprod Health. 2010;7:30. doi: 10.1186/1742-4755-7-30.

Miller CM, Tsoka M, Reichert K. The impact of the Social Cash Transfer Scheme on food security in Malawi. Food Policy. 2011;36(2):230-238. doi: 10.1016/j.foodpol.2010.11.020.

Miller G, RenFu L, Zhang L, Sylvia S, Shi Y, Foo P et al. Effectiveness of provider incentives for anaemia reduction in rural China: a cluster randomised trial. BMJ. 2012;345:e4809. doi: 10.1136/bmj.e4809.

Miller G, Mobarak AM. Learning about new echnologies through social networks: experimental evidence on nontraditional stoves in Bangladesh. Mark Sci. 2014;34(4):480-99. doi: 10.1287/mksc.2014.0845.

Mitchell-Foster K, Ayala EB, Breilh J, Spiegel J, Wilches AA, Leon TO et al. Integrating participatory community mobilization processes to improve dengue prevention: an eco-bio-social scaling up of local success in Machala, Ecuador. Trans R Soc Trop Med Hyg. 2015;109(2):126-133. doi: 10.1093/trstmh/tru209.

Mo D, Luo R, Liu C, Zhang H, Zhang L, Medina A et al. Text messaging and its impacts on the health and education of the poor: evidence from a field experiment in rural China. World Dev. 2014;64:766-780. doi: 10.1016/j.worlddev.2014.07.015.

Mohan P, Iyengar SD, Martines J, Cousens S, Sen K. Impact of counselling on careseeking behaviour in families with sick children: cluster randomised trial in rural India. BMJ. 2004; 329(7640):266-69. doi: 10.1136/bmj.38149.703380.47

Mohebbi SZ, Virtanen JI, Vehkalahti MM. A community-randomized controlled trial against sugary snacking among infants and toddlers. Community Dent Oral Epidemiol. 2012;40(Suppl 1):43-8. doi: 10.1111/j.1600-0528.2011.00665.x.

Mohlman MK, Boulos DN, El Setouhy M , Radwan G, Makambi K, Jillson I et al. A randomized, controlled community-wide intervention to reduce environmental tobacco smoke exposure. Nicotine Tob Res. 2013;15(8):1372-81. doi: 10.1093/ntr/nts333.

More NS, Bapat U, Das S, Alcock G, Patil S, Porel M et al. Community mobilization in Mumbai slums to improve perinatal care and outcomes: a cluster randomized controlled trial. PLoS Med. 2012;9(7): e1001257. doi: 10.1371/journal.pmed.1001257.

Mori R, Yonemoto N, Noma H, Ochirbat T, Barber E, Soyolgerel G et al. The Maternal and Child Health (MCH) handbook in Mongolia: a cluster-randomized, controlled trial. PLoS One. 2015;10(4):e0119772. doi: 10.1371/journal.pone.0119772.

Morris SS, Flores R, Olinto P, Medina JM. Monetary incentives in primary health care and effects on use and coverage of preventive health care interventions in rural Honduras: cluster randomised trial. Lancet. 2004;364(9450):2030-7. doi: 10.1016/S0140-6736(04)17515-6.

Morris SS, Olinto P, Flores R, Nilson EA, Figueiró AC. Conditional cash transfers are associated with a small reduction in the rate of weight gain of preschool children in Northeast Brazil. J Nutr. 2004;134(9):2336-41. (http://jn.nutrition.org/content/134/9/2336.full.pdf accessed 27 September 2017).

Mukuria AG, Martin SL, Egondi T, Bingham A, Thuita FM. Role of social support in improving infant feeding practices in western Kenya: a quasi-experimental study. Glob Health Sci Pract. 2016;4(1):55-72. doi: 10.9745/GHSP-D-15-00197.

Mullany BC, Becker S, Hindin MJ. The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: results from a randomized controlled trial. Health Educ Res. 2007;22(2):166-76. doi: 10.1093/her/cyl060

Mullany BC, Lakhey B, Shrestha D, Hindin MJ Becker S. Impact of husbands' participation in antenatal health education services on maternal health knowledge. JNMA J Nepal Med Assoc. 2009;48:28-34. doi: 10.1093/her/cyl060.

Müller O, De Allegri M , Becher H, Tiendrebogo J, Beiersmann C, Ye M et al. Distribution systems of insecticide-treated bed nets for malaria control in rural Burkina Faso: cluster-randomized controlled trial. PLoS One. 2008;3(9): e3182. doi: 10.1371/journal.pone.0003182.

Murray L, Cooper P, Arteche A, Stein A, Tomlinson M. Randomized controlled trial of a home-visiting intervention on infant cognitive development in peri-urban South Africa. Dev Med Child Neurol. 2016;58(3):270-6. doi: 10.1111/dmcn.12873.

Nahar B, Hossain MI, Hamadani JD, Ahmed T, Grantham-McGregor S, Persson LA. Effects of psychosocial stimulation on improving home environment and child-rearing practices: results from a community-based trial among severely malnourished children in Bangladesh. BMC Public Health. 2012;12:622. doi: 10.1186/1471-2458-12-622.

Nahar B, Hossain MI, Hamadani JD, Ahmed T, Huda SN, Grantham-McGregor SM, Persson LA. Effects of a community-based approach of food and psychosocial stimulation on growth and development of severely malnourished children in Bangladesh: a randomised trial. Eur J Clin Nutr. 2012;66(6):701-9. doi: 10.1038/ejcn.2012.13.

Nair MK, Philip E, Jeyaseelan L, George B, Mathews S, Padma K. Effect of child development centre model early stimulation among at-risk babies – a randomized controlled trial. Indian Pediatr. 2009;46 (Suppl):s20-6. (https://www.ncbi.nlm.nih.gov/pubmed/19279365?dopt=Abstract accessed 27 September 2017)

Nana CP, Brouwer ID, Zagré NM, Kok FJ, Traore AS. Impact of promotion of mango and liver as sources of vitamin A for young children: a pilot study in Burkina Faso. Public Health Nutr. 2006;9(6):808-13. doi: 10.1079/PHN2005911.

Nankabirwa V, Tylleskar T, Nankunda J, Engebretsen IM, Sommerfelt H, Tumwine J K et al. Malaria parasitaemia among infants and its association with breastfeeding peer counselling and vitamin A supplementation: a secondary analysis of a cluster randomized trial. PLoS One. 2011;6(7):e21862. doi: 10.1371/journal.pone.0021862.

Nascimento SL, Surita FG, Parpinelli MÂ, Siani S, Pinto e Silva JL. The effect of an antenatal physical exercise programme on maternal/perinatal outcomes and quality of life in overweight and obese pregnant women: a randomised clinical trial. BJOG. 2011;118(12):1455-63. doi: 10.1111/j.1471-0528.2011.03084.x.

Ngondi J, Teferi T, Gebre T, Shargie EB, Zerihun M, Ayele B et al. Effect of a community intervention with pit latrines in five districts of Amhara, Ethiopia. Trop Med Int Health. 2010;15(5):592-9. doi: 10.1111/j.1365-3156.2010.02500.x.

Nguyen HT, Hatt L, Islam M, Sloan NL, Chowdhury J, Schmidt JO et al. Encouraging maternal health service utilization: An evaluation of the Bangladesh voucher program. Soc Sci Med. 2012;74(7):989-96. doi: 10.1016/j.socscimed.2011.11.030.

Nguyen PH, Kim SS, Keithly SC, Hajeebhoy N, Tran LM, Ruel MT et al. Incorporating elements of social franchising in government health services improves the quality of infant and young child feeding counselling services at commune health centres in Vietnam. Health Policy Plann. 2014;29(8):1008-20. doi: 10.1093/heapol/czt083.

Nicholson JA, Naeeni M, Hoptroff M, Matheson JR, Roberts AJ, Taylor D et al. An investigation of the effects of a hand washing intervention on health outcomes and school absence using a randomised trial in Indian urban communities. Trop Med Int Health. 2014;19(3):284-292. doi: 10.1111/tmi.12254.

Nikièma L, Huybregts L, Kolsteren P, Lanou H, Tiendrebeogo S, Bouckaert K et al. Treating moderate acute malnutrition in first-line health services: an effectiveness cluster-randomized trial in Burkina Faso. Am J Clin Nutr. 2014;100(1):241-9. doi: 10.3945/ajcn.113.072538.

Nuraini E, Parker E. Improving knowledge of antenatal care (ANC) among pregnant women: a field trial in central Java, Indonesia. Asia Pac J Public Health. 2005;17(1):3-8. doi: 10.1177/101053950501700102.

Nyqvist MB, de Walque D, Svensson J. Information is power experimental evidence on the long-run impact of community based monitoring. Policy Research Working Paper 7015. Washington, DC: World Bank Group; 2014 (https://openknowledge.worldbank.org/handle/10986/20364, accessed 5 September 2017).

Obare F, Okwero P, Villegas L, Mills S, Bellows B. Increased coverage of maternal health services among the poor in western Uganda in an output-based aid voucher scheme. Policy Research Working Paper 7709. Washington, DC: World Bank Group; 2016 (http://documents.worldbank.org/curated/en/349851468195547904/pdf/WPS7709.pdf, accessed 5 September 2017).

Obare F, Warren C, Kanya L, Abuya T, Bellows B. Community-level effect of the reproductive health vouchers program on out-of-pocket spending on family planning and safe motherhood services in Kenya. BMC Health Serv Res. 2015;15:343. doi: 10.1186/s12913-015-1000-3.

Ochola SA, Labadarios D, Nduati RW. Impact of counselling on exclusive breast-feeding practices in a poor urban setting in Kenya: a randomized controlled trial. Public Health Nutr. 2013;16(10):1732-40. doi: 10.1017/S1368980012004405.

Okoli U, Morris L, Oshin A, Pate MA, Aigbe C, Muhammad A. Conditional cash transfer schemes in Nigeria: potential gains for maternal and child health service uptake in a national pilot programme. BMC Pregnancy Childbirth. 2014;14:408. doi: 10.1186/s12884-014-0408-9.

Olney DK, Pedehombga A, Ruel MT, Dillon A. A 2-year integrated agriculture and nutrition and health behavior change communication program targeted to women in Burkina Faso reduces anemia, wasting, and diarrhea in children 3-12.9 months of age at baseline: a cluster-randomized controlled trial. J Nutr. 2015;145(6):1317-1324. doi: 10.3945/jn.114.203539.

Omer K, Mhatre S, Ansari N, Laucirica J, Andersson N. Evidence-based training of frontline health workers for door-to-door health promotion: A pilot randomized controlled cluster trial with lady health workers in Sindh Province, Pakistan. Patient Educ Couns. 2008;72(2):178-85. doi: 10.1016/j.pec.2008.02.018.

Onwujekwe O, Mangham-Jefferies L, Cundill B, Alexander N, Langham J, Ibe O et al. Effectiveness of provider and community interventions to improve treatment of uncomplicated malaria in Nigeria: a cluster randomized controlled trial. PLoS One. 2015;10(8):e0133832. doi: 10.1371/journal.pone.0133832.

Opryszko MC, Majeed SW, Hansen PM, Myers JA, Baba D, Thompson RE et al. Water and hygiene interventions to reduce diarrhoea in rural Afghanistan: a randomized controlled study. J Water Health. 2010;8(4):687-702. doi: 10.2166/wh.2010.121.

Oveisi S, Ardabili HE, Dadds MR, Majdzadeh R, Mohammadkhani P, Rad J A et al. Primary prevention of parent-child conflict and abuse in Iranian mothers: a randomized-controlled trial. Child Abuse Negl. 2010;34(3):206-13. doi: 10.1016/j.chiabu.2009.05.008.

Overgaard HJ, Alexander N, Mátiz MI, Jaramillo JF, Olano VA, Vargas S et al. A cluster-randomized controlled trial to reduce diarrheal disease and dengue entomological risk factors in rural primary schools in Colombia. PLoS Negl Trop Dis. 2016;10(11):e0005106. doi: 10.1371/journal.pntd.0005106.

Owais A, Hanif B, Siddiqui AR, Agha A, and Zaidi AK. Does improving maternal knowledge of vaccines impact infant immunization rates? A community-based randomized-controlled trial in Karachi, Pakistan. BMC Public Health. 2011;11:239. doi: 10.1186/1471-2458-11-239.

Ozer EJ, Fernald LC, Manley JG, Gertler PJ. Effects of a conditional cash transfer program on children's behavior problems. Pediatr. 2009;123(4):e630-7. doi: 10.1542/peds.2008-2882.

Padilla Ade J, Trujillo JC. An impact assessment of the child growth, development and care program in the Caribbean region of Colombia. Cad Saude Publica. 2015;31(10):2099-109. doi: 10.1590/0102-311X00153514.

Pandey P, Sehgal AR, Riboud M, Levine D, Goyal M. Informing resource-poor populations and the delivery of entitled health and social services in rural India: a cluster randomized controlled trial. J Am Med Assoc. 2007;298(16):1867-75. doi: 10.1001/jama.298.16.1867.

Pasha O, McClure EM, Wright LL, Saleem S, Goudar SS et al. A combined community- and facility-based approach to improve pregnancy outcomes in low-resource settings: a Global Network cluster randomized trial. BMC Med. 2013;11:215. doi: 10.1186/1741-7015-11-215.

Patel R, Oken E, Bogdanovich N, Matush L, Sevkovskaya Z, Chalmers B et al. Cohort profile: the Promotion of Breastfeeding Intervention Trial (PROBIT). Int J Epidemiol. 2014;43(3):679-90. doi: 10.1093/ije/dyt003.

Patil SR, Arnold BF, Salvatore AL, Briceno B, Ganguly S, Colford JM et al. The effect of India's total sanitation campaign on defecation behaviors and child health in rural Madhya Pradesh: a cluster randomized controlled trial. PLoS Med. 2014;11(8):e1001709. doi: 10.1371/journal.pmed.1001709

Patil SR, Arnold BF, Salvatore A, Briceno B, Colford JM, Gertler PJ. A randomized, controlled study of a rural sanitation behavior change program in Madhya Pradesh, India. World Bank Policy Research Working Paper 6702. Washington, DC: World Bank. 2013. (https://ssrn.com/abstract=2354753 accessed 27 September 2017).

Pattanayak SK, Yang JC, Dickinson KL, Poulos C, Patil SR, Mallick RK et al. Shame or subsidy revisited: social mobilization for sanitation in Orissa, India. Bull World Health Organ. 2009;87:580-7.(http://www.who.int/bulletin/volumes/87/8/08-057422/en/ accessed 27 September 2017).

Paxson C, Schady N. Does money matter? The effects of cash transfers on child development in Rural Ecuador. Econ Dev Cult Change. 2010;59(1):187-229. doi: 10.1086/655458.

Pei L, Wang D, Ren L, Yan H. Evaluation of the rural primary health care project on undernutrition equity among children in rural western China. Health Policy Plan. 2013;28:429-34. doi: 10.1093/heapol/czs074.

Pellerano L, Moratti M, Jakobsen M, Bajgar M, Barca V. Child grants programme impact evaluation: follow-up report. Oxford: Oxford Policy Management. 2014. (http://www.fao.org/fileadmin/user_upload/p2p/Documents/draft_CGP_Follow_Up_v11_out.pdf accessed 27 September 2017).

Pence BW, Nyarko P, Phillips JF, Debpuur C. The effect of community nurses and health volunteers on child mortality: the Navrongo Community Health and Family Planning Project. Scand J Public Health. 2007;35(6):599-608. doi: 10.1080/14034940701349225.

Penfold S, Manzi F, Mkumbo E, Temu S, Jaribu J, Shamba DD et al. Effect of home-based counselling on newborn care practices in southern Tanzania one year after implementation: a cluster-randomised controlled trial. BMC Pediatr. 2014;14:187 doi: 10.1186/1471-2431-14-187.

Penny ME, Creed-Kanashiro HM, Robert RC, Narro MR, Caulfield LE, Black R E. Effectiveness of an educational intervention delivered through the health services to improve nutrition in young children: a cluster-randomised controlled trial. Lancet. 2005;365:1863-72. doi: 10.1016/S0140-6736(05)66426-4.

Persson LA, Nga NT, Malqvist M, Hoa DT, Eriksson L. Effect of facilitation of local maternal-and-newborn stakeholder groups on neonatal mortality: cluster-randomized controlled trial. PLoS Med. 2013;10:e1001445. doi: 10.1371/journal.pmed.1001445.

Pickering AJ, Djebbari H, Lopez C, Coulibaly M, Alzua ML. Effect of a community-led sanitation intervention on child diarrhoea and child growth in rural Mali: a cluster-randomised controlled trial. Lancet Glob Health. 2015;3:e701-11. doi: 10.1016/S2214-109X(15)00144-8.

Powell C, Baker-Henningham H, Walker S, Gernay J, Grantham-McGregor S. Feasibility of integrating early stimulation into primary care for undernourished Jamaican children: cluster randomised controlled trial. BMJ. 2004;329:89. doi: 10.1136/bmj.38132.503472.7C.

Powell-Jackson T, Hanson K. Financial incentives for maternal health: impact of a national programme in Nepal. J Health Econ. 2012;31:271-84. doi: 10.1016/j.jhealeco.2011.10.010.

Powell-Jackson T, Mazumdar S, Mills A. Financial incentives in health: new evidence from India's Janani Suraksha Yojana. J Health Econ. 2015;43:154-69. doi: 10.1016/j.jhealeco.2015.07.001.

Powell-Jackson T, Neupane BD, Tiwari S, Tumbahangphe K, Manandhar D, Costello AM. The impact of Nepal's national incentive programme to promote safe delivery in the district of Makwanpur. Adv Health Econ Health Serv Res. 2009;21:221-49.

Prada GE, Dubeibe-Blanco LY, Herran OF, Herrera-Anaya M. [Evaluation of the impact of a community intervention on the consumption of fruits and vegetables in Colombia]. Salud Publica Mex. 2007;49:11-9. (http://www.scielosp.org/pdf/spm/v49n1/a03v49n1.pdf accessed 27 September 2017)

Pridmore P, Carr-Hill R, Amuyunzu-Nyamongo M, Lang'o D, McCowan T, Charnes G. Tackling the urban health divide though enabling intersectoral action on malnutrition in Chile and Kenya. J Urban Health. 2015;92:313-21. doi: 10.1007/s11524-015-9942-7.

Prinja S, Bahuguna P, Mohan P, Mazumder S, Taneja S, Bhandari N. Cost effectiveness of implementing integrated management of neonatal and childhood illnesses program in district Faridabad, India. PLoS One. 2016;11(1):e0145043. doi: 10.1371/journal.pone.0145043.

Quayyum Z, Khan MN, Quayyum T, Nasreen HE, Chowdhury M, Ensor T. "Can community level interventions have an impact on equity and utilization of maternal health care"–evidence from rural Bangladesh. Int J Equity Health. 2013; 12:22. doi: 10.1186/1475-9276-12-22.

Qureshi AM, Oche OM, Sadiq UA, Kabiru S. Using community volunteers to promote exclusive breastfeeding in Sokoto State, Nigeria. Pan Afr Med J. 2011;10:8. (http://www.panafrican-med-journal.com/content/article/10/8/pdf/8.pdf accessed 27 September 2017).

Rahman A, Iqbal Z, Roberts C, Husain N. Cluster randomized trial of a parent-based intervention to support early development of children in a low-income country. Child Care Health Dev. 2009;35:56-62. doi: 10.1111/j.1365-2214.2008.00897.x.

Rahman A, Moran A, Pervin J, Rahman A, Rahman M, Yeasmin S et al. Effectiveness of an integrated approach to reduce perinatal mortality: recent experiences from Matlab, Bangladesh. BMC Public Health. 2011;11:914. doi: 10.1186/1471-2458-11-914.

Rahman M, Curtis S, Haider MM. Impact evaluation of the Mayer Hashi program of long-acting and permanent methods of contraception in Bangladesh. Chapel Hill, NC: MEASURE Evaluation; 2014. (http://pdf.usaid.gov/pdf_docs/PA00K269.pdf, acessed 27 September 2017).

Rai NA, Attending to traditional birth attendants: incentives and responses in western Kenya. Georgetown University. 2015. (https://repository.library.georgetown.edu/handle/10822/760838 accessed on 27 September 2017).

Raifman JRG, Lanthorn HE, Rokicki S, and Fink G. The impact of text message reminders on adherence to antimalarial treatment in northern Ghana: a randomized trial. PLoS One. 2014;9(1): e109032. doi: 10.1371/journal.pone.0109032.

Raj A, Ghule M, Ritter J, Battala M, Gajanan V, Nair S et al. Cluster randomized controlled trial evaluation of a gender equity and family planning intervention for married men and couples in rural India. Plos One. 2016;11(5):e0153190.doi: 10.1371/journal.pone.0153190.

Ram PK, DiVita MA, Khatun-e-Jannat K, Islam M, Krytus K, Cercone E et al. Impact of intensive handwashing promotion on secondary household influenza-like illness in rural Bangladesh: findings from a randomized controlled trial. PLoS Onw. 2015;10(6):e0125200. doi: 10.1371/journal.pone.0125200.

Ramírez-Silva I, Rivera JA, Leroy JL, Neufeld LM. The Oportunidades program's fortified food supplement, but not improvements in the home diet, increased the intake of key micronutrients in rural Mexican children aged 12-59 months. J Nutr. 2013;143(5):656-65. doi: 10.3945/jn.112.162792 .

Reinbott A, Jordan I. Determinants of child malnutrition and infant and young child feeding approaches in Cambodia. World Rev Nutr Diet. 2016;115:61-7. doi: 10.1159/000444609.

Luo R, Shi Y, Zhang L, Zhang H, Miller G, Medina A et al. The limits of health and nutrition education: evidence from three randomized-controlled trials in rural China. CESifo Econ Stud. 2012;58(2):385-404. doi: 10.1093/cesifo/ifs023.

Reyes-Morales H, Gonzalez-Unzaga MA, Jimenez-Aguilar A, Uribe-Carvajal R. Effect of an intervention based on child-care centers to reduce risk behaviors for obesity in preschool children. [Spanish]. Bol Med Hosp Infant Mex. 2016;73:75-83. doi: 10.1016/S2444-3409(16)30003-6.

Robertson L, Mushati P, Eaton JW, Dumba L, Mavise G, Makoni J et al. Effects of unconditional and conditional cash transfers on child health and development in Zimbabwe: a cluster-randomised trial. Lancet. 2013;381:1283-92. doi: 10.1016/S0140-6736(12)62168-0.

Rosa G, Majorin F, Boisson S, Barstow C, Johnson M, Kirby M et al. Assessing the impact of water filters and improved cook stoves on drinking water quality and household air pollution: A randomised controlled trial in Rwanda. PLoS One. 2014;9(3):e91011. doi: 10.1371/journal.pone.0091011

Rotheram-Borus MJ, Tomlinson M, le Roux IM, Harwood JM, Comulada S, O'Connor MJ et al. A cluster randomised controlled effectiveness trial evaluating perinatal home visiting among South African mothers/infants. Plos One. 2014;9(10):e105934. doi: 10.1371/journal.pone.

Le Roux IM, Rotheram-Borus MJ, Stein J, Tomlinson M. The impact of paraprofessional home visitors on infants' growth and health at 18 months. Vulnerable Children Youth Stud. 2014;9(4):291-304. doi: 10.1080/17450128.2014.940413

Roy SK, Fuchs GJ, Mahmud Z, Ara G, Islam S, Shafique S, et al. Intensive nutrition education with or without supplementary feeding improves the nutritional status of moderately-malnourished children in Bangladesh. J Health Popul Nutr. 2005;23:320-30. (http://www.bioline.org.br/pdf?hn05043 accessed 29 September 2017).

Roy SK, Jolly SP, Shafique S, Fuchs GJ, Mahmud Z, Chakraborty B et al. Prevention of malnutrition among young children in rural Bangladesh by a food-health-care educational intervention: a randomized, controlled trial. Food and Nutrition Bulletin. 2007;28(4):375-83. (http://journals.sagepub.com/doi/pdf/10.1177/15648265070280040 1 accessed 29 September 2017).

Roy SS, Mahapatra R, Rath S, Bajpai A, Singh V, Rath S et al. Improved neonatal survival after participatory learning and action with women's groups: a prospective study in rural eastern India. Bull World Health Organ. 2013;91(6):426-33. doi: 10.2471/BLT.12.105171.

Ruel MT, Menon P, Habicht JP, Loechl C, Bergeron G, Pelto G et al. Age-based preventive targeting of food assistance and behaviour change and communication for reduction of childhood undernutrition in Haiti: a cluster randomised trial. Lancet. 2008;371(9612):588-95. doi: 10.1016/S0140-6736(08)60271-8.

Ruiz-Arranz M, Davis B, Handa S, Stampini M, Winters P. Program conditionality and food security: the impact of PROGRESA and PROCAMPO transfers in rural Mexico. EconomiA. 2006;7(2):249-78. (http://www.anpec.org.br/revista/vol7/vol7n2p249_278.pdf accessed 29 September 2017).

Saeed GA, Fakhar S, Rahim F, Tabassum S. Change in trend of contraceptive uptake—effect of educational leaflets and counseling. Contraception. 2008;77(5);377-81. doi: 10.1016/j.contraception.2008.01.011.

Saha S, Kermode M, Annear P L. Effect of combining a health program with a microfinance-based self-help group on health behaviors and outcomes. Public Health. 2015;129(11):1510-8. doi: 10.1016/j.puhe.2015.07.010.

Saleem AF, Mahmud S, Baig-Ansari N, Zaidi A K. Impact of maternal education about complementary feeding on their infants' nutritional outcomes in low- and middle-income households: a community-based randomized interventional study in Karachi, Pakistan. J Health Popul Nutr. 2014;32:623-33. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4438693/pdf/jhpn0032-0623.pdf accessed 29 September 2017).

Salehi M, Kimiagar SM, Shahbazi M, Mehrabi Y, Kolahi AA. Assessing the impact of nutrition education on growth indices of Iranian nomadic children: an application of a modified beliefs, attitudes, subjective-norms and enabling-factors model. Br J Nutr. 2004;91(5):779-87. doi: 10.1079/BJN20041099.

Sanchez L, Maringwa J, Shkedy Z, Castro M, Carbonell N, van der Stuyft. Testing the effectiveness of community-based dengue vector control interventions using semiparametric mixed models. Vector Borne Zoonotic Diseases. 2012;12(7):609-15. doi: 10.1089/vbz.2011.0690.

Sankar D. (2013). Improving early childhood development through community mobilization and integrated planning for children. Results from the evaluation of Bachpan program, Ratlam District, Madhya Pradesh, India. Report No. 59: Washington, D.C: World Bank. 2013;104 (https://openknowledge.worldbank.org/bitstream/handle/10986/16286/808920NWP0sout0Box0379822B00PUBLIC0.pdf?sequence=1&isAllowed=y. accessed 29 September 2017).

Santos I, Victora C, Martines J, Goncalves H, Gigante D, Valle NJ et al. Nutrition counseling increases weight gain among Brazilian children. Journal of Nutrition. 2001;131(11):2866-73. (http://jn.nutrition.org/content/131/11/2866.full.pdf accessed 29 September 2017).

Sarrassat S, Meda N, Ouedraogo M, Some H, Bambara R, Head R et al. Behavior change after 20 months of a radio campaign addressing key lifesaving family behaviors for child survival: midline results from a cluster randomized trial in rural Burkina Faso. Glob Health Sci Pract. 2015;3:557-76. doi: 10.9745/GHSP-D-15-00153.

Sathar Z, Jain A, Ramarao S, ul Haque M, Kim J. Introducing client-centered reproductive health services in a Pakistani setting. Stud Fam Plann. 2005;36(3):221-34. doi: 10.1111/j.1728-4465.2005.00063.x

Schuler SR, Nanda G, Ramirez LF, Chen M. Interactive Workshops to promote gender equity and family planning in rural communities of Guatemala: results of a community randomized study. J Biosocial Sci. 2015;47(5):667-86. doi: 10.1017/S0021932014000418.

Schwab B. In the form of bread? A randomized comparison of cash and food transfers in Yemen. Agricultural and Applied Economics Association. 2013; (https://ageconsearch.umn.edu/record/150448/files/bschwab_yemen_AAEA_draft.pdf accessed 29 September 2017).

Schwandt HM, Creanga AA, Danso KA, Adanu RM, Agbenyega T, Hindin MJ. Group versus individual family planning counseling in Ghana: a randomized, noninferiority trial. Contraception. 2013;88(2):281-8. doi: 10.1016/j.contraception.2013.03.008.

Sebastian MP, Khan ME, Kumari K, Idnani R. Increasing postpartum contraception in rural India: evaluation of a community-based behavior change communication intervention. Int Perspect Sex Reprod Health. 2012;38(2):68-77. doi: 10.1363/3806812

Shakila Zaman, Ashraf RN, Martines J. Training in complementary feeding counselling of healthcare workers and its influence on maternal behaviours and child growth: a cluster-randomized controlled trial in Lahore, Pakistan. J Health Popul Nutr. 2008;26:210-22. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2740673/pdf/jhpn0026-0210.pdf, accessed 29 September 2017).

Shamah LT, Ruan MC, Castellanos AC, Coronel SA, Aguilar JA, Humaran IMG. Effectiveness of a diet and physical activity promotion strategy on the prevention of obesity in Mexican school children. BMC Public Health. 2012;12:152. doi: 10.1186/1471-2458-12-152.

Sharma S, Teijlingen E, Belizan JM, Hundley V, Simkhada P, Sicuri E. Measuring what works: an impact evaluation of women's groups on maternal health uptake in rural Nepal. PLoS One. 2016;11:e0155144. doi: 10.1371/journal.pone.0155144.

Shattuck D, Kerner B, Gilles K, Hartmann M, Ng'ombe T, Guest G. Encouraging contraceptive uptake by motivating men to communicate about family planning: the Malawi Male Motivator project. Am J Public Health. 2011;101:1089-95. doi: 10.2105/AJPH.2010.300091.

Shei A, Costa F, Reis MG, Ko AI. The impact of Brazil's Bolsa Família conditional cash transfer program on children's health care utilization and health outcomes. BMC Int Health Hum Rights. 2014;14:10. doi:10.1186/1472-698X-14-10.

Shen MX, Hu M, Sun ZQ. Assessment of school-based quasi-experimental nutrition and food safety health education for primary school students in two poverty-stricken Cou of west China. PLoS One. 2015;10 (12):e0145090. doi: 10.1371/journal.pone.0145090

Shi L, Zhang J, Wang Y, Caulfield LE, Guyer B. Effectiveness of an educational intervention on complementary feeding practices and growth in rural China: a cluster randomised controlled trial. Public Health Nutr. 2010:13(4);556-65. doi: 10.1017/S1368980009991364.

Shi Y, Chang F, Su X, Luo R, Zhang L, Rozelle S. Parental training, anemia and the impact on the nutrition of female students in China's poor rural elementary schools. China Agr Econ Rev. 2012;4(2):151-67. doi: 10.1108/17561371211224746.

Sikander S, Maselko J, Zafar S, Haq Z, Ahmad I, Ahmad M et al. Cognitive-behavioral counseling for exclusive breastfeeding in rural pediatrics: a cluster RCT. Pediatrics. 2015;135:e424-31. doi: 10.1542/peds.2014-1628.

da Silva LS, Fisberg M, de Pires MM, Nassar SM, Sottovia CB. The effectiveness of a physical activity and nutrition education program in the prevention of overweight in schoolchildren in Criciuma, Brazil. Eur J Clin Nutr. 2013;67(11):1200-04. doi: 10.1038/ejcn.2013.178.

Singla DR, Kumbakumba E, Aboud FE. Effects of a parenting intervention to address maternal psychological wellbeing and child development and growth in rural Uganda: a community-based, cluster randomised trial. Lancet Glob Health. 2015;3:e458-69. doi: 10.1016/S2214-109X(15)00099-6.

Sinha N. Fertility, Child work, and schooling consequences of family planning programs: evidence from an experiment in rural Bangladesh. Econ Dev Cult Change. 2005;54:97-128. doi.org/10.1086/431259.

Skoufias E. PROGRESA and its impacts on the welfare of rural households in Mexico. Research Report 139. Washington, D.C.: International Food Policy Research Institute. 2005. (http://www.eldis.org/vfile/upload/1/document/0708/DOC22746.pdf accessed 30 September 2017)

Sloan NL, Ahmed S, Mitra SN, Choudhury N, Chowdhury M, Rob U et al. Community-based kangaroo mother care to prevent neonatal and infant mortality: a randomized, controlled cluster trial. Pediatrics. 2008(5);121:e1047-59. doi: 10.1542/peds.2007-0076.

Smith C, Ngo TD, Gold J, Edwards P, Vannak U, Sokhey L et al. Effect of a mobile phone-based intervention on post-abortion contraception: a randomized controlled trial in Cambodia. Bull World Health Organ. 2015;93(12):842-50. doi: 10.2471/BLT.15.160267.

Smith KB, van der Spuy ZM, Cheng L, Elton R, Glasier AF. Is postpartum contraceptive advice given antenatally of value? Contraception. 2002;65:237-43. doi: 10.1016/S0010-7824(01)00308-0

Smith LC. Quantitative impact evaluation of the SHOUHARDO II Project in Bangladesh. 2015. (http://pdf.usaid.gov/pdf_docs/PA00KFCD.pdf, accessed 1 October 2017).

Smith LC, Kahn F, Frankenberger TR, Wadud A. Admissible evidence in the court of development evaluation? The impact of CARE's SHOUHARDO project on child stunting in Bangladesh. IDS Working Paper No. 376. Institute for Development Studies. 2011. (https://www.ids.ac.uk/files/dmfile/Wp376.pdf accessed 30 September 2017).

Spears D, Lamba S. Effects of early-life exposure to sanitation on childhood cognitive skills evidence from India's total sanitation campaign. J Hum Resour. 2013;52(2):298-327 doi: 10.3368/jhr.51.2.0712-5051R1.

Speizer IS, Corroon M, Calhoun L, Lance P, Montana L, Nanda P et al. Demand generation activities and modern contraceptive use in urban areas of four countries: a longitudinal evaluation. Glob Health Sci Pract. 2014;2(4):410-26. 10.9745/GHSP-D-14-00109.

Steyn NP, de Villiers A , Gwebushe N, Draper CE, Hill J, de Waal M et al. Did HealthKick, a randomised controlled trial primary school nutrition intervention improve dietary quality of children in low-income settings in South Africa? BMC Public Health. 2015;15:948. doi: 10.1186/s12889-015-2282-4.Subba Rao GM, Rao DR, Venkaiah K, Dube AK, Sarma KV. Evaluation of the Food and Agriculture Organization's global school-based nutrition education initiative, Feeding Minds, Fighting Hunger (FMFH), in schools of Hyderabad, India. Public Health Nutr. 2006;9(8):991-5. doi: 10.1017/PHN2006974.

Tahir NM, Al-Sadat N. Does telephone lactation counselling improve breastfeeding practices?: A randomised controlled trial. Int J Nurs Stud. 2013;50(1):16-25. doi: 10.1016/j.ijnurstu.2012.09.006.

Taneja S, Bahl S, Mazumder S, Martines J, Bhandari N, Bhan MK. Impact on inequities in health indicators: effect of implementing the Integrated Management of Neonatal and Childhood Illness programme in Haryana, India. J Glob Health. 2015;5(1):010401 doi: 10.7189/jogh.05.010401.

Tariku B, Whiting SJ, Mulualem D, Singh P. Application of the Health Belief Model to teach complementary feeding messages in Ethiopia. Ecol Food Nutr. 2015;54(5):572-82. doi: 10.1080/03670244.2015.1049344.

Thakur SK, Roy SK, Paul K, Khanam M, Khatun W, Sarker D. Effect of nutrition education on exclusive breastfeeding for nutritional outcome of low birth weight babies. Eur J Clin Nutr.. 2012;66(3):376-81. doi: 10.1038/ejcn.2011.182.

Theuring S, Jefferys LF, Nchimbi P, Mbezi P, Sewangi J. Increasing partner attendance in antenatal care and HIV testing services: comparable outcomes using written versus verbal invitations in an urban facility-based controlled intervention trial in Mbeya, Tanzania. PLoS One. 2016;11(4):e0152734 doi: 10.1371/journal.pone.0152734.

Tobin-West CI, Briggs NC. Effectiveness of trained community volunteers in improving knowledge and management of childhood malaria in a rural area of Rivers State, Nigeria. Niger J Clin Pract. 2015;18(5):651-58. (http://www.njcponline.com/text.asp?2015/18/5/651/158971 accessed 30 September 2017).

Todd JE, Winters P, Stecklov G. Evaluating the impact of conditional cash transfer programs on fertility: the case of the Red de Proteccion Social in Nicaragua. J Popul Econ. 2011;25:267-90.

Tomedi A, Rohan-Minjares F, McCalmont K, Ashton R, Opiyo R, Mwanthi M. Feasibility and effectiveness of supplementation with locally available foods in prevention of child malnutrition in Kenya. Public Health Nutr. 2012;15(4):749-56. doi: 10.1017/S1368980011002217.

Tomlinson M, Doherty T, Ijumba P, Jackson D, Lawn J, Persson LA. Goodstart: a cluster randomised effectiveness trial of an integrated, community-based package for maternal and newborn care, with prevention of mother-to-child transmission of HIV in a South African township. Trop Med Int Health.. 2014;19(3):256-66. doi: 10.1111/tmi.12257.

Tomlinson M, Rotheram-Borus M J, Harwood J, le Roux IM, O'Connor M, Worthman C. Community health workers can improve child growth of antenatally-depressed, South African mothers: a cluster randomized controlled trial. BMC Psychiatry. 2015;15:225. doi: 10.1186/s12888-015-0606-7.

Tripathy P, Nair N, Barnett S, Mahapatra R, Borghi J, Rath S et al. Effect of a participatory intervention with women's groups on birth outcomes and maternal depression in Jharkhand and Orissa, India: a cluster-randomised controlled trial. Lancet. 2010;375(9721):1182-92. doi: 10.1016/S0140-6736(09)62042-0.

Tripathy P, Nair N, Sinha R, Rath S, Gope RK, Rath S et al. Effect of participatory women's groups facilitated by Accredited Social Health Activists on birth outcomes in rural eastern India: a cluster-randomised controlled trial. Lancet Glob Health. 2016;4:e119-e128. doi: 10.1016/S2214-109X(15)00287-9.

Tsimbiri Fedha. Impact of mobile telephone on maternal health service care: a case of Njoro division. Open J Prev Med. 2014;4(5):365-76. doi:10.4236/ojpm.2014.45044

Tylleskar T, Jackson D, Meda N, Engebretsen IMS, Chopra M, Diallo AH et al. Exclusive breastfeeding promotion by peer counsellors in sub-Saharan Africa (PROMISE-EBF): a cluster-randomised trial. Lancet. 2011;378(9789):420-27. doi: 10.1016/S0140-6736(11)60738-1.

Uddin MJ, Shamsuzzaman M, Horng L, Labrique A, Vasudevan L, Zeller K et al. Use of mobile phones for improving vaccination coverage among children living in rural hard-to-reach areas and urban streets of Bangladesh. Vaccine. 2016;34(2):276-83. doi: 10.1016/j.vaccine.2015.11.024.

Undie CC, Obare F, RamaRao S. Replication of the community mobilization for postabortion care (COMMPAC) model in Naivasha District, Rift Valley Province, Kenya: an evaluation report. The RESPOND Project Study Series: Contributions to Global Knowledge – Report No. 9. New York: EngenderHealth (The RESPND Project). 2012. (http://www.respond-project.org/pages/files/6_pubs/research-reports/Study9-COMMPAC-Final-Evaluation-December2012-Final-forweb.pdf accessed 1 October 2017).

USAID. Improving maternal and newborn care counseling in Benin: Operations research on use of job aids and task shifting. 2009. (https://www.usaidassist.org/sites/assist/files/hci_maternal_and_newborn_care_benin_flyer_509b.pdf accessed on 04 October 2017).

Urquieta J, Angeles G, Mroz T, Lamadrid-Figueroa H, Hernandez B. Impact of Oportunidades on skilled attendance at delivery in rural areas. Econ Dev Cult Change. 2009;57:539-58. (https://www.measureevaluation.org/resources/publications/wp-08-102, accessed 1 October 2017).

Usman HR, Rahbar MH, Kristensen S, Vermund SH, Kirby RS et al. Randomized controlled trial to improve childhood immunization adherence in rural Pakistan: redesigned immunization card and maternal education. Trop Med Int Health. 2011;16:334-42. doi: 10.1111/j.1365-3156.2010.02698.x.

Van de Gaer D, Vandenbossche J, Figueroa JL. Children's health opportunities and project evaluation: Mexico's Oportunidades program. Policy Research Working Paper 6345. Washington, DC: World Bank; 2013 (http://documents.worldbank.org/curated/en/677851468281078717/pdf/wps6345.pdf, accessed 25 August 2017).

Vance G, Janowitz B, Chen M, Boyer B, Kasonde P, Asare G et al. Integrating family planning messages into immunization services: a cluster-randomized trial in Ghana and Zambia. Health Policy Plan. 2014;29:359-66. doi:10.1093/heapol/czt022.

Vanlerberghe V, Toledo ME, Rodriguez M, Gomez D, Baly A, Benitez JR et al. community involvement in dengue vector control: cluster randomised trial. BMJ. 2009;338:b1959. doi: 10.1136/bmj.b1959

Vazir S, Engle P, Balakrishna N, Griffiths PL, Johnson S L, Creed-Kanashiro H et al. Cluster-randomized trial on complementary and responsive feeding education to caregivers found improved dietary intake, growth and development among rural Indian toddlers. Matern Child Nutr. 2013;9(1):99-117. doi: 10.1111/j.1740-8709.2012.00413.x.

Vesel L, ten Asbroek AH, Manu A, Soremekun S, Tawiah Agyemang C , Okyere E et al. Promoting skin-to-skin care for low birthweight babies: findings from the Ghana Newhints cluster-randomised trial. Trop Med Int Health. 2013;18(8):952-61. doi: 10.1111/tmi.12134.

Vitolo MR, Bortolini GA, Campagnolo PD, Hoffman DJ. Maternal dietary counseling reduces consumption of energy-dense foods among infants: a randomized controlled trial. J Nutr Educ Behav. 2012;44(2):140-7. doi: 10.1016/j.jneb.2011.06.012.

Vítolo MR, Bueno MS, Gama CM. Impact of a dietary counseling program on the gain weight speed of pregnant women attended in a primary care service. Rev Bras Ginecol Obstet.. 2011;33(1):13-9. doi: 10.1590/S0100-72032011000100002.

Vitolo MR, Rauber F, Campagnolo PD, Feldens CA, Hoffman DJ. Maternal dietary counseling in the first year of life is associated with a higher healthy eating index in childhood. J Nutr. 2010;140:2002-7. doi: 10.3945/ jn.110.125211.

Wade A, Osrin D, Shrestha BP, Sen A, Morrison J, Tumbahangphe KM et al. Behaviour change in perinatal care practices among rural women exposed to a women's group intervention in Nepal [ISRCTN31137309]. BMC Pregnancy Childbirth. 2006;6:20. doi: 10.1186/1471-2393-6-20.

Wai K T, Htun P T, Oo T, Myint H, Lin Z, Kroeger A, et al. Community-centred eco-bio-social approach to control dengue vectors: an intervention study from Myanmar. Pathogens and Global Health (Dengue Special Issue: Eco-Bio-Social approach to dengue in urban & peri-urban areas of South & South-East Asia). 2012; 106(8):461-468. doi: 10.1179 /2047773212Y.0000000057.

Waiswa P, Pariyo G, Kallander K, Akuze J, Namazzi G, Ekirapa-Kiracho E et al. Effect of the Uganda Newborn Study on care-seeking and care practices: a cluster-randomised controlled trial. Glob Health Action. 2015;8: 10.3402/gha.v8.24584. doi: 10.3402/gha.v8.24584.

Walker SP, Chang SM, Younger N, Grantham-McGregor SM. The effect of psychosocial stimulation on cognition and behaviour at 6 years in a cohort of term, low-birthweight Jamaican children. Dev Med Child Neurol. 2010;52:e148-54. doi: 10.1111/j.1469-8749.2010.03637.

Waswa LM, Jordan I, Herrmann J, Krawinkel MB, Keding GB. Community-based educational intervention improved the diversity of complementary diets in western Kenya: results from a randomized controlled trial. Public Health Nutrition. 2015;18:3406-19. doi: 10.1017/ S1368980015000920.

Weiss J, Makonnen R, Sula D. Shifting management of a community volunteer system for improved child health outcomes: results from an operations research study in Burundi. BMC Health Services Research. 2015;15. doi: 10.1186/1472-6963-15-S1-S2.

Wesson J, Olawo A, Bukusi V, Pierre-Louis B, Marsden S. Effect of a provider-based educational outreach ("detailing") to stimulate IUCD use in Kenya. Final report. : [Research Triangle Park, North Carolina], Family Health International [FHI], 2006;49. (http://pdf.usaid.gov/pdf_docs/ PNADF568.pdf accessed on 22 September 2017).

White H, Masset E. Assessing interventions to improve child nutrition: a theory-based impact evaluation of the Bangladesh Integrated Nutrition Project. Journal of International Development. 2006;19(5):627-652. doi: 10.1002/jid.1344.

White S, Schmidt W, Sahanggamu D, Fatmaningrum D, van Liere M, Curtis V. Can gossip change nutrition behaviour? Results of a mass media and community-based intervention trial in East Java, Indonesia. Trop Med Int Health. 2016;21:348-64. (http://applications.emro.who. int/emhj/v18/07/2012_18_7_0777_0785.pdf?ua=1 accessed on 22 September 2017).

Wijaya-Erhardt M, Muslimatun S, Erhardt JG. Effect of an educational intervention related to health and nutrition on pregnant women in the villages of Central Java Province, Indonesia. Health Education Journal. 2014;73:370-381. doi: 10.1177/0017896913485741.

Wu Z, Viisainen K, Wang Y, Hemminki E. Evaluation of a community-based randomized controlled prenatal care trial in rural China. BMC Health Services Research. 2011;11:92. doi: 10.1186/1472-6963-11-92.

Xu F, Ware RS, Leslie E, Tse LA, Wang Z, Li J et al. Effectiveness of a randomized controlled lifestyle intervention to prevent obesity among Chinese primary school students: CLICK-obesity study. PLoS ONE. 2015;10:e0141421. doi: 10.1371/journal.pone.0141421.

Yadav D, Dhillon P. Assessing the impact of family planning advice on unmet need and contraceptive use among currently married women in Uttar Pradesh, India. PloS One. 2015; 10:e0118584. doi: 10.1371/journal.pone.0118584.

Yanagisawa S, Soyano A, Igarashi H, Ura M, Nakamura Y. Effect of a maternal and child health handbook on maternal knowledge and behaviour: a community-based controlled trial in rural Cambodia. Health Policy and Planning. 2015;30:1184-92. (https://www.ajol.info/index.php/ajrh/article/view/124905/114422 accessed on 26 September 2017).

Yotebieng M, Labbok M, Soeters HM, Chalachala JL, Lapika B, Vitta BS et al. Ten steps to successful breastfeeding programme to promote early initiation and exclusive breastfeeding in DR Congo: a cluster-randomised controlled trial. Lancet Global Health. 2015;3:e546-55. doi: 10.1097/dbp.0b013e31802d410b.

Younes L, Houweling TAJ, Azad K, Kuddus A, Shaha S, Haq B et al. The effect of participatory women's groups on infant feeding and child health knowledge, behaviour and outcomes in rural Bangladesh: a controlled before-and-after study. J Epidemiol Community Health 2014;0:1–8. doi:10.1136/jech-2014-204271

Yousafzai AK, Rasheed MA, Rizvi A, Armstrong R, Bhutta ZA. Effect of integrated responsive stimulation and nutrition interventions in the Lady Health Worker programme in Pakistan on child development, growth, and health outcomes: a cluster-randomised factorial effectiveness trial. Lancet. 2014;384(9950):1282-93. doi: 10.1016/S0140-6736(14)60455-4.

Yousafzai AK, Rasheed MA, Rizvi A, Armstrong R, Bhutta ZA. Parenting skills and emotional availability: an RCT. Pediatrics. 2015;135(5):e1247-57. doi: 10.1542/peds.2014-2335.

Yu F. Indoor Air Pollution and Children's Health: Net Benefits from Stove and Behavioral Interventions in Rural China. Environmental and Resource Economics. 2011;50:495-514. doi: 10.1007/s10640-011-9479-5

Zamawe COF, Mandiwa C. Understanding the mechanisms through which women's group community participatory intervention improved maternal health outcomes in rural Malawi: was the use of contraceptives the pathway? Global Health Action. 2016;9: 10.3402/gha.v9.30496. doi: 10.3402/gha.v9.30496.

Zhang J, Shi L, Chen DF, Wang J, Wang Y. Using the theory of planned behavior to examine effectiveness of an educational intervention on infant feeding in China. Prev Med. 2009; 49:529-34. doi: 10.1016/j.ypmed.2009.10.002.

Zhang J, Shi L, Chen Df, Wang, J, Wang, Y. Effectiveness of an educational intervention to improve child feeding practices and growth in rural China: updated results at 18 months of age. Matern Child Nutr. 2013;9:118–29. doi: 10.1111/j.1740-8709.2012.00447.x.

Zhou H, Sun S, Luo RF, Sylvia S, Yue A, Shi YJ. Impact of text message reminders on caregivers' adherence to a home fortification program against child anemia in rural Western China: a cluster-randomized controlled trial. Am J Public Health. 2016;106:1256-62. doi: 10.2105/AJPH.2016.303140

Zhou Z, Jin Y, Liu F, Cheng Y, Liu J, Kang J, et al. Community effectiveness of stove and health education interventions for reducing exposure to indoor air pollution from solid fuels in four Chinese provinces. Environ Res Lett. 2006;1(1):014010. doi: 10.1088/1748-9326/1/1/014010.

Zhu JL, Zhang WH, Cheng Y, Xu J, Xu X, Gibson D et al. Impact of post-abortion family planning services on contraceptive use and abortion rate among young women in China: a cluster randomised trial. Eur J Contracept Reprod Health Care. 2009;14:46-54. doi: 10.1080/13625180802512994.

Included impact evaluations – ongoing

Albert S, Pramanik S, Prakash R, Muralidharan A, Ghosh A. Impact assessment of the SALT (stimulate, appreciate, learn, and transfer) approach of community engagement to increase immunisation coverage through ownership–a mixed methods study in Assam, India. (http://www.3ieimpact.org/en/evidence/impact-evaluations/details/3399/ accessed on 26 September 2017).

Azmat SK, Ali M, Hameed W, Mustafa G, Abbas G, Ishaque M. A study protocol: using demand-side financing to meet the birth spacing needs of the underserved in Punjab Province in Pakistan. Reprod Health. 2014;11:39. doi: 10.1186/1742-4755-11-39.

Banerjee A, Chandrasekhar A, Duflo E, Floretta J, Kannan H, Shrestha M. Improving immunization coverage through incentives, reminders, and social networks in India. 2015. (https://www.povertyactionlab.org/evaluation/improving-immunization-coverage-through-incentives-reminders-and-social-networks-india accessed on 26 September 2017).

Bhandari GP, Subedi N, Thapa J, Choulagai B, Maskey MK, Onta SR. A cluster randomized implementation trial to measure the effectiveness of an intervention package aiming to increase the utilization of skilled birth attendants by women for childbirth: study protocol. BMC Pregnancy Childbirth. 2014;14:109. doi: 10.1186/1471-2393-14-109.

Borzekowski D, Howard D. The Impact of Galli Galli Sim Sim on Indian Children: A Randomized Control Trial. 2016. (http://ridie.3ieimpact.org/index.php?r=search/detailView&id=387 accessed on 26 September 2017).

Chen Y, Ma L, Ma Y, Wang H, Luo J, Zhang X et al. A national school-based health lifestyles interventions among Chinese children and adolescents against obesity: rationale, design and methodology of a randomized controlled trial in China. BMC public health. 2015;15:210. doi: 10.1186/s12889-015-1516-9.

Crowley L, Fink G, Karlan D. Increasing Vaccination Coverage Using a Mobile Phone Application in Mozambique. 2014.

de Hoop T. Impact evaluation of BRAC's nutrition and early childhood development programs. 2015. (http://ridie.3ieimpact.org/index.php?r=search/detailView&id=373 accessed on 26 September 2017).

Dibley M, Ariawan I. Effectiveness of an integrated program to reduce maternal and child malnutrition in Indonesia. 2015. (http://ridie.3ieimpact.org/index.php?r=search/detailView&id=278 accessed on 26 September 2017).

Duflo E, Chandrasekhar A, Kannan H, Floretta J, Shrestha M, Dalpath S. Evaluating the impact of interventions to improve full immunisation rates in Haryana, India. (http://www.3ieimpact.org/en/evidence/impact-evaluations/details/4707/ accessed on 26 September 2017).

Fernald LC, Galasso E, Qamruddin J, Ranaivoson C, Ratsifandrihamanana L, Stewart CP et al. A cluster-randomized, controlled trial of nutritional supplementation and promotion of responsive parenting in Madagascar: the MAHAY study design and rationale. BMC Public Health. 2016;16:466. doi: 10.1186/s12889-016-3097-7.

Friedrich RR, Caetano LC, Schiffner MD, Wagner MB, Schuch I. Design, randomization and methodology of the TriAtiva Program to reduce obesity in school children in Southern Brazil. BMC Public Health. 2015;15:363. doi: 10.1186/s12889-015-1727-0.

Gelli A, Masset E, Folson G, Kusi A, Arhinful D K, Asante F et al. Evaluation of alternative school feeding models on nutrition, education, agriculture and other social outcomes in Ghana: rationale, randomised design and baseline data. Trials. 2016;17:37. doi: 10.1186/s13063-015-1116-0.

Gibson DG, Kagucia EW, Ochieng B, Hariharan N, Obor D, Moulton L H et al. The mobile solutions for immunization (M-SIMU) trial: a protocol for a cluster randomized controlled trial that assesses the impact of mobile phone delivered reminders and travel subsidies to improve childhood immunization coverage rates and timeliness in Western Kenya. JMIR Res Protoc. 2016;5:e72. doi: 10.2196/resprot.5030.

Glennerster R, Murray J, Pouliquen V. The Impact of a Family Planning Mass Media Campaign in Burkina Faso. 2016. (http://www.poverty-action.org/study/community-based-monitoring-healthcare-providers-uganda accessed on 26 September 2017).

Humphrey JH, Machokoto E, Mutero B, Muteya E, Madhumba E, Jones AD et al. The sanitation hygiene infant nutrition efficacy (SHINE) trial: rationale, design, and methods. Clinical Infec Dis. 2015;61:S685-s702. doi: 10.1093/cid/civ844.

IDS. Impact evaluation of the DFID programme to accelerate improved nutrition for the extreme poor in bangladesh, phase II. 2014. (https://www.ids.ac.uk/files/dmfile/BangladeshNutritionImpactEvaluationInceptionReportfinalv17Marchformatted.pdf accessed on 26 September 2017).

Kallander K, Strachan D, Soremekun S, Hill Z, Lingam R, Tibenderana J. Evaluating the effect of innovative motivation and supervision approaches on community health worker performance and retention in Uganda and Mozambique: study protocol for a randomised controlled trial. Trials. 2015;16:157. doi: 10.1186/s13063-015-0657-6.

Li H, Lien J, Cai J. Nourishing the future: targeting infants and their caregivers to reduce undernutrition in rural china. 2014. (http://www.3ieimpact.org/media/filer_public/2017/06/23/gfr-pw203-china-infant-nutrition.pdf accessed on 26 September 2017).

Lin Q, Adab P, Hemming K, Yang L, Qin H, Li M et al. Health allowance for improving the nutritional status and development of 3-5-year-old left-behind children in poor rural areas of China: study protocol for a cluster randomised trial. Trials. 2015;16:361. doi: 10.1186/s13063-015-0897-5.

Karra M, Canning D. Examining the impact of family planning on fertility, maternal and child health, and economic well-being: evidence from a field experiment in urban malawi. 2016. (https://www.povertyactionlab.org/evaluation/increasing-vaccination-coverage-using-mobile-phone-application-mozambique accessed on 26 September 2017).;

Mahmudiono T, Nindya TS, Andrias DR, Megatsari H, Rosenkranz RR. The effectiveness of nutrition education for overweight/obese mothers with stunted children (NEO-MOM) in reducing the double burden of malnutrition in Indonesia: study protocol for a randomized controlled trial. BMC Public Health. 2016;16:486. doi: 10.1186/s12889-016-3155-1

Morton M, Bucur Pop, L. Afghanistan Safety Nets Evaluation. 2016. (http://ridie.3ieimpact.org/index.php?r=search/detailView&id=404 accessed on 26 September 2017).

Nabulsi M, Hamadeh H, Tamim H, Kabakian T, Charafeddine L, Yehya N et al. A complex breastfeeding promotion and support intervention in a developing country: study protocol for a randomized clinical trial. BMC Public Health. 2014;14:36. doi: 10.1186/1471-2458-14-36.

Nair N, Tripathy P, Sachdev HS, Bhattacharyya S, Gope R, Gagrai S et al Participatory women's groups and counselling through home visits to improve child growth in rural eastern India: protocol for a cluster randomised controlled trial. BMC Public Health. 2015;15:384. doi: 10.1186/s12889-015-1655-z

Nery SV, McCarthy JS, Traub R, Andrews RM, Black J, Gray D et al. A cluster-randomised controlled trial integrating a community-based water, sanitation and hygiene programme, with mass distribution of albendazole to reduce intestinal parasites in Timor-Leste: the WASH for WORMS research protocol. BMJ Open. 2015;5(12):e009293. doi: 10.1136/bmjopen-2015-009293

Posner D, Parkerson D, Raffler P. Community-Based Monitoring of Healthcare Providers in Uganda. 2014. (http://www.poverty-action.org/study/community-based-monitoring-healthcare-providers-uganda accessed on 26 September 2017).

Shet AS, Zwarenstein M, Mascarenhas M, Risbud A, Atkins S, Klar N et al. The Karnataka Anemia Project 2—design and evaluation of a community-based parental intervention to improve childhood anemia cure rates: study protocol for a cluster randomized controlled trial. Trials. 2015;16;599. doi: 10.1186/s13063-015-1135-x.

Sibson VL, Grijalva-Eternod CS, Bourahla L, Haghparast-Bidgoli H, Morrison J, Puett C et al. The REFANI-N study protocol: a cluster-randomised controlled trial of the effectiveness and cost-effectiveness of early initiation and longer duration of emergency/seasonal unconditional cash transfers for the prevention of acute malnutrition among children, 6-59 months, in Tahoua, Niger. BMC Public Health. 2015;15:1289. 15:1289. doi: 10.1186/s12889-015-2640-2.

Tonguet-Papucci A, Huybregts L, Ait Aissa M, Huneau JF, Kolsteren P. The MAM'Out project: a randomized controlled trial to assess multiannual and seasonal cash transfers for the prevention of acute malnutrition in children under 36 months in Burkina Faso. BMC Public Health. 2015;15:762 doi: 10.1186/s12889-015-2060-3.

Var C, Bazzano AN, Srivastav SK, Welty JC, Ek NI, Oberhelman RA. Newborn infection control and care initiative for health facilities to accelerate reduction of newborn mortality (NICCI): study protocol for a randomized controlled trial. Trials. 2015;5;16:257. doi: 10.1186/s13063-015-0771-5.

Voena A, Field E, Ashraf N. Man to Man: Can education pave the way for male involvement in family planning?.(http://www.3ieimpact.org/en/evidence/impact-evaluations/details/260/ accessed on 26 September 2017).

Waiswa P, O'Connell T, Bagenda D, Mullachery P, Mpanga F, Henriksson DK et al. Community and district empowerment for scale-up (CODES): a complex district-level management intervention to improve child survival in Uganda: study protocol for a randomized controlled trial. Trials. 2016;17:135. doi: 10.1186/s13063-016-1241-4.

Webster J, Annan J, Malunda D. An impact and embedded process evaluation of The Fifth Child community engagement strategy in northern Uganda. (http://www.3ieimpact.org/en/evidence/impact-evaluations/details/3398/ accessed on 26 September 2017).

Widyawati W, Jans S, Bor H, Siswishanto R, van Dillen J, Lagro-Janssen AL. A randomised controlled trial on the Four Pillars Approach in managing pregnant women with anaemia in Yogyakarta-Indonesia: a study protocol. BMC Pregnancy and Childbirth. 2014;7;14 doi: 10.1186/1471-2393-14-163.

Yore J, Dasgupta A, Ghule M, Battala M, Nair S, Silverman J et al. CHARM, a gender equity and family planning intervention for men and couples in rural India: protocol for the cluster randomized controlled trial evaluation. Reprod Health. 2016;20;13:14. doi: 10.1186/s12978-016-0122-3.

Included systematic reviews – completed

Aguiar C, Jennings L. Impact of Male Partner Antenatal Accompaniment on Perinatal Health Outcomes in Developing Countries. Matern Child Health J. 2015;19(9):2012-9. doi: 10.1007/s10995-015-1713-2.

Angus K, Cairns G, Purves R, Bryce S, MacDonald L, Gordon R. Systematic literature review to examine the evidence for the effectiveness of interventions that use theories and models of behaviour change: towards the prevention and control of communicable diseases. Stockholm: ECDC; 2013. (https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/health-communication-behaviour-change-literature-review.pdf accessed on 15 September 2017).

Arrowsmith ME, Aicken CR, Majeed A, Saxena S. Interventions for increasing uptake of copper intrauterine devices: systematic review and meta-analysis. Contraception. 2012;86(6):600-5. doi: 10.1016/j.contraception.2012.05.015.

Augustincic PL , Petkovic J, Welch V, Ueffing E, Tanjong Ghogomu E, Pardo Pardo J et al. Strategies to increase the ownership and use of insecticide-treated bednets to prevent malaria. Cochrane Database Syst Rev. 2015;30;(3):CD009186. doi: 10.1002/14651858.CD009186.pub2.

Bassani DG, Arora P, Wazny K, Gaffey MF, Lenters L, Bhutta ZA. Financial incentives and coverage of child health interventions: a systematic review and meta-analysis. BMC Public Health. 2013;13(suppl 3):S30. doi: 10.1186/1471-2458-13-S3-S30.

Batt K, Fox-Rushby JA, Castillo-Riquelme M. The costs, effects and cost-effectiveness of strategies to increase coverage of routine immunizations in low- and middle-income countries: systematic review of the grey literature. Bull World Health Organ. 2004;82(9):689-96. (http://www.who.int/bulletin/volumes/82/9/689.pdf accessed on 15 September 2017)

Baxi R, Sharma M, Roseby R, Polnay A, Priest N, Waters E et al. Family and carer smoking control programmes for reducing children's exposure to environmental tobacco smoke. Cochrane Database Syst Rev. 2014;1;(3):CD001746. doi: 10.1002/14651858.CD001746.pub3.

Belaid L, Dumont A, Chaillet N, Zertal A, De Brouwere A, Hounton S et al. Effectiveness of demand generation interventions on use of modern contraceptives in low- and middle-income countries. Trop Med In Health. 2016(21(10):1240-54. Doi: 10.1111/tmi.12758.

Bellows B, Bulaya C, Inambwae S, Lissner CL, Ali M, Bajracharya A. Family planning vouchers in low and middle income countries: a systematic review. Stud fam plann. 2016;47(4):357-370. doi: 10.1111/sifp.12006.

Bennett C, Underdown A, Barlow J. Massage for promoting mental and physical health in typically developing infants under the age of six months. Cochrane Database Syst Rev. 2013; 30;(4):CD005038. doi: 10.1002/14651858.CD005038.pub3

Bhuinneain GMN, McCarthy FP. A systematic review of essential obstetric and newborn care capacity building in rural sub-Saharan Africa. BJOG. 2015;122:174-82. doi: 10.1111/1471-0528.13218.

Bhutta ZA, Darmstadt GL, Haws RA, Yakoob MY, Lawn JE. Delivering interventions to reduce the global burden of stillbirths: improving service supply and community demand. BMC Pregnancy Childbirth. 2009;9(Suppl 1):S7. doi: 10.1186/1471-2393-9-S1-S7.

Bhutta ZA, Samana A, Cousens S, Ali TM, Haider BA, Arjumand R et al. Interventions to address maternal, newborn, and child survival: what difference can integrated primary health care strategies make? Lancet. 2008;372:972-89. (http://pacifichealthsummit.org/downloads/mnh/background%20reading/interventions%20to%20address%20maternal,%20newborn,%20and%20child%20survival-%20what%20difference%20can%20integrated%20primary%20health%20care%20strategies%20make.pdf accessed 15 September 2017)

Bisits Bullen P A. The positive deviance/hearth approach to reducing child malnutrition: systematic review. Trop Med Int Health. 2011;16(11):1354-66. doi: 10.1111/j.1365-3156.2011.02839.x.

Brody CM, Bellows N, Campbell M, Potts M. The impact of vouchers on the use and quality of health care in developing countries: a systematic review. Glob Public Health. 2013;8(4):363-88. doi: 10.1080/17441692.2012.759254.

Bryanton J, Beck CT, Montelpare W. Postnatal parental education for optimizing infant general health and parent-infant relationships. Cohcrane Database Syst Rev. 2013;(11):CD004068. doi: 10.1002/14651858.CD004068.pub4.

Byrne A, Hodge A, Jimenez-Soto E, Morgan A. What works? Strategies to increase reproductive, maternal and child health in difficult to access mountainous locations: a systematic literature review. PloS One. 2014;9:e87683. doi: 10.1371/journal.pone.0087683.

Casey SE. Evaluations of reproductive health programs in humanitarian settings: a systematic review. Conflict and Health. 2015;9(Suppl 1):S1. doi: 10.1186/1752-1505-9-S1-S1

Chapman DJ, Morel K, Anderson AK, Damio G, Perez-Escamilla R. Breastfeeding peer counseling: from efficacy through scale-up. J Hum Lact. 2010;26:314-26. doi: 10.1177/0890334410369481.

Clasen TF, Alexander KT, Sinclair D, Boisson S, Peletz R, Chang HH et al. Interventions to improve water quality for preventing diarrhoea. Cochrane Database Syst Rev. 2015;20(10): CD004794. doi: 10.1002/14651858.CD004794.pub3.

Coast E, McDaid D, Leone T, Pitchforth E, Matthews Z, Lemmi V et al. What are the effects of different models of delivery for improving maternal and infant health outcomes for poor people in urban areas in low income and lower middle income countries? London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. 2012;252 (http://eprints.lse.ac.uk/41908/1/What_are_the_effects_of_different_models_of_delivery_for_improving_maternal_and_infant_outcomes_for_poor_people_in_urban_areas_in_low_income_and_lower_middle_income_countries_(LSERO).pdf. accessed 15 September 2017).

Comfort AB, Peterson LA, Hatt LE. Effect of health insurance on the use and provision of maternal health services and maternal and neonatal health outcomes: a systematic review. J Health Popul Nutr. 2013;31:81-105. (http://connection.ebscohost.com/c/articles/95273819/effect-health-insurance-use-provision-maternal-health-services-maternal-neonatal-health-outcomes-systematic-review%20%20-Not%20free%20access accessed on 26 September 2017).

Curtis V, Cairncross S. Effect of washing hands with soap on diarrhoea risk in the community: a systematic review. Lancet Infect Dis. 2003;3(5):275-81. (http://www.sciencedirect.com/science/article/pii/S1473309903006066?via%3Dihub accessed on 15 September 2017).

Dangour AD, Watson L, Cumming O, Boisson S, Che Y, Velleman Y et al. Interventions to improve water quality and supply, sanitation and hygiene practices, and their effects on the nutritional status of children. Cochrane Database Syst Rev. 2013;1;(8):CD009382. doi: 10.1002/14651858.CD009382.pub2.

Darmstadt GL, Lee AC, Cousens S, Sibley L, Bhutta ZA, Donnay F et al. 60 million non-facility births: who can deliver in community settings to reduce intrapartum-related deaths?. Int J Gynaecol Obstet. 2009;107(suppl 1):S89-S112. doi: 10.1016/j.ijgo.2009.07.010

Das JK, Lassi ZS, Salam RA, Bhutta ZA. Effect of community based interventions on childhood diarrhea and pneumonia: uptake of treatment modalities and impact on mortality. BMC Public Health. 2013;13(Suppl 3):S29. Doi: 10.1186/1471-2458-13-S3-S29.

Dean SV, Lassi ZS, Imam AM, Bhutta ZA. Preconception care: promoting reproductive planning. Reprod Health. 2014;11(suppl 3):S2 doi: 10.1186/1742-4755-11-S3-S2.

Deglise C, Suggs LS, Odermatt P. SMS for disease control in developing countries: a systematic review of mobile health applications. J Telemed Telecare. 2012;18(5):273-81. doi: 10.1258/jtt.2012.110810.

Dettrick Z, Firth S, Jimenez Soto E. Do strategies to improve quality of maternal and child health care in lower and middle income countries lead to improved outcomes? A review of the evidence. PLoS ONE. 2013;8:e83070. doi:10.1371/journal.pone.0083070.

Dewey K, and Adu-Afarwuah S. Systematic review of the efficacy and effectiveness of complementary feeding interventions in developing countries. 2008;4(Suppl 1):24-85. doi: 10.1111/j.1740-8709.2007.00124.x.

Dobbins M, Husson H, DeCorby K, LaRocca RL. School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. Cochrane Database Syst Rev. 2013;(2):CD007651. doi: 10.1002/14651858.CD007651.pub2.

Dowswell T, Carroli G, Duley L, Gates S, Gülmezoglu MA, Khan-Neelofur D et al. Alternative versus standard packages of antenatal care for low-risk pregnancy. Cochrane Database Syst Rev. 2015;6(10):CD000934. doi: 10.1002/14651858.CD000934.pub2.

Owusu-Addo E, and Owusu-Addo SB. Effectiveness of health education in community-based malaria prevention and control interventions in sub-Saharan Africa: a systematic review. J Biol Agric Healthc. 2014;4(3):22-34 (http://www.iiste.org/Journals/index.php/JBAH/article/view/10976/11277 accessed on 15 September 2017).

Ehiri JE, Gunn JK, Center KE, Li Y, Rouhani M, Ezeanolue EE. Training and deployment of lay refugee/internally displaced persons to provide basic health services in camps: a systematic review. Glob Health Action. 2014;7:23902. doi: 10.3402/gha.v7.23902.

Ejemot-Nwadiaro RI, Ehiri JE, Arikpo D, Meremikwu MM, Critchley JA. Hand washing promotion for preventing diarrhoea. Cochrane Database Syst Rev. 2015;3(9):CD004265. doi: 10.1002/14651858.CD004265.pub3.

Engle PL, Fernald LH, Alderman H, Behrman J, O'Gara C, Yousafzai A et al. Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. Lancet. 2011;378(9799):1339-53. doi: 10.1016/S0140-6736(11)60889-1.

Evans WD, Pattanayak SK, Young S, Buszin J, Rai S, Bihm JW. Social marketing of water and sanitation products: A systematic review of peer-reviewed literature. Soc Sci Med. 2014;110:18-25. doi: 10.1016/j.socscimed.2014.03.011.

Farnsworth SK, Bose K, Fajobi O, Souza PP, Peniston A, Davidson LL et al. Community engagement to enhance child survival and early development in low- and middle-income countries: an evidence review. J Health Commun. 2014;19(suppl 1):67-88. doi: 10.1080/10810730.2014.941519.

Fewtrell L, Kaufmann RB, Kay D, Enanoria W, Haller L, Colford JM. Water, sanitation, and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis. Lancet Infect Dis. 2005;5(1):42-52. doi: 10.1016/S1473-3099(04)01253-8.

Fiebelkorn AP, Person B, Quick RE, Vindigni SM, Jhung M, Bowen A et al. Systematic review of behavior change research on point-of-use water treatment interventions in countries categorized as low- to medium-development on the human development index. Soc Sci Med. 2012;75(4):22-33. doi: 10.1016/j.socscimed.2012.02.011.

Gao Y, Griffiths S, Chan EYY. Community-based interventions to reduce overweight and obesity in China: a systematic review of the Chinese and English literature. J Public Health. 2008;30(4):436-48. doi: 10.1093/pubmed/fdm057.

George A S, Branchini C, Portela A. Do interventions that promote awareness of rights increase use of maternity care services? A systematic review. PLoS One. 2015;10(10):e0138116. doi: 10.1371/journal.pone.0138116.

Gera T, Shah D, Garner P, Richardson M, Sachdev H. Integrated management of childhood illness (IMCI) strategy for children under five. Cochrane Database Syst Rev. 2016;6(CD010123) doi: 10.1002/14651858.CD010123.pub2.

Gilmore B, McAuliffe E. Effectiveness of community health workers delivering preventive interventions for maternal and child health in low- and middle-income countries: a systematic review. BMC Public Health. 2013;13:847. doi: 10.1186/1471-2458-13-847.

Giugliani C, Harzheim E, Duncan MS, Duncan BB. Effectiveness of community health workers in Brazil: a systematic review. J Ambul Care Manage. 2011;34(4):326-38. doi: 10.1097/JAC.0b013e31822cbdfd.

Glassman A, Duran D, Fleisher L, Singer D, Sturke R, Angeles G et al. Impact of conditional cash transfers on maternal and newborn health. J Health Popul Nutr. 2013;31(4 suppl 2):S48-S66. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4021703/ accessed on 14 September 2017).

Glenton C, Scheel IB, Lewin S, Swingler GH. Can lay health workers increase the uptake of childhood immunisation? Systematic review and typology. Trop Med and Int Health. 2011;16:1044-1053.

Global Health Workforce Alliance. Global experience of community health workers for delivery of health related Millennium Development Goals: A systematic review, country case studies, and recommendations for integration into national health systems. Geneva: World Health Organization, Global Health Workforce Alliance; 2010 (www.who.int/workforcealliance/knowledge/publications/CHW_FullReport_2010.pdf., accessed on 11th September 2017)

Gogia S, Ramji S, Gupta P, Gera T, Shah D, Mathew JL et al. Community based newborn care: a systematic review and metaanalysis of evidence; UNICEF-PHFI series on newborn and child health, India. Indian Pediatr. 2011;48(7):537-46.

Gogia S, Sachdev HP. Home-based neonatal care by community health workers for preventing mortality in neonates in low- and middle-income countries: a systematic review. J Perinatol. 2016;36(1):S55-73. doi: 10.1038/jp.2016.33.

Grantham-McGregor SM, Fernald LC, Kagawa RM, Walker S. Effects of integrated child development and nutrition interventions on child development and nutritional status. Ann N Y Acad Sci. 2014;1308:11-32. doi: 10.1111/nyas.12284.

Gurman TA, Rubin SE, Roess AA. Effectiveness of mHealth behavior change communication interventions in developing countries: a systematic review of the literature. J Health Commun. 2012;17(1):82-104. doi: 10.1080/10810730.2011.649160

Hall J. Effective community-based interventions to improve exclusive breast feeding at four to six months in low- and low-middle-income countries: a systematic review of randomised controlled trials. Midwifery. 2011;27:497-502. doi: 10.1016/j.midw.2010.03.011.

Haroon S, Das JK, Salam RA, Imdad A, Bhutta ZA. Breastfeeding promotion interventions and breastfeeding practices: a systematic review. BMC Public Health. 2013;13(suppl 3):S20. doi: 10.1186/1471-2458-13-S3-S20

Harvey H, Reissland N, Mason J. Parental reminder, recall and educational interventions to improve early childhood immunisation uptake: A systematic review and meta-analysis. Vaccine. 2015;33(25):2862-80. doi: 10.1016/j.vaccine.2015.04.085.

Haws RA, Thomas AL, Bhutta ZA, Darmstadt GL. Impact of packaged interventions on neonatal health: A review of the evidence. Health Policy Plan. 2007;22:193-215. doi: 10.1093/heapol/czm009

Heintze C, Garrido MV, Kroeger A. What do community-based dengue control programmes achieve? A systematic review of published evaluations. Trans R Soc Trop Med Hyg. 2007;101(4):317-25.doi: 10.1016/j.trstmh.2006.08.007

Higgs ES, Goldberg AB, Labrique AB, Cook SH, Schmid C, Cole CF, Obregon RA. Understanding the role of mHealth and other media interventions for behavior change to enhance child survival and development in low- and middle-income countries: an evidence review. J Health Commun. 2014;19(1):164-89. doi: 10.1080/10810730.2014.929763.

Hill J, Hoyt J, van Eijk AM, D'Mello-Guyett L, Ter Kuile FO, Steketee R et al. Factors affecting the delivery, access, and use of interventions to prevent malaria in pregnancy in sub-saharan africa: a systematic review and meta-analysis. PLoS Med. 2013;10(7):e1001488. doi: 10.1371/journal.pmed.1001488.

Holub CK, Elder JP, Arredondo EM, Barquera S, Eisenberg CM, Sánchez Romero LM et al. Obesity control in Latin American and U.S. Latinos. Am J Prev Med. 2013;44(5):526-60. doi: 10.1016/j.amepre.2013.01.023.

Hussein J, Kanguru L, Astin M, Munjanja S. What kinds of policy and programme interventions contribute to reductions in maternal mortality? Technical Report. London: EPPI-Centre, Social Science Research Centre, Institute of Education, University of London; 2011 (https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/Maternal%20mortality%202011Hussein.pdf?ver=2011-07-12-163837-720, accessed on 11 September 2017)

Hussein J, Kanguru L, Astin M, Munjanja S. The effectiveness of emergency obstetric referral interventions in developing country settings: a systematic review. PLoS Med. 2012;9(7):e1001264. doi: 10.1371/journal.pmed.1001264.

Imdad A, Yakoob MY, Bhutta ZA. Effect of breastfeeding promotion interventions on breastfeeding rates, with special focus on developing countries. BMC Public Health. 2011;11(suppl 3):S24. doi: 10.1186/1471-2458-11-S3-S24.

Imdad A, Yakoob MY, Bhutta ZA. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries. BMC Public Health. 2011;11(suppl 3):S25. doi: 10.1186/1471-2458-11-S3-S25.

Jennings L, Gagliardi L. Influence of mHealth interventions on gender relations in developing countries: a systematic literature review. Int J Equity Health. 2013;12:85. doi: 10.1186/1475-9276-12-85.

Johri M, Cielo Pérez M, Arsenault C, Sharma JK, Pant Pai N, Pahwa S et al. Strategies to increase the demand for childhood vaccination in low- and middle-income countries: a systematic review and meta-analysis. Bull World Health Organ. 2015;93(5):339-346C. doi: 10.2471/BLT.14.146951.

Jolly K, Ingram LM, Khan KS, Deeks JJ, Freemantle N, MacArthur C. Systematic review of peer support for breastfeeding continuation: metaregression analysis of the effect of setting, intensity, and timing. BMJ. 2012;344:d8287. doi: 10.1136/bmj.d8287.

Joshi A, Amadi C. Impact of water, sanitation, and hygiene interventions on improving health outcomes among school children. J Environ Public Health. 2013;13(984626). Doi: 10.1155/2013/984626.

Kaufman J, Synnot A, Ryan R, Hill S, Horey D, Willis N et al. Face to face interventions for informing or educating parents about early childhood vaccination. Cochrane Database Syst Rev. 2013;5(CD010038). doi: 10.1002/14651858.CD010038.pub2.

Kidney E, Winter HR, Khan KS, Gulmezoglu AM, Meads CA, Deeks JJ et al. Systematic review of effect of community-level interventions to reduce maternal mortality.. BMC Pregnancy Childbirth. 2009;9(2). doi: 10.1186/1471-2393-9-2.

Kikuchi K, Ansah EK, Okawa S, Enuameh Y, Yasuoka J, Nanishi K et al. Effective linkages of continuum of care for improving neonatal, perinatal, and maternal mortality: a systematic review and meta-analysis. PLoS ONE. 2015;10(9):e0139288. doi: g/10.1371/journal.pone.0139288.

Kraft JM, Wilkins KG, Morales GJ, Widyono M, Middlestadt SE. An evidence review of gender-integrated interventions in reproductive and maternal-child health. J Health Commun. 2014;19(Suppl 1):122-42. doi: 10.1080/10810730.2014.918216.

Lagarde M, Haines A, Palmer N. The impact of conditional cash transfers on health outcomes and use of health services in low and middle income countries. Cochrane Database Syst Rev. 2009;4(CD8137). Doi: 10.1002/14651858.CD008137.

Lamstein S, Stillman T, Koniz-Booher P, Aakesson A, Collaiezzi B, Williams T et al. Evidence of effective approaches to social and behavior change communication for preventing and reducing stunting and anemia: findings from a systematic literature review. Arlington, Virginia.USAID/Strengthening Partnerships, Results, and Innovations in Nutrition Globally [SPRING]. 2014:116. (https://www.spring-nutrition.org/sites/default/files/publications/reports/spring_sbcc_lit_review.pdf accessed on 8 September 2017).

Langford R, Bonell CP, Jones HE, Pouliou T, Murphy SM, Waters E et al. The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement. Cochrane Database Syst Rev. 2014;4(CD008958). Doi: 10.1002/14651858.CD008958.pub2.

Lassi ZS, Bhutta ZA. Community-based intervention packages for reducing maternal and neonatal morbidity and mortality and improving neonatal outcomes. Cochrane Database Syst Rev. 2015;11(CD007754). doi: 10.1002/14651858.

Lassi ZS, Das JK, Zahid G, Imdad A, Bhutta ZA. Impact of education and provision of complementary feeding on growth and morbidity in children less than 2 years of age in developing countries: a systematic review. BMC Public Health. 2013;13(Suppl 3):S13. doi: 10.1186/1471-2458-13-S3-S13.

Lassi ZS, Majeed A, Rashid S, Yakoob MY, Bhutta ZA. The interconnections between maternal and newborn health — evidence and implications for policy. J Matern Fetal Neonatal Med. 2013;26(S1):3-53. doi: 10.3109/14767058.2013.784737.

Lassi ZS, Middleton PF, Bhutta ZA, Crowther C. Strategies for improving health care seeking for maternal and newborn illnesses in low- and middle-income countries: a systematic review and meta-analysis. Glob Health Action. 2016;9(31408). doi: 10.3402/gha.v9.31408.

Lassi ZS, Aftab W, Ariff S, Kumar R, Hussain I, Musavi NB et al. Impact of service provision platforms on maternal and newborn health in conflict areas and their acceptability in Pakistan: a systematic review. Confl Health. 2015;9(25). doi: 10.1186/s13031-015-0054-5.

Lee AC, Lawn JE, Cousens S, Kumar V, Osrin D, Bhutta ZA, Wall SN et al. Linking families and facilities for care at birth: what works to avert intrapartum-related deaths?. Int J Gynaecol Obstet. 2009;107(S1):S65-85, S86-8. doi: 10.1016/j.ijgo.2009.07.012.

Lee SH, Nurmatov U,I Nwaru BI, Mukherjee M, Grant L, and Pagliari C. Effectiveness of mHealth interventions for maternal, newborn and child health in low– and middle–income countries: systematic review and meta–analysis. J Glob Health. 2016;6(1). doi: 10.7189/jogh.06.010401.

Lewin S, Munabi-Babigumira S, Glenton C, Daniels K, Bosch-Capblanch X, van Wyk BE et al. Lay health workers in primary and community health care for maternal and child health and the management of infectious diseases. Cochrane Database Syst Rev. 2010;3(CD004015). doi: 10.1002/14651858.CD004015.pub3.

Lopez LM, Grey TW, Chen M, and Hiller JE. Strategies for improving postpartum contraceptive use: evidence from non-randomized studies. Cochrane Database Syst Rev. 2014;11(CD011298). doi: 10.1002/14651858.CD011298.pub2.

Lopez LM, Grey TW, Hiller JE, and Chen M. Education for contraceptive use by women after childbirth. Cochrane Database Syst Rev. 2015;1(CD001863). doi: 10.1002/14651858.CD001863.pub2.

Khan ME, Hazra A, Kant A, and Ali M. Conditional and unconditional cash transfers to improve use of contraception in low and middle income countries: a systematic review. Stud Fam Plann. 2016;47(4):371-83. doi: 10.1111/sifp.12004.

Majamanda J, Maureen D, Munkhondia TM, and Carrier J. The effectiveness of community-based nutrition education on the nutrition status of under-five children in developing countries. A systematic review. Malawi Med J. 2014;26(4):115-8. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4325345/ accessed on 8 September 2017).

Malqvist M, Yuan B, Trygg N, Selling K, and Thomsen S. Targeted interventions for improved equity in maternal and child health in low- and middle-income settings: a systematic review and meta-analysis. PloS One. 2013;8(6):e66453. doi: 10.1371/journal.pone.0066453.

Mangham-Jefferies L, Pitt C, Cousens S, Mills A, and Schellenberg J. Cost-effectiveness of strategies to improve the utilization and provision of maternal and newborn health care in low-income and lower-middle-income countries: a systematic review. BMC Pregnancy Childbirth. 2014;14:243. doi: 10.1186/1471-2393-14-243.

Manley J, Gitter S, and Slavchevska V. How effective are cash transfers at improving nutritional status?. World Dev. 2013;48:133-55. doi: 10.1016/j.worlddev.2013.03.010.

Marston C, Renedo A, McGowan CR, and Portela A. Effects of community participation on improving uptake of skilled care for maternal and newborn health: a systematic review. PloS One. 2013;8(2):e55012. doi: 10.1371/journal.pone.0055012.

Mbuagbaw L, Medley N, Darzi AJ, Richardson M, Habiba GargaK, and Ongolo-Zogo P. Health system and community level interventions for improving antenatal care coverage and health outcomes. Cochrane Database Syst Rev. 2015;12(CD010994). doi: 10.1002/14651858.CD010994.pub2.

McCoy DC, Hall JA, and Ridge M. A systematic review of the literature for evidence on health facility committees in low- and middle-income countries. Health Policy Plan. 2011;27 Health Policy and Planning, 27(6):449-66. doi: 10.1093/heapol/czr077.

Mehboob G, and Shaikh BT. Experience of vouchers for reproductive health services in developing countries: making a case for Pakistan through a systematic review. J Ayub Med Coll Abbottabad. 2015;27(3):695-701. (http://www.3ieimpact.org/en/evidence/systematic-reviews/details/733/ accessed on 8 September 2017).

Mejia A, Calam R, and Sanders MR. A review of parenting programs in developing countries: opportunities and challenges for preventing emotional and behavioral difficulties in children. Clin Child Fam Psycho Rev. 2012;15(2):163-75. doi: 10.1007/s10567-012-0116-9.

Middleton PF, Lassi ZS, son Tran T, Bhutta Z, Bubner TK, Flenady V et al. Nutrition interventions and programs for reducing mortality and morbidity in pregnant and lactating women and women of reproductive age: a systematic review. 2013. Adelaide. Australian Research Centre for Health of Women and Babies. (https://dfat.gov.au/about-us/publications/Documents/nutrition-interventions-pregnant-reproductive-women.pdf accessed on 8 September 2017).

Miltenburg AS, Roggeveen Y, Shields L, van Elteren M, van Roosmalen J , Stekelenburg J et al. Impact of birth preparedness and complication readiness interventions on birth with a skilled attendant: a systematic review. PloS. 2015;10(11):e0143382. doi: 10.1371/journal.pone.0143382.

Molina E, Pacheco A, Gasparini L, Cruces G. Community monitoring to curb corruption and increase efficiency in service delivery: evidence from low-income communities. Campbell Systematic Reviews. 2016:8 doi: 10.4073/csr.2016.8.

Muralidharan A, J Fehringer S. Pappa, E. Rottach, M. Das, M M, and al . Transforming gender norms, roles, and power dynamics for better health: evidence from a systematic review of gender-integrated health programs in low- and middle-income countries. 2015. Washington DC:

Futures Group, Health Policy Project. (https://www.healthpolicyproject.com/pubs/381_GPMIndiaSummaryReport.pdf accessed on 8 September 2017).

Mureed S, Somronghtong R, Kumar R, Ghaffar A, and Chapman RS. Enhanced immunization coverage through interventions for childhood cluster diseases. J Ayub Med Coll Abbottabad. 2015;27(1):223-7. (http://jamc.ayubmed.edu.pk/index.php/jamc/article/view/1147 accessed on 8 September 2017).

Murray SF, Hunter BM, Bisht R, Ensor T, and Bick D. Effects of demand-side financing on utilisation, experiences and outcomes of maternity care in low- and middle-income countries: a systematic review. BMC Pregnancy Childbirth. 2014;14(30). doi: 10.1186/1471-2393-14-30.

Mwaikambo L, Speizer IS, Schurmann A, Morgan G, and Fikree F. What works in family planning interventions: a systematic review. Stud Fam Plan. 2011;42(2):67-82. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3761067/ accessed on 8 September 2017). , 42, pp.67-82.

Nagle BJ, Holub CK, Barquera S, Sanchez-Romero LM, Eisenberg CM, Rivera-Dommarco JA et al. Interventions for the treatment of obesity among children and adolescents in Latin America: a systematic review. Salud Publica Mex. 2013;55(S3):434-40. (http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0036-36342013000900011&lng=en&nrm=iso accessed on 8 September 2017).

Naugle DA, and Hornik RC. Systematic review of the effectiveness of mass media interventions for child survival in low- and middle-income countries. J Health Commun. 2014;19(S1):190-215. Doi: 10.1080/10810730.2014.918217.

Nguyen DT, Leung KK, McIntyre L, Ghali WA, and Sauve R. Does integrated management of childhood illness (IMCI) training improve the skills of health workers? A systematic review and meta-analysis. PLoS One. 2013;8(6): e66030. doi: 10.1371/journal.pone.0066030.

Nores M, and Barnett S. Benefits of early childhood interventions across the world: (under) investing in the very young. Econ Educ Rev. 2010;29(2):271-82. Doi: 10.1016/j.econedurev.2009.09.001.

Nwolise CH, Hussein J, Kanguru L, Bell J, and Patel P. The effectiveness of community-based loan funds for transport during obstetric emergencies in developing countries: a systematic review. Health Policy Plan. 2015;30(7):946-55. doi: 10.1093/heapol/czu084.

Nyamtema AS, Urassa DP, van Roosmalen J. Maternal health interventions in resource limited countries: a systematic review of packages, impacts and factors for change. BMC Pregnancy Childbirth. 2011;11:30. doi: 10.1186/1471-2393-11-30.

Okwundu CI, Nagpal S, Musekiwa A, and Sinclair D. Home- or community-based programmes for treating malaria. Cochrane Database Syst Rev.2013;5(CD009527). doi: 10.1002/14651858.CD009527.pub2.

Oliveira-Cruz V, Hanson K, and Mills A. Approaches to overcoming constraints to effective health service delivery: a review of the evidence. J Int Dev. 2003;15:41-65. doi: 10.1002/jid.965.

Ota E, Hori H, Mori R, Tobe-Gai R, and Farrar D. Antenatal dietary education and supplementation to increase energy and protein intake. Cochrane Database Syst Rev. 2015;6(CD000032). doi: 10.1002/14651858.CD000032.pub3.

Owusu-Addo E, and Cross R. The impact of conditional cash transfers on child health in low- and middle-income countries: a systematic review. Inte J Public Health. 2014;59(4):609-18. doi: 10.1007/s00038-014-0570-x.

Oyo-Ita A, Wiysonge CS, Oringanje C, Nwachukwu CE, Oduwole O, Meremikwu MM. Interventions for improving coverage of childhood immunisation in low- and middle-income countries. Cochrane Database Syst Rev. 2016;7(CD008145). doi: 10.1002/14651858.CD008145.pub3.

Patouillard E, Goodman CA, Hanson KG, and Mills AJ. Can working with the private for-profit sector improve utilization of quality health services by the poor? A systematic review of the literature. Int J Equity Health. 2007;6(17). doi: 10.1186/1475-9276-6-17.

Pega F, Liu SY, Walter S, and Lhachimi SK. Unconditional cash transfers for assistance in humanitarian disasters: Effect on use of health services and health outcomes in low- and middle-income countries. Cochrane Database Syst Rev. 2015;9(CD011247). doi: 10.1002/14651858.CD011247.pub2 .

Pinzón Flórez CE, Díaz-Quijano DM, Yáñez ÁlvarezI, and Mesa Lopera DC. Efectividad de los trabajadores comunitarios en medidas preventivas para salud maternal e infantil en países de bajos y medianos ingresos: revisión sistemática de la literatura. Salud UNINORTE. 2015;31(2):309-28. doi: 10.14482/ sun.30.1.4309.

Prost A, Colbourn T, Seward N, Azad K, Coomarasamy A, Copas A et al. Women's groups practising participatory learning and action to improve maternal and newborn health in low-resource settings: a systematic review and meta-analysis. Lancet. 2013;381(9879):1736-46. doi: 10.1016/S0140-6736(13)60685-6.

Ramesh A, Blanchet K, Ensink JHJ, and Roberts B. Evidence on the effectiveness of water, sanitation, and hygiene (WASH) interventions on health outcomes in humanitarian crises: a systematic review. PloS One. 2015;10(9): e0124688. doi: 10.1371/journal.pone.0124688.

Renfrew MJ, McCormick FM, Wade A, Quinn B, and Dowswell T. Support for healthy breastfeeding mothers with healthy term babies. Cochrane Database Syst Rev. 2012,5(CD001141). doi: 10.1002/14651858.CD001141.pub4.

Ryman TK, Dietz V, and Cairns KL. Too little but not too late: results of a literature review to improve routine immunization programs in developing countries. BMC Health Serv Res. 2008;8(134). doi: 10.1186/1472-6963-8-134.

Saeterdal I, Lewin S, Austvoll-Dahlgren A, Glenton C, and Munabi-Babigumira S. Interventions aimed at communities to inform and/or educate about early childhood vaccination. Cochrane Database Syst Rev. 2014;11(CD010232). doi: 10.1002/14651858.CD010232.pub2.

Saraf DS, Nongkynrih B, Pandav CS, Gupta SK, Shah B, Kapoor SK et al. A systematic review of school-based interventions to prevent risk factors associated with noncommunicable diseases. Asia Pac JPublic Health. 2015;24(5):733-52. doi: 10.1177/1010539512445053.

Sazawal S, Black RE, Pneumonia Case Management Trials Group. Effect of pneumonia case management on mortality in neonates, infants, and preschool children: a meta-analysis of community-based trials. Lancet Infect Dis. 20033(9):547-56. doi: 10.1016/S1473-3099(03)00737-0.

Schiavo R, May Leung M, and Brown M. Communicating risk and promoting disease mitigation measures in epidemics and emerging disease settings. Pathog Glob Health. 2014;108(2):76-94. doi: 10.1179/2047773214Y.0000000127.

Seguin M, and Zarazua MN. Non-clinical interventions for acute respiratory infections and diarrhoeal diseases among young children in developing countries. Trop Med Int Health. 2015;20(2):146-69. doi: 10.1111/tmi.12423.

Shea B, Andersson N, and Henry D. Increasing the demand for childhood vaccination in developing countries: a systematic review. BMC In Health Hu Rights. 2009;9(Suppl 1):S1. Doi: 10.1186/1472-698X-9-S1-S5.

Sinha B, Chowdhury R, Sankar MJ, Martines J, Taneja S, Mazumder S et al. Interventions to improve breastfeeding outcomes: a systematic review and meta-analysis. Acta Paediatr. 2015;104(467):114-34. Doi: 10.1111/apa.13127.

Soubeiga D, Gauvin L, Hatem MA, and Johri M. Birth Preparedness and Complication Readiness (BPCR) interventions to reduce maternal and neonatal mortality in developing countries: systematic review and meta-analysis. BMC Pregnancy Childbirth. 2014;14(129). doi: 10.1186/1471-2393-14-129.

Sondaal SFV, Browne JL, Amoakoh-Coleman M, and Borgstein A. mHealth interventions for improving maternal and neonatal care. PLoS One. 2016;11(5). doi: 10.1371/journal.pone.0154664.

Tanner J, Rivera ANA, Candland T, Galdo V, Manang F, Trichler R et al. Delivering the millennium development goals to reduce maternal and child mortality: a systematic review of impact evaluation evidence. Independent Evaluation Group, World Bank; Washington DC; 2013 (www.oecd.org/derec/norway/WORLDBANKDeliveringtheMDGtoreducematernalandchildmortality.pdf. accessed on 11 September, 2017).

Tanner JC, Candland T, and Odden WS. Later Impacts of Early Childhood Interventions: A Systematic Review. Independent Evaluation Group, World Bank; Washington DC; 2015.

Tripathi A, Kabra SK, Sachdev HP, and Lodha R. Home visits by community health workers to improve identification of serious illness and care seeking in newborns and young infants from low- and middle-income countries. J Perinatol. 2016;36(S1):S74-82. doi: 10.1038/jp.2016.34.

Tripney J, Kwan I, Bird KS. Postabortion family planning counseling and services for women in low-income countries: a systematic review. Contraception. 2013;87(1):17-25. Doi: 10.1016/j.contraception.2012.07.014.

Victora CG, Barros FC, Assuncao MC, Restrepo-Mendez MC, Matijasevich A, and Martorell R. Scaling up maternal nutrition programs to improve birth outcomes: a review of implementation issues. Food Nutr Bull. 2012;33(2):S6-26. (http://journals.sagepub.com/doi/pdf/10.1177/15648265120332S102 accessed on 7 September 2017).

Vieira C, Portela A, Miller T, Coast E, Leone T, Marston C. Increasing the use of skilled health personnel where traditional birth attendants were providers of childbirth care: a systematic review. PLOS One.2012;7(10):1-9. doi: 10.1371/journal.pone.0047946

Waddington H, Snilstveit B, and Fewtrell. Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries. 2009. (http://www.3ieimpact.org/media/filer_public/2012/05/07/17.pdf accessed on 7 September 2017).

Warren E, Post N, Hossain M, Blanchet K, and Roberts B.Systematic review of the evidence on the effectiveness of sexual and reproductive health interventions in humanitarian crises. BMJ Open. 2015;5: e008226. doi: 10.1136/bmjopen-2015-008226.

Waters E, de Silva-Sanigorski A, Burford BJ, Brown T, Campbell KJ , Gao Y et al. Interventions for preventing obesity in children. Cochrane Database Syst Rev.2011;12(CD001871). doi: 10.1002/14651858.CD001871.pub3.

Watterson JL, Walsh J, and Madeka I. Using mHealth to improve usage of antenatal care, postnatal care, and immunization: a systematic review of the literature. BioMed Res Int. 2015. doi: 10.1155/2015/153402.

Yargawa J, Leonardi-Bee J. Male involvement and maternal health outcomes: systematic review and meta-analysis. J Epidemiol Community Health. 2015;69(6):604-12. doi: 10.1136/jech-2014-204784.

Yakoob MY, Menezes EV, Soomro T, Haws RA, Darmstadt GL, and Bhutta ZA. Reducing stillbirths: behavioural and nutritional interventions before and during pregnancy. BMC Pregnancy Childbirth. 2009;9(Supplement 1):S3. doi: 10.1186/1471-2393-9-S1-S3.

Yonemoto N, Dowswell T, Nagai S, and Mori R. Schedules for home visits in the early postpartum period. Cochrane Database Syst Rev. 2016;7(CD009326). doi: 10.1002/14651858.CD009326.pub2.

Yuan B, Malqvist M, Trygg N, Qian X, Ng N, and Thomsen S. What interventions are effective on reducing inequalities in maternal and child health in low- and middle-income settings? A systematic review. BMC Public Health. 2014;14, 14(634). doi: 10.1186/1471-2458-14-634.

Included systematic reviews – ongoing

Abdel-Rahman A, Adair P, Pine C, Jomaa L, and Elliott M. Effectiveness of behavioral interventions to reduce the intake of sugar sweetened beverages among children and adolescents: a systematic review. PROSPERO. 2015; CRD42014004432. (http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42014004432 accessed on 7 September 2017).

Balogun O, da Silva Lopes K, Ota E, Dagvadorj A, Suto M, Mori R et al. Health facility staff training on breastfeeding and supporting feeding practices for improving breastfeeding outcome: a systematic review. PROSPERO. 2016; CRD42016042035. (http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016042035 accessed on 7 September 2017).

Chi PC. , Urdal H, Umeora O, Sundby J, Spiegel P, and Devane D. Improving maternal, newborn and women's reproductive health in crisis settings. Cochrane Database Syst Rev. 2015;8:1-26. doi:10.1002/14651858.CD011829.

Coles E, Cheyne H, and Daniel B.Early years interventions to improve child health and wellbeing: what works, for whom and in what circumstances? Protocol for a realist review. Syst Rev. 2015;4(79). doi: 10.1186/s13643-015-0068-5.

Daly L, Flenady V, Middleton P, and Horey D. Mobile phone-based interventions for improving perinatal health outcomes. PROSPERO. 2016: CRD42016037344. (http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016037344 accessed on 7 September 2017).

De Buck E, Hannes K, Van Remoortel H, Govender T, Vande Veegaete A, Musekiwa A et al. Approaches to promote handwashing and sanitation behaviour change in low- and middle income countries: a ,mixed method systematic review. Campbell Systematic Reviews. 2016.

Fortuin J, Mukinda F, and Gassiep A. The use of mHealth to improve maternal and child health outcomes. PROSPERO. 2015: CRD42015022096. (http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42015022096 accessed on 7 September 2017).Dunne L, Craig L, Connolly P, and Winter K. Community-based early childhood programmes for improving developmental outcomes for children: a systematic review and meta-analysis. Campbell Systematic Reviews. 2016. (https://www.campbellcollaboration.org/library/community-based-early-childhood-programmes.html accessed on 7 September 2017).

Lennon S, Londono Y, Heaman M, Kingston D, and Bayrampour H. The effectiveness of interventions to improve access to and utilization of prenatal care: a systematic review protocol. JBI Database System Rev Implement Rep. 201513(5):10-23. (http://journals.lww.com/jbisrir/Citation/2015/13050/The_effectiveness_of_interventions_to_improve.3.aspx accessed on 7 September 2017).

Munisamy M, and Bhatia M. Effectiveness of health microinsurance (HMI) schemes: lessons to learn for improving sustainability in lower middle-income countries (LMIC). PROSPERO. 2016; CRD42016035627. (http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016035627 accessed on 7 September 2017).

Sempeera H, Kabagenyi A, Anguzu R, Muhumuza C, Hassen K, and Sudhakar M. Family planning counselling during antenatal care and postpartum contraceptive uptake in Africa. JBI Database System Rev Implement Rep. 2016;14:17-25. (https://insights.ovid.com/pubmed?pmid=27532135 accessed on 7 September 2017).

Sreeramareddy C, Sathyanarayana TN Anchala R, and Kumar H. Protocol: family and community interventions under integrated management of childhood illness strategy for reduction of neonatal and under-five mortality among children in low-and-middle-income countries: A systematic review. Campbell Systematic Reviews. 2015. (http://archive.campbellcollaboration.org/lib/project/262/ accessed 7 September 2017).

Warnock R, Sudhinaraset M, Diamond-Smith N, Montagu D, and Treleaven E. A systematic review of interventions to improve quality of delivery, family planning and abortion services. PROSPERO. 2015: :CRD42015025425. (http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42015025425 accessed on 7 September 2017).

Systematic reviews with two or less studies from an LMIC

Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Viera A, Crotty K et al. Health literacy interventions and outcomes: An updated systematic review. Evid Rep Technol Assess (Full Rep). 2011;199:1-941. (https://www.ncbi.nlm.nih.gov/books/NBK82434/pdf/Bookshelf_NBK82434.pdf, accessed 7 September 2017).

Catling CJ, Medley N, Foureur M, Ryan C, Leap N, Teate A et al.. Group versus conventional antenatal care for women (Review). Cochrane Database Syst Rev. 2015;2(CD007622). doi: 10.1002/14651858.CD007622.pub3.

Chamberlain C, O'Mara-Eves A, Oliver S, Caird JR, Perlen SM, Eades SJ et al. Psychosocial interventions for supporting women to stop smoking in pregnancy . Cochrane Database Syst Rev. 2013;10(CD001055). doi: 10.1002/14651858.CD001055.pub4.

Coast E, Jones E, Lattof SR, and Portela A. Effectiveness of interventions to provide culturally appropriate maternity care in increasing uptake of skilled maternity care: A systematic review. Health Policy Plan. 2016;31(10):1479-91. doi: 10.1093/heapol/czw065.

Cole-Lewis H, and Kershaw T. Text messaging as a tool for behavior change in disease prevention and management. Epidemiol Rev. 2010;32:56-69. doi: 10.1093/epirev/mxq004.

Corluka A, Walker DG, Lewin S, Glenton C, and Scheel IB. Are vaccination programmes delivered by lay health workers cost-effective? A systematic review. Hum Resour Health. 2009;7(81). doi: 10.1186/1478-4491-7-81.

Dyson L, McCormick F, and Renfrew MJ. Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev. 2005;2(CD001688). doi: 10.1002/14651858.CD001688.pub2.

Evans WD, Blitstein J, Hersey JC, Renaud J, and Yaroch AL. Systematic review of public health branding. J Health Commun. 2008;13(8):721-41. doi: 10.1080/10810730802487364.

Flynn MA, McNeil DA, Maloff B, Mutasingwa D, Wu M, Ford C et al..). Reducing obesity and related chronic disease risk in children and youth: a synthesis of evidence with 'best practice' recommendations. Obes Rev. 2006;7(S1):7-66. doi: 10.1111/j.1467-789X.2006.00242.x.

Gagnon AJ and Sandall J. Individual or group antenatal education for childbirth or parenthood, or both. Cochrane Database Syst Rev. 2007;3(CD002869). doi: 10.1002/14651858.CD002869.pub2.

Johnson BJ, Hendrie GA, and Golley RK. Reducing discretionary food and beverage intake in early childhood: a systematic review within an ecological framework. Public Health Nutr. 2016;19(9):1684-95. doi: 10.1017/S1368980015002992.

Khunpradit S, Tavender E, Lumbiganon Pi, Laopaiboon M, Wasiak J, Gruen RL. Non-clinical interventions for reducing unnecessary caesarean section. Cochrane Database Syst Rev. 2011;6(CD005528). doi: 10.1002/14651858.CD005528.pub2.

Kramer MS, Kakuma R. Energy and protein intake in pregnancy (Review). Cochrane Database Syst Rev. 2003;4(CD000032). doi: 10.1002/14651858.CD000032.

Lumbiganon P, Martis R, Laopaiboon M, Festin MR, Ho JJ, and Hakimi M. Antenatal breastfeeding education for increasing breastfeeding duration (Review). Cochrane Database Syst Rev. 2012;9(CD006425). doi: 10.1002/14651858.CD006425.pub3.

Miller S. Home-based child development interventions for preschool children from socially disadvantaged families. Cochrane Database Syst Rev. 2012;7(CD008131). doi: 10.1002/14651858.CD008131.pub2.

Odone A, Ferrari A, Spagnoli F, Visciarelli S, Shefer A, Pasquarella C et al. Effectiveness of interventions that apply new media to improve vaccine uptake and vaccine coverage. Hum Vaccin Immunother. 2015;11(1):72-82. doi: 10.4161/hv.34313.

Perez-Morales ME, Bacardi-Gascon M, Jimenez-Cruz A, and Armendariz-Anguiano A. Randomized controlled school based interventions to prevent childhood obesity: systematic review from 2006 to 2009. Arch Latinoam Nutr. 2009;59(3):253-9.

Priest N, Roseby R, Waters E, Polnay A, Campbell R, Spencer N et al. Family and carer smoking control programmes for reducing children's exposure to environmental tobacco smoke. Cochrane Database Syst Rev. 2008; 3(CD001746). doi:10.1002/14651858.CD001746.pub3.

Silveira JA, Taddei JA, Guerra PH, and Nobre MR. Effectiveness of school-based nutrition education interventions to prevent and reduce excessive weight gain in children and adolescents: a systematic review. J Pediatr (Rio J). 2011;87(5):382-92. doi:10.2223/JPED.2123.

Smith C, Gold J, Ngo TD, Sumpter C, and Free C. Mobile phone-based interventions for improving contraception use. Cochrane Database Syst Rev. 2015;6(CD011159). doi: 10.1002/14651858.CD011159.pub2.

Steyn NP, Lambert EV, Parker W, McHiza Z, and de Villiers A . A review of school nutrition interventions globally as an evidence base for the development of the HealthKick programme in the Western Cape, South Africa. South Afr J Clin Nutr. 2009;22(3):145-52.

Till SR, Everetts D, and Haas DM. Incentives for increasing prenatal care use by women in order to improve maternal and neonatal outcomes. Cochrane Databse Syst Rev. 2015;12 (CD009916). doi: 10.1002/14651858.CD009916.pub2.

Wolfenden L, Wyse RRJ, Britton BI, Campbell KJ, Hodder RK , Stacey FG et al. Interventions for increasing fruit and vegetable consumption in children aged 5 years and under. Cochrane Database Syst Rev. 2012;11(CD008552). doi: 10.1002/14651858.CD008552.pub2

Annex 6. Implementation principles for SBCE interventions[16]

The expert group requested that a background paper on key implementation principles for SBCE interventions be included as part of the evidence map. This paper provides a definition of 'implementation principles', a description of the methods used, an overview of the key principles identified and a brief discussion section.

Working definition

The definition of principles was divided into two components:

1. a "truth" or "proposition" about how the world works for SBCE interventions, and
2. underlying practical steps and actions in programme implementation, applicable to a range of approaches.

Selected SBCE literature and guidance was reviewed to identify core intent principles and corresponding action principles to guide implementation. Intent principles represent the values and beliefs that drive authentic social and behavioural change and community engagement. The corresponding action principles provide guidance for practical actions that can lead to effectively reaching the intent.

Methods

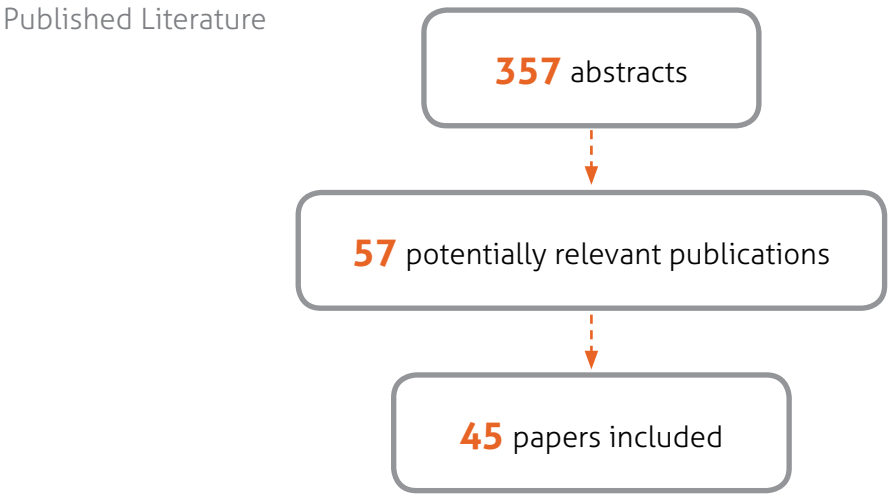
A rapid review of the academic and grey literature was undertaken between July 2016 and November 2016, to identify implementation principles for SBCE interventions for RMNCAH across the intervention categories used in the SBCE evidence map. It should be noted the categories are not necessarily mutually exclusive, representing one way of organizing the interventions. Community service delivery of curative interventions is not included.

The search strategy for published articles was designed to identify literature that met the following criteria:

- RMNCAH target population;
- in a low- or middle-income country (LMIC) setting;
- focused on at least one of the interventions of interest;
- in English;
- published on or after 1 January 2000.

16 Melanie Morrow and Eric Sarriot were responsible for the development of this section, on behalf of the USAID- supported Maternal and Child Survival Program. The authors' views expressed in this publication do not necessarily reflect the views of the USAID or the United States Government.

The PubMed database was searched. The basic search strategy paired a keyword or MeSH term for the intervention category with the keyword «implementation» or "community" in the article's title or abstract; in addition, Boolean operators were applied to further narrow the search to RMNCAH and LMICs [(«maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn») AND "developing countries"]. A total of 11 searches were conducted in PubMed across the six intervention categories (see search terms below).



After a review of titles and abstracts and relevant publications identified, a total of 45 articles were included. Data extraction was conducted in an Excel matrix of the key elements of each article: authors, title, intervention category, intervention, RMNCAH areas, actors/funders, location, and potential implementation principles ('dos and don'ts').

A search for grey literature was also conducted. The search strategy included practitioner-friendly websites such as the Communication Initiative, CORE Group, Health COMpass and K4Health, in addition to solicitation of community health practitioners associated with the CORE Group (via the Social and Behavior Change and Community-Centered Health Systems Strengthening working groups) and SBCE experts identified by WHO, targeting documents that met the following inclusion criteria:

1. Addressed implementation of one or more SBCE interventions;
2. RMNCA target population (or cross-cutting);
3. Included implementation approaches applied by more than one organization and/or replicated beyond a single project/pilot;
4. Supporting evidence for the approach (es) could be identified, be it published studies or unpublished data from programme evaluations;
5. Had a publication date of 2000-2016;
6. Could be in the form of implementation manuals, guides, tools and curricula; or technical guidance, reports and articles provided it had sufficient detail on implementation and associated lessons learned to be informative for our purposes;
7. Based on experience in low- and middle-income countries;

8. Complemented overall composition of the sample, for which it was intended to have at least 2-3 documents with content pertaining to each of the six main intervention categories (18-20 documents total).

All promising grey literature documents were categorized according to the types of SBCE interventions reflected, the range of actors involved in funding, implementing and writing the documents, and their associated countries. The final list of texts was not intended to be exhaustive but rather a purposive sampling with representation across the described dimensions. Eighteen core texts were systematically analyzed using basic qualitative content analysis methods to identify themes, patterns and trends in word use and conceptual terminology. The principles that emerged were further shaped by an iterative process that included feedback from technical experts identified by WHO, who recommended revisions to be more comprehensive and inclusive of existing principles in SBCE. The next draft, which also included review of an additional reference, was shared with community health practitioners from CORE Group and from the Maternal and Child Survival Program. Thirty respondents provided feedback via an online questionnaire that allowed for open-ended comments. The principles included below reflects the collective feedback.

Principles Identified

Dominant themes such as "leadership", "equity", "quality", "ongoing participation" and "consensus building" repeated across the materials as did the need to adapt approaches based on local context and continuous learning. Abstract, more "macro" principles that reflected intent, ideals and goal attainments such as "strive for equity" were related to more "micro" level terminology of principles related to more concrete actions. Please refer to Table 8 for the list of intent principles with illustrative action principles in the first two columns. A third column, labelled 'stage', refers to the phase of the programme (design or implementation) to which the action principle is most applicable.

Table 8 Principles for social, behavioural and community engagement interventions

Intent Principles	Illustrative Action Principles	Stage
1. Design programmes based on formative and summative qualitative and quantitative evidence.	1.1 Build on available data and evidence. Use existing applicable qualitative and quantitative data to shape a context specific programme design. Learn from programmes that have already been successful in the context. Identify information gaps for additional data collection to further define the situation and target audience.	Design
	1.2 Conduct formative research on needs, resources, behaviours and motivations of the target audience. Identify barriers and facilitators of key behaviours, including influential people and related cultural norms, beliefs and gender roles that affect access to information and services, control over resources, presence of social and emotional support, and decision making power.	Design
	1.3 Use community-based participatory research exercises like social mapping to identify local resources, existing capacities, networks, marginalized populations, vulnerabilities and coping strategies.	Design
2. Design programmes based on a clear audience analysis, using social change or behaviour change models and theories.	2.1 Address individual behaviour change and social and cultural norm change needs identified during formative research.	Design
	2.2 Attend to barriers and drivers of behaviour on multiple levels, according to the pathways expected to lead to desired changes and outcomes.	Design
	2.3 Distinguish between behaviours that require distinct types of support and needs that may differ with time. Consider variables like the complexity of the behaviour and intended frequency, the phase of adoption and other factors like prior experience, levels of trust, perceived benefits and social acceptability, among others.	Design

Intent Principles	Illustrative Action Principles	Stage
3. Adapt and fit strategy and approaches to sociocultural, economic, geographic, political and technological contexts.	3.1 Factor into programme design the political and management environment, available human and material resources, and budget cycles that affect community and health systems.	Design
	3.2 Test strategies and communication content with a wide range of stakeholders, especially those most affected by the problem. Collect and incorporate feedback.	Design
	3.3 Link promotion of key behaviours with the provision of corresponding services and products that are accessible, appropriate, available and acceptable to the target audience.	Design
4. Follow international best practices in designing and implementing strategic social and behaviour change communication strategies.	4.1 Prioritize behaviours and sequence communication content to avoid information overload. Build knowledge and skills incrementally over time.	Design
	4.2 Use well-tested communication content and approaches to reach the target audience through mutually reinforcing channels such as mass media, public and private health services, community-based organizations and interpersonal networks, as appropriate.	Design
	4.3 Equip health providers, community workers and volunteers responsible for social and behaviour change communication and community engagement with appropriate training, job aids, and supportive supervision related to communication, interpersonal and problem solving skills.	Implementation
	4.4 Ask staff and volunteers responsible for training others to commit to applying new behaviours themselves before teaching others.	Implementation
5. Facilitate ongoing community participation in planning, implementation and monitoring of programmes and services that pertain to them.	5.1 Support forums for open dialogue and use community-based, participatory approaches to engage people affected by the programmes and services in question. Encourage participants to identify opportunities, set priorities, affirm positive health practices, provide feedback and solve problems using local knowledge and resources.	Design and Implementation
	5.2 Use recurring peer group meetings, where appropriate, to provide opportunities for regular feedback from participants regarding their experience with interventions, in addition to helping members adopt and practice positive health behaviours, strengthen social ties and overcome barriers to access services.	Implementation

Intent Principles	Illustrative Action Principles	Stage
5. Facilitate ongoing community participation in planning, implementation and monitoring of programmes and services that pertain to them. (continue)	5.3 Support the community to establish and follow explicit criteria and a transparent process for selection of community volunteers and committee representatives, as applicable.	Implementation
	5.4 Maximize opportunities for inclusion of marginalized groups.	Design and Implementation
6. Collaborate to facilitate multi-sectoral interventions with active coordination and shared accountability across sectors and stakeholders.	6.1 Bring together representatives across sectors from community, civil society, private sector and government ministries to identify shared goals and develop concrete action plans with mutual accountability.	Design
	6.2 Use participatory appraisal approaches to create shared understanding, dialogue, and ownership across stakeholders from different sectors and backgrounds.	Implementation
	6.3 Establish clear terms of reference with all stakeholders to keep roles and expectations well-defined.	Implementation
	6.4 Identify and support a person skilled in consensus building to maintain cooperation with primary stakeholders and other community institutions, such as the village council, religious bodies, and schools.	Implementation
	6.5 Provide stakeholders regular opportunities for ongoing dialogue, networking, and action learning through joint implementation activities such as assessments, supportive supervision and participatory monitoring and evaluation.	Implementation

Intent Principles	Illustrative Action Principles	Stage
7. Strive for equity and gender equality in all aspects of intervention design and implementation.	7.1 Sensitize programme implementers, local government, health workers, community leaders and other actors to gender and equity issues in the community.	Implementation
	7.2 Mobilize the support of people and decision-makers who affect women and girls' agency concerning their health and wellbeing. Build trust by demonstrating respect and identifying shared goals concerning the health of families	Implementation
	7.3 At household level, involve family members in addition to the mother (e.g. fathers, mothers-in-law, youth and/or adolescents, as appropriate), so all are informed, supportive and contributing to positive family health outcomes.	Implementation
	7.4 Seek regular feedback from women and marginalized groups to ensure that implementation respects, promotes and facilitates their choices and full participation in decision making.	Implementation
8. From the start, promote institutionalization for sustainability and scale up.	8.1 Harmonize programmes and approaches with existing national and local systems for health, information and governance when possible.	Design
	8.2 Advocate for laws, norms and practices that promote improved development outcomes particularly among the marginalized.	Implementation
	8.3 Identify and support key advocates in the community, civil society, public and private sector to engage in communication, networking, action planning and advocacy efforts related to the programme.	Implementation
	8.4 When feasible, educate policy makers and government officials about cost-effectiveness of community health (including SBCE) interventions, using existing data and investment cases.	Implementation
	8.5 Document and share implementation guidance, resources required and lessons learned at local, regional and national levels to enable replication and scale up of successful programmes. Use well-functioning programme sites to host learning visits.	Implementation

Intent Principles	Illustrative Action Principles	Stage
9. Build leadership and management capacity at all levels, from health system managers to community volunteers.	9.1 Assess and address needs for capacity building related to management of people and programmes: communication and interpersonal skills, group facilitation, consensus building, community empowerment, supportive supervision, using data for decision making, planning and budgeting, among others.	Implementation
	9.2 Entrust others with responsibility, sharing involvement and ownership over work. Mentor and empower others to take initiative and resolve problems.	Implementation
	9.3 Encourage and support women to take leadership roles in their communities and programme activities.	Implementation
	9.4 Support peer-to-peer exchanges for learning and skills transfer.	Implementation
10. Ensure quality, learning, and sustainability through regular monitoring and evaluation.	10.1 Develop monitoring and evaluation plans with indicators based on the programme's desired outcomes and the pathways expected to achieve them.	Design
	10.2 When possible, align indicators with global, national and local stakeholders to enable tracking, compatibility and shared learning.	Design
	10.3 Support communities to jointly define and assess quality of programmes and services. Ensure that the voices of women and marginalized populations are heard.	Implementation
	10.4 Measure key indicators to monitor implementation and track progress on plans. Disaggregate programme and outcome data by gender and age groups to help identify and target inequities.	Implementation
	10.5 Create regular opportunities for data sharing and feedback with community members and stakeholders in formats they can understand. Use data, including social autopsies where relevant, to catalyse action for joint decision-making and course correction.	Implementation

The findings of the literature review emphasized understanding the local context and culture and adapting design to suit; engaging the population as participants and facilitators rather than as passive recipients of programmes and messages; and the use of tools and participatory approaches that foster collaborative learning and mutual understanding.

Some action principles relate to more than one intent principle due to the crosscutting and overlapping nature of themes. Despite integration of actions pertaining to gender and marginalized populations across intent principles as relevant, a separate intent principle on equity and gender equality was maintained to avoid losing sight of its overall importance. While action principles aim to illustrate the kinds of activities or steps that support realization of the intent principles, far greater detail can of course be found in corresponding implementation manuals specific to a given approach.

The principles that emerged as pertinent to implementation of SBCE interventions overlap with those associated with social determinants of health (SDH), human rights, and quality management of health programmes. As management of programmes with SBCE interventions takes place in a complex, changing context, not surprisingly, some apparent similarities also exist with principles from complex systems (e.g. those pertaining to trust, cooperation and learning, among others). Aspects of these interrelated approaches are reflected in the EWEC Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) and expected to contribute to its objectives to end preventable deaths, ensure health and well-being and expand enabling environments.

Search Terms for Published Literature

Database	Search Terms (Articles published after 1/1/2000)
PubMed	«cash transfers»[tiab] AND «Community Health Services»[MeSH] OR «Community Health Planning»[MeSH] AND «implementation» AND «developing countries"
PubMed	«Insurance, Health»[MeSH] AND «community»[tiab] AND «developing countries"
PubMed	«maternity waiting homes"
PubMed	«community»[tiab] and «scorecard»[tiab]
PubMed	«community-based monitoring»[tiab]
PubMed	«Health Education»[MeSH] AND «implementation»[tiab] AND «developing countries» AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn")
PubMed	«social marketing»[tiab] AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn») AND «developing countries"
PubMed	«mass media»[tiab] AND «implementation»[tiab] AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn")
PubMed	«community mobilization»[tiab] AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn») AND «developing countries"
PubMed	«Social Responsibility»[MeSH] AND («implementation» OR «delivery») AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn») AND «developing countries"
PubMed	«community engagement»[tiab] AND «implementation»[tiab] AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn")
PubMed	«Patient Acceptance of Health Care»[MeSH] AND («implementation»[tiab] OR «delivery»[tiab]) AND («maternal» OR «child» OR «adolescent» OR «reproductive» OR «neonatal» OR «newborn») AND «developing countries"

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