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What Works to Prevent Violence against women and girls evidence reviews

Paper 4:

Approaches to scale-up and assessing cost-effectiveness of programmes to prevent violence against women and girls

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WhatWorks

TO PREVENT VIOLENCE

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1. Introduction

Violence against women and girls (VAWG) is both an unacceptable human rights violation and a serious social, economic and health concern. According to a recent global study, 35 per cent of women worldwide have experienced either physical and/or sexual intimate partner violence (IPV) or non-partner sexual violence (World Health Organization and London School of Hygiene and Tropical Medicine, 2013; Devries, et al., 2013). There is an urgent need to scale up efforts across sectors to effectively prevent these forms of violence.

1.1 What Works global programme and evidence review

This paper is the fourth in a series of four evidence reviews that were produced by What Works to Prevent Violence against Women and Girls (What Works). What Works is a UK Department for International Development (DFID)-funded global programme that is investing an unprecedented £25 million over five years to assist with the prevention of VAWG. It supports primary prevention efforts across Africa, Asia, and the Middle East, which seek to understand and address the underlying causes of violence in order to stop it before it starts.

The papers were produced to assess the current state of research and the evidence base in order to inform the research agenda of the ensuing global program. The focus of What Works is to advance the field of primary prevention in particular, however this is understood to be closely aligned with response efforts. The outline of the four papers is as follows:

Paper 1: State of the field of research on violence against women and girls.

Paper 2: Interventions to prevent violence against women and girls.

Paper 3: Response mechanisms to prevent violence against women and girls.

Paper 4: Approaches to scale-up and assessing cost-effectiveness of programmes to prevent violence against women and girls.

1.2 Scope and goals of the review

A number of interventions have been found to be effective in helping to prevent and address VAWG (see papers 2 and 3). However, little is known about their cost, value for money, and how to take them to scale. With its focus on low-income and middle-income countries, this review summarises evidence found on the cost and value for money aspects of interventions to prevent VAWG, as well as on approaches for scaling up such interventions.

This rapid assessment, along with the other papers, is designed to:

- Inform the violence prevention research agenda and priorities for innovation; and
- Establish a baseline of the state of knowledge and evidence against which to assess the achievements of the What Works program over the next five years.

The **specific** objectives of the evidence review are to:

- Summarise examples of entry platforms through which VAWG programmes are being implemented;
- Start to identify current VAWG prevention interventions that have been replicated in more than one setting;
- Synthesise current evidence on the costs of VAWG prevention (focusing on good quality costing studies, rather than financial cost assessments alone);
- Drawing upon the broader literature of intervention scale-up, discuss how to conceptualise the replication and scale-up of violence prevention programming, and potential approaches to considering how to value the cost-effectiveness of

VAWG prevention programmes, and the implications for future evaluation research; and,

- Identify potential opportunities to conduct future economic evaluation of scaled-up VAWG prevention components, to enable lessons to be learnt about the variations in unit cost estimates, and to produce evidence of the impact of scale on programme costs.

1.3 Types of violence covered by the review

VAWG takes many different forms globally and is most likely to be perpetrated by someone known to the victim, such as a family member or intimate partner. Forms of VAWG are

distinguished according to the age or life stage during which it occurs, highlighting the specific risks and experiences of women and girls living under conditions of violence and insecurity (Solotaroff and Pande, 2014). Conceptualising the different forms that VAWG can take is important for purposes of identifying the specific risks of violence faced by women and girls, the social norms and beliefs underpinning attitudes and practices surrounding violence, and for the informed design of preventative interventions and policies.

The What Works programme focuses on IPV, non-partner sexual violence, and child abuse; therefore this review, likewise, focuses on those types of violence, which are defined in Table 1.

Table 1. Definitions of forms of VAWG addressed by existing studies

Child abuse or maltreatment	Child abuse or maltreatment constitutes all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child’s health, survival, development or dignity in the context of a relationship of responsibility, trust or power (WHO, 1999).
Child sexual abuse	Contacts or interactions between a child and an older or more knowledgeable child or adult ... when the child is being used as an object of gratification for an older child’s or adult’s sexual needs. These contacts or interactions are carried out against the child using force, trickery, bribes, threats or pressure” (UNICEF, 2001).
Intimate partner violence (IPV)	IPV refers to any behaviour in an intimate relationship that causes physical, sexual, or psychological harm including aggression, sexual coercion, psychological abuse and controlling behaviour (WHO, 2005). An intimate partner or relationship is defined as a person with whom an individual has a close, personal relationship that may be characterized by emotional connectedness, regular contact or sexual behaviour, identification as a couple, and cohabitation. Intimate partners may include current or former spouses, boyfriends or girlfriends, dating partners, and ongoing sexual partners (Breiding et al., 2015).
Sexual violence, partner or non-partner	Any act in which one person uses force, coercion or psychological intimidation to force another to carry out a sexual act against his or her will or participate in unwanted sexual relations (WHO, 2004).

1.4 Content and structure of report

This review is organised as follows:

- Section two provides: an overview of the conceptual frameworks adopted for the evidence review; the review methods.
- Section three provides a synthesis and assessment of the evidence base identified in the review.
- Scaling up programming for the prevention of VAWG is discussed in Section four.
- Section five discusses potential platforms for scaling up programming to prevent VAWG, with recommendations for thematic focus.
- Priorities of the What Works Global Programme are provided in section six.

An overall summary of this paper can be found at: www.whatworks.co.za.

2. Methodology

2.1. Conceptual framework

This evidence review categorises interventions related to VAWG according to an ecological framework (Heise, 1998) and draws upon economic theory in order to assess cost-effectiveness, value for money and issues related to scale-up.

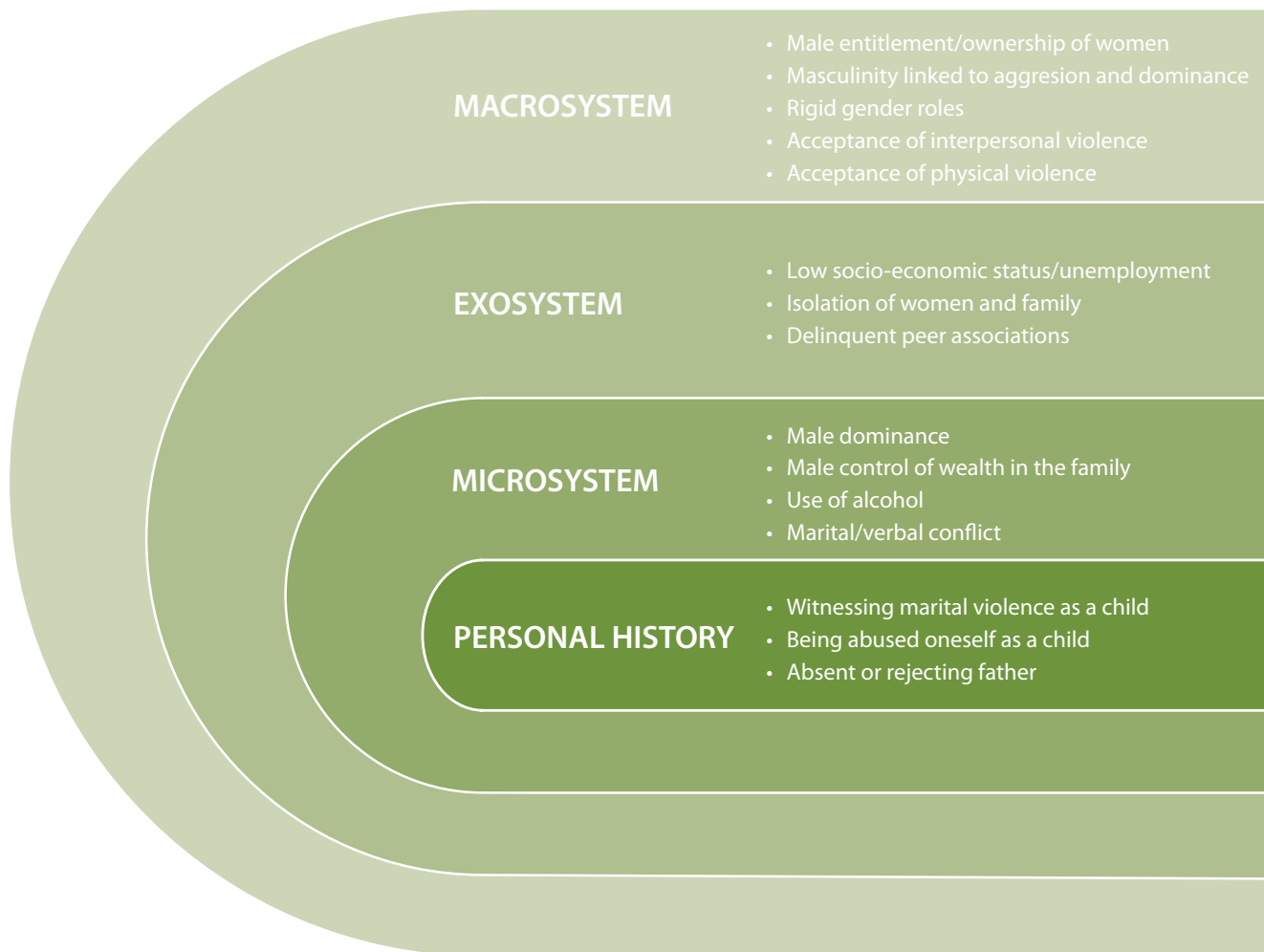
2.1.1. Ecological framework

The ecological framework uses social ecology to group factors that, in combination, are predictive of physical and sexual violence against women (VAW) (Heise, 1998). The list of factors identified in the framework is representative of the evidence base at the time the framework was developed; therefore it is not intended to be an exhaustive list of all possible associations or predictors of violence. The framework has been widely used and adapted and a recent update can be found in

Heise, 2011. Within this framework, the interplay between factors is essential to understanding the individual, relational and societal conditions in which violence occurs (Heise, 1998).

Within the context of this review, the framework is used primarily to categorise interventions operating at different levels of the social ecology. However, using this approach to appreciate the multiple risk factors that contribute to violence also provides a frame of reference for understanding the multiple outcomes achieved by interventions that aim to prevent or address violence.

Figure 1. Ecological framework of selected factors that contribute to violence against women



Source: Adapted from Heise (1998)

2.1.2. Economic theory

As a discipline, economics is fundamentally concerned with the concept of scarcity and it is rooted in the understanding that resources are finite. From this perspective, the use of resources for a given purpose is associated with an ‘opportunity cost’ that is equal to the next best use of these resources, i.e. if resources are used for intervention A, they are therefore not available for intervention B.

The term ‘economic evaluation’ refers to a broad set of tools and approaches used to systematically assess and compare both the cost and benefits of alternative interventions or programs (Drummond et al., 2005; Morris,

Devlin and Parkin, 2007). Thus, the outputs of economic evaluations are commonly reported as cost-effectiveness ratios or benefit-cost ratios: the difference in costs associated with different courses of action are divided by the difference in benefits. Evidence from economic evaluation is meant to inform the operational prioritization of interventions representing the best value for money. Different types of economic evaluation methods exist, each responding to specific objectives and of relevance to different levels of decision-makers (Drummond, 2005; Gold, 1996):

- Cost-effectiveness analysis (CEA) considers natural units as outcome measures, such as years of IPV averted.

- Cost-utility analysis (CUA) typically considers composite measures of both morbidity and mortality, such as disability-adjusted life years (DALYs) or quality-adjusted life years (QALYs).¹
- Cost-benefit analysis (CBA) measures both social benefits and cost, in monetary units, in order to ascertain whether the benefits of an intervention outweigh its costs, i.e. whether the benefit-cost ratio >1.

Each of these approaches may provide insight into the technical, economic or allocative efficiency of an intervention or set of

interventions (see Box 1 for definitions and a discussion of each of these types of efficiency).

In general, CEA and CUA may be thought of as assessments of technical efficiency, whereas questions relating to economic and allocative efficiency are better addressed within a CBA framework. The concept of 'value for money' may be thought of as an additional requirement, which considers whether an outcome is achieved with minimal duplication of resources or draw on synergies between interventions, programmes or sectors to maximise health and social improvements.

Types of efficiency in economic evaluation

Technical efficiency: refers to the relationship between a given health outcome and the resources used to produce that outcome. A technically efficient production process uses the least amount of inputs to produce the maximum possible improvement in a specific health outcome.

Economic efficiency: implies that health outcomes are maximized for a given cost. Alternatively stated, a process is economically efficient if costs are minimized for a given health outcome. Measures of economic efficiency can be used to compare the allocation of resources to two or more different types of health care interventions, making it possible to assess the relative value-for-money of health care interventions that have comparable outcomes.

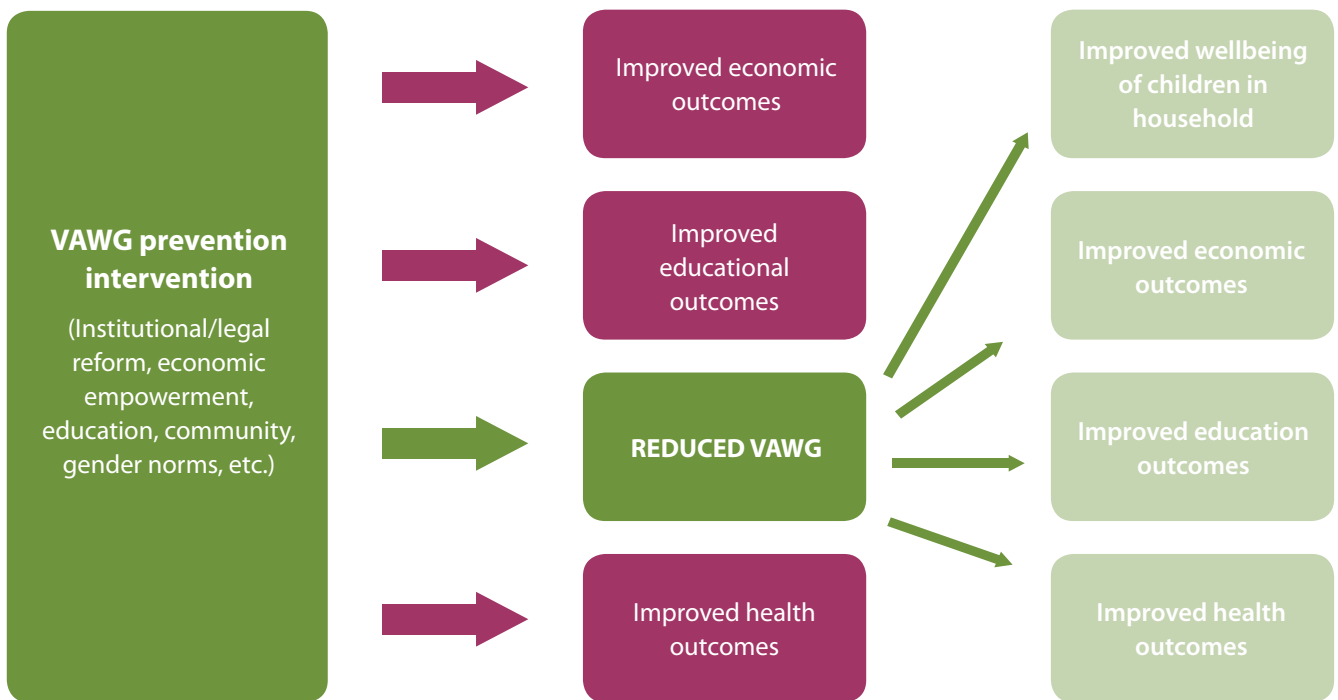
Allocative efficiency: refers to the overall allocation of resources, such that a community receives the maximum benefit possible through an optimal allocation of resources. This is also referred to as Pareto-efficiency, a concept often referred to in the context of welfare economics. When a Pareto-efficient allocation has been achieved, any reallocation of resources will make at least one person worse off than they were before the reallocation. Pareto-efficiency implies that all resources are allocated in order to achieve the greatest benefit to society. In the context of health economics, this implies that the efficient allocation of resources allows each individual to receive the maximum benefit possible, without decreasing the health status of any other individual.

Technical efficiency: is a good measure of the use of resources within a particular healthcare intervention. Economic efficiency refers to the allocation of health care resources in the health care sector. Allocative efficiency applies more to discussions regarding overall resource allocation, where resources must be utilized to produce a variety of benefits.

Sources: (Drummond et al., 2005; McGuire, 2001; Sheill et al., 2002a)

¹ In the literature this approach is both considered a special case of CEA and a separate form of analysis.

Figure 2. Illustrative potential chains of benefit associated with VAWG prevention programmes



Note: Benefits in the second column are likely to have further impacts in the third column, or at least to link to each other, i.e. improved education outcomes would probably further improve health and economic outcomes.

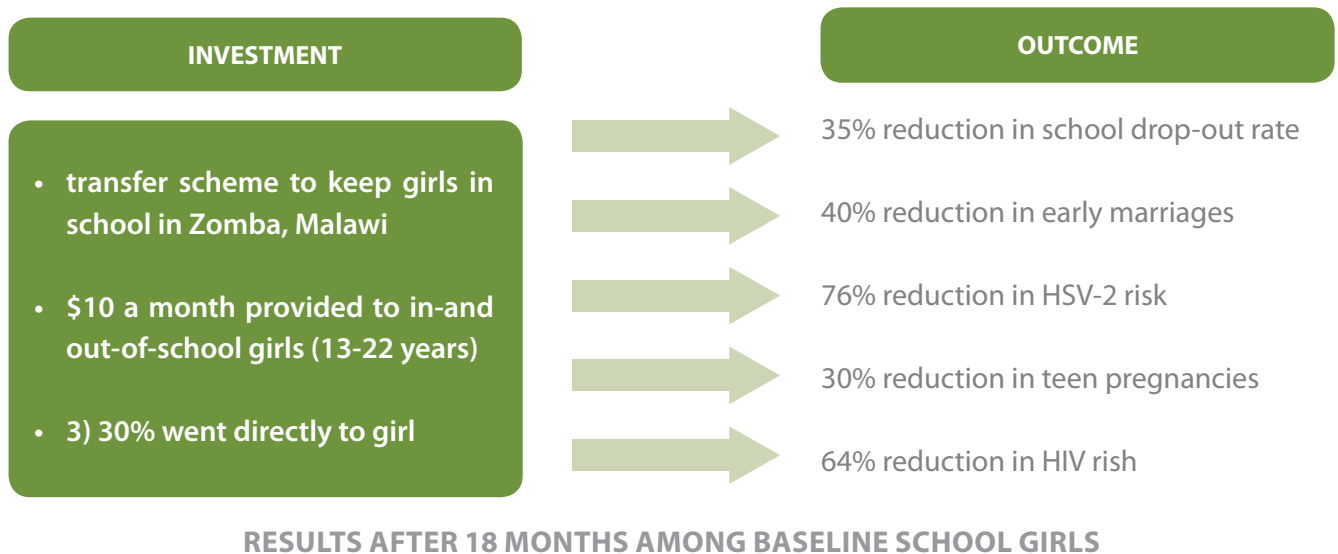
Conventional approaches to assess value for money would compare the value of the VAWG outcome to the full cost of the intervention (illustrated as the red value chain in Figure 2), while ignoring all the other direct economic, health and/or educational outcomes of a specific intervention (in blue), as well as the indirect impacts mediated by the reduction in VAWG (in purple). Based on this simple value chain, certain interventions that aim to tackle broader structural inequalities and development challenges may not appear to be good value for money from the perspective of preventing VAWG alone. The same may be true when looking at this equation from other single sector perspectives, leading sector budget holders to decide not to fund or scale-up such interventions, despite significant societal benefits. This would represent a welfare loss for society and an inefficiency in resource allocation (Remme et al., 2014).

The above discussion focuses on how an economic case could potentially be made for investing in violence prevention. This is a relatively siloed perspective on programmes, which may not be appropriate for many forms of violence prevention that could also have other multiple benefits. A new debate that is emerging in the HIV field is that assessments of value for money should be careful about taking too siloed approach to priority setting and budgeting, as this may result in important interventions that may achieve multiple outcomes, not being funded. Instead, it has been argued that sectors could adopt a co-financing approach to overcome the inefficiency associated with the silo budgeting approach, i.e. the sectors could consider contributing to interventions with other benefiting sectors, up to the point that it is cost-effective to do so in terms of the desired specific outcome (Remme et al., 2014; Remme et al., 2012).

Existing approaches for assessing the value for money of interventions with multiple outcomes seek to internalise the external benefits, thereby broadening the evaluation to a societal perspective (Claxton, Sculpher and Culyer, 2007; Kenkel and Suhrcke, 2011; Giles-Corti et al., 2010). However these are not at present extensively used in resource allocation by decision-makers. A co-financing approach, on the other hand, also minimises the risk that cross-sectoral benefits are foregone, and this approach could potentially be incorporated into a system where sectors budget separately. Decision rules that are based on cost-effectiveness thresholds could still use this approach to explore the range of contributions from different sector budgets.

The approach has been explored based on data from a cash transfer trial conducted in Malawi to keep girls in school. The cash transfer programme generated multiple reproductive and sexual health, education and gender equality outcomes (see Figure 3). The analysis was part of the DFID-funded STRIVE structural drivers research programme consortium. Exploring the implications of this co-financing approach, it was concluded that where sectors would make financing decisions in isolation based on their own CEA (single value chain), the intervention would not be funded. However where they considered contributions from other sectors based on their willingness to pay for their own outcomes, the intervention would be fully funded and could potentially be taken to scale (Remme et al., 2014).

Figure 3. Multiple outcomes of Zomba cash transfer scheme

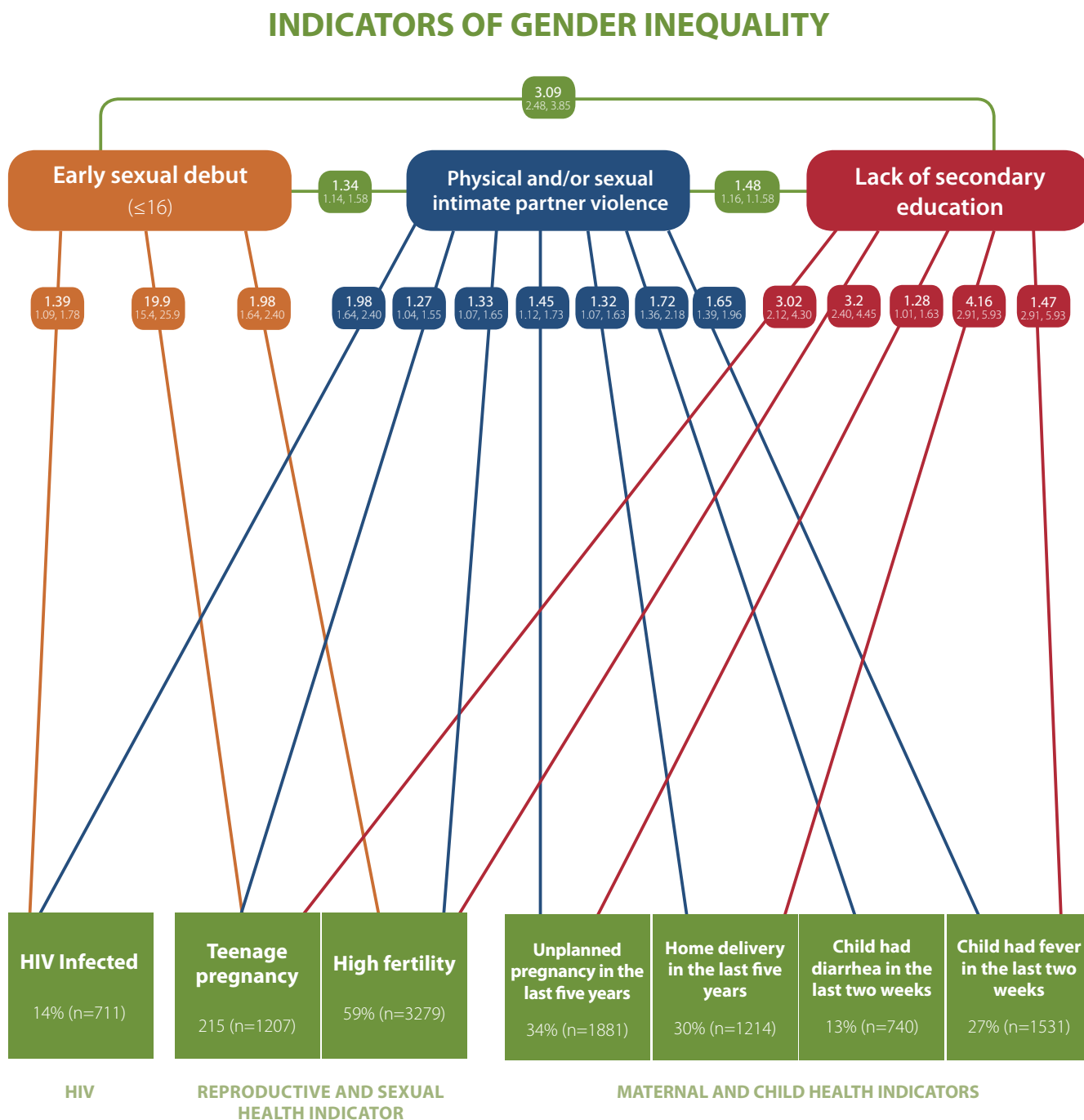


Source: (STRIVE 2012)

Approaches to preventing VAWG are likely to tackle several overlaying vulnerabilities and thus generate multiple outcomes (World Health Organization and London School of Hygiene and Tropical Medicine, 2013). For example, a recent study using DHS data in Malawi found significant association between indicators of gender inequality (including IPV) and most health and development outcomes. Even after controlling for socio-demographic characteristics, indicators

of gender inequality remained significantly associated with HIV infection, early pregnancy, high fertility, unplanned pregnancy, home delivery and indicators of poor child health (see Figure 4). Put differently, an intervention that impacts positively on gender inequality and IPV may have a spillover effect on women's reproductive and sexual health, as well as on their children's health. Merely incorporating the intervention's direct effect on IPV may therefore

Figure 4. Multivariate associations between gender inequality indicators and selected health outcomes



Note: OR (95%CI) when adjusting for women’s age, poverty, urban-rural and regional differences

Source: Stöckl, Heise and Watts (2012)

considerably under-estimate the true societal value of investing in it and scaling it up.

Similarly, evidence from the Oportunidades cash transfer programme in Mexico also demonstrates an impact on domestic violence, with a decrease of 37 per cent in households benefiting from a

small transfer - possibly linked to the 15 per cent reduction in alcohol abuse among husbands (Angelucci, 2008; Bobonis, González-Brenes and Castro, 2013). This is in addition to the many education, maternal and child health outcomes found for the programme, which has been implemented at scale for over a decade (Barber

and Gertler, 2008; Gertler and Fernald, 2004), precisely because its cross-sectoral benefits were documented and taken into account.

In order for economic evaluations of violence prevention to be fully assessed, it will be important for trials to consider what may be the likely breadth of outcomes that could be achieved, and to measure these as a core trial component. Depending upon the forms of evaluation supported, i.e. experimental intervention trials, operational research or secondary analyses, it will remain important to identify feasible ways to capture a range of social, economic and health outcomes and incorporate this in any economic analysis.

2.2. Review approach

Scaling up successful VAWG prevention interventions will require making an economic case for such investments and ensuring that sufficient resources are allocated, in order to implement large-scale programs. In order to explore options for scaling up VAWG prevention programs, we undertook this review based on the following steps, as illustrated in Figure 5:

1. Identify examples of replicable interventions that have demonstrated some effectiveness in preventing or responding to VAWG in multiple settings:

Papers 2 and 3 in this series present a detailed review of the evidence on what works to prevent VAWG. This review focused on identifying the specific interventions or programme models that have been effectively replicated in more than one setting or country. The focus on replicated models stems from the understanding that it is only worth scaling up interventions that can be adapted and replicated effectively (Hartmann and Linn, 2008). An intervention that addresses a localised problem of contained scale or in a very locally-specific manner may not be scalable.

2. Summarise gold standard methods of economic analysis: We identified potential issues encountered when collecting and analysing intervention costs and discuss the main methodological issues in assessing them.

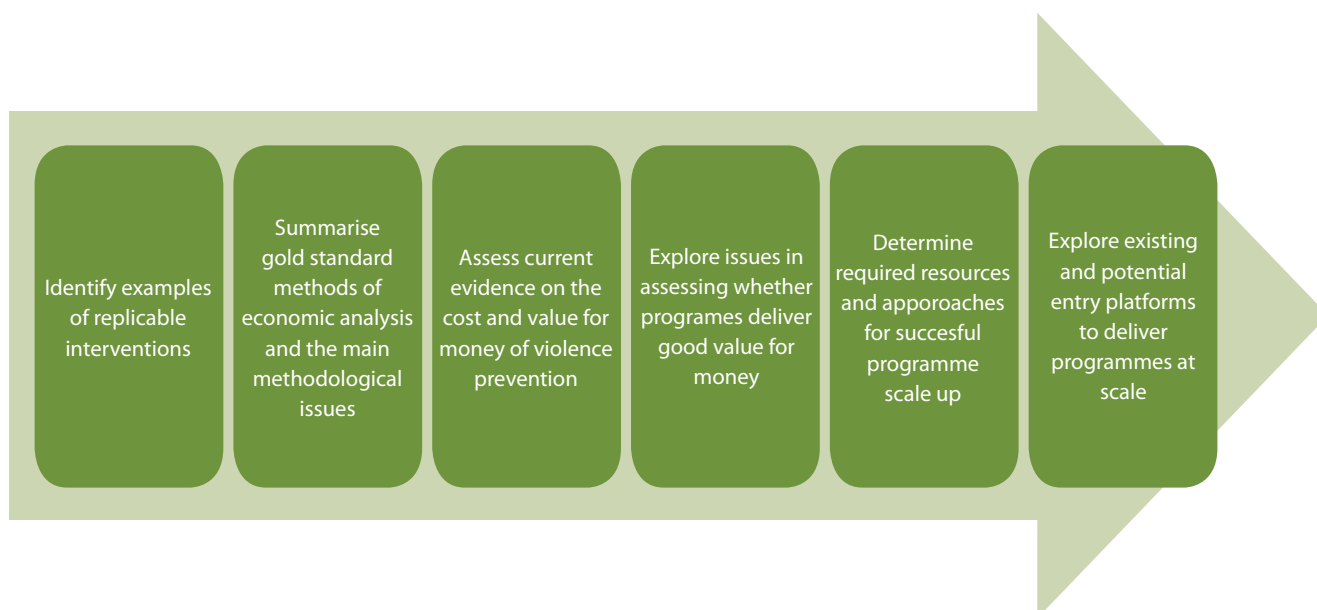
3. Assess current evidence on the costs and value for money of VAWG prevention: We reviewed the evidence on the economic costs of implementing interventions aimed at preventing VAWG that are replicable, as well as evidence on their value for money by searching for economic evaluation studies.

4. Explore issues in assessing whether or not programmes deliver good value for money: We discuss how to conceptualise value for money of VAWG prevention programs that have multiple outcomes and tackle overlaying vulnerabilities, and explore potential approaches to consider in future economic evaluation.

5. Determine resources, approaches and extent of economies of scope and scale: In order to increase scale or service coverage, there would need to be additional financial, human and physical inputs to produce the required interventions, either through increased financial investment in service inputs and/or more efficient use of currently underutilised inputs (excess capacity). Further analysis of the composition of programme costs provides a starting point, but we also discuss further implications and conceptual approaches to scale up.

6. Identify some of the current and potential entry platforms that have been/could be leveraged to implement VAWG prevention programme components at scale in various settings. Based on previous reviews, we summarise the platforms across sectors upon which VAWG prevention activities can be taken to scale, and discuss other potentially important opportunities, that may merit exploration.

Figure 5. Study steps to assess scale-up options for VAWG prevention programmes



In order to identify VAWG prevention interventions that have demonstrated impact and that have been replicated, we relied predominantly on the evidence reviews presented in papers 2 and 3 in this series. We conducted additional literature reviews to identify studies on the cost and value for money of VAWG interventions, as well as on approaches to programme scale up in the health and development sector, to further inform the conceptualisation of VAWG programme

replication and scale-up (see Table 2). We searched for peer-reviewed publications as well as grey literature. Although we considered studies from high-income countries, we focused our assessment of cost and evidence of value for money on low-income and middle-income countries, which are the focus of the VAWG RIF. All costs were adjusted to 2012 USD, using the United States' GDP deflator.

Table 2. Search questions, terms and databases

Question	Search terms	Databases
What are the costs of VAWG interventions?	Cost, violence, partner violence, domestic violence, women, gender, masculinity, program(me), intervention	Pubmed, Econlit, Eldis, GoogleScholar
Are VAWG prevention interventions cost-effective and do they represent good value for money?	Economic evaluation, cost-effectiveness, cost-utility, cost-benefit, violence, partner violence, domestic violence, women, gender	Pubmed, Econlit, Eldis, GoogleScholar
What factors need to be considered when planning for VAWG program scale up?	Scaling up, scale up, program(me), intervention, enabling, constraints, costs, resources, challenges	Pubmed, GoogleScholar, World Bank, UNDP, UN Women websites

3. EVIDENCE REVIEW: ECONOMIC EVALUATION

Scale up is primarily used to describe the ambition or process of expanding the coverage of interventions, but it can also refer to increasing the financial, human and capital resources required to expand coverage (Mangham and Hanson, 2010). The World Bank defines scaling up as “expanding, adapting and sustaining successful policies, programs or projects in different places and over time to reach a greater number of people” (Hartmann and Linn, 2008).

3.1. Contextualising economics of VAWG programming

Cost analysis of interventions aimed at preventing or reducing VAWG can provide insight for policymakers involved in budgeting and identifying resources required to implement and scale up programming. Cost data are also a critical input in cost-effectiveness analyses, the results of which can be used to examine issues related to efficiency and sustainability and to inform resource allocation decisions. This section and the next outline key issues in economic analysis, with a focus on costing and cost-effectiveness studies.

3.1.1. Costing methods

The results of a cost analysis typically include the total cost of delivering an intervention or programme and the cost per unit of output or outcome measure. In general, costing studies include five steps (Mogyorosy and Smith, 2005):

1. Identify the objectives of the costing study and decide on the perspective, scope and time horizon to be considered.
2. Describe the programme or intervention and identify key outputs or outcome measures to be used in calculating unit costs.

3. Identify resources used to deliver intervention or programme.
4. Measure resource use in natural units.
5. Attach monetary value to resources and calculate cost per unit of output or outcome.

Within the steps outlined above, alternative approaches to costing a programme may be identified. The approach to costing will determine the type of costs that are included and how costs are allocated to different programmes or activities. The following subsections outline the key alternatives.

Perspective

Costing of VAWG programs may be conducted from a provider, client, or societal perspective. A costing study conducted from the provider’s perspective will include all costs borne by the organisation or group implementing or paying for a service or intervention. Costing conducted from the client perspective would consider only costs borne by clients or programme beneficiaries, such as travel costs or the cost of time taken to attend programme activities. This may also include cost savings such as reduced expenditure on health care or support services. In contrast, one could adopt a societal perspective that would include costs considered from the provider’s perspective, as well as costs to society. Costs to society could include costs to programme participants, the cost of lost productivity due to missed work or costs associated with accessing services outside of the intervention, such as police services or health care services (Mogyorosy and Smith, 2005).

Scope

The scope of a cost analysis may be narrow, focusing only on financial expenditure, or it may be broadened to include economic costs. Economic costs represent the value of all resources used to deliver a programme or intervention. Where resources are paid for,

the economic cost will often be the same as the financial cost. However, in many cases, resources are donated or provided free of charge (such as volunteer labour). In these cases, the economic cost may be estimated either by calculating the 'opportunity cost', or the cost associated with the next best use of the resource. For volunteer labour, this may be the wage that an individual would expect to earn if the individual was working instead of volunteering; for donated goods, this may be the purchase price (or market price) of the items.

The types of costs considered in a cost analysis will vary, depending on whether the aim of the exercise is to value the full cost of program implementation or to determine the cost of adding an additional program onto existing activities. A full costing typically includes all direct and indirect costs associated with delivering a program or intervention. This means that in addition to costs related directly to implementation, overhead, management and administrative costs are included in the final cost estimate. In contrast, an incremental costing approach would consider only the cost of implementing a programme or intervention over and above existing activities (Kumaranayake et al., 2000).

In terms of their usefulness for policymakers, it is important to note that these approaches differ in the implicit assumptions about the capacity that organisations have to deliver additional programming. The use of an incremental costing approach implicitly assumes that organisations have the excess capacity to add interventions at no additional cost, whereas a full costing makes no such assumption (Kumaranayake et al., 2000).

Time period

The time period over which cost data are collected and analysed, and the treatment of start-up costs, will influence unit costs

estimates, which may be presented on an annual basis or may represent the full cost of implementing a programme or intervention over a number of years. For multi-year programmes, costs are typically considered in the year in which expenditure or resource use occurred. However, where significant up-front investments are required to launch a new programme or intervention, start-up costs may be annualised over the course of the programme reflecting the value of the resources required to implement the programme (Kumaranayake et al., 2000). This approach is used to reflect the present value of initial investments and to adjust for inflation over time (Mogyorosy and Smith, 2005).

Many projects are launched on a small scale and may incur significant start-up costs at the beginning of the project (when staff are recruited and trained and equipment and office space is procured), as noted in the interventions identified. These costs then contribute toward the total program cost that is ultimately used to estimate the average cost estimate. These large initial costs are often considered fixed costs, because they are required to run a project regardless of scale.

As projects are scaled-up, initial costs or fixed costs are spread over a larger number of beneficiaries, typically resulting in lower average costs per unit of output or unit of benefit - a concept known as economies of scale. However, further inputs may be required in order to expand coverage and deliver services to a wider audience. Additional resource requirements may include purchasing equipment, hiring vehicles, expanding office or activity space, hiring additional programme staff and additional staff training. Each of these elements will contribute to a higher total project cost, which may result in higher unit costs, or no economy of scale. As a result, unit cost estimates from small scale projects may differ substantially from estimates derived from the same intervention once it is scaled-up.

Approach to analysis

Collection and analysis of cost data may be conducted using a top-down or bottom-up (also called micro-costing or ingredients based costing) approach. Top-down approaches require the analyst to identify total amounts and allocate portions to different cost centres or program activities. This is often done using financial records, with each line item allocated based on proportion of use by different activities. This approach can be straightforward where there is only one programme being costed and all expenditure relates to a single budget. Top-down costing is likely to produce more accurate results when the main cost driver is medical technology (Mogyorosy and Smith, 2005). However, where the cost structure is unknown, top-down approaches may not be useful in identifying cost drivers and they may provide little insight into areas where efficiency gains can be made (Shrestha, Sansom and Farnham, 2012).

When using a bottom-up approach, all inputs necessary to produce a unit of output are identified and valued. This figure is then multiplied by the number of outputs produced. Bottom-up costing is often done using input prices and activity records and the cost producing a unit of output can often be directly allocated to activities or programme areas. However, it can be difficult to capture overhead and administrative costs using this approach. Bottom-up approaches are likely to be more accurate where implementation involves multiple organisations and may be more useful in identifying areas where efficiency gains may be made (Mogyorosy and Smith, 2005; Shrestha, Sansom and Farnham, 2012).

The most appropriate methodology for a given costing study is usually determined by the objectives of the costing. For example, a cost analysis may be used to value resources used to deliver a facility or community based prevention programme in order to inform programme

budgeting processes, to identify resources required to expand or scale up a programme or to identify areas for improvement in programme efficiency. Where costing exercises are planned prospectively, it is possible to incorporate cost data collection into routine data monitoring and evaluation work, thereby ensuring that all data required for analysis is available. Where costing is conducted retrospectively, the type of analysis that can be done is often limited by the data that is available.

Given the range of alternative approaches that can be taken when planning and conducting a cost analysis, there is considerable scope for variation in practices, which can lead to difficulties in comparing cost estimates. Standard guidelines do not provide sufficient detail on how to deal with challenges specific to research conducted in specialised fields, leading analysts to adopt different ad hoc approaches. In response to this, a number of agencies have developed guidelines on costing interventions to try to promote a standardised approach to costing (Kumaranayake et al., 2000; Terris-Prestholt et al., 2012; Janowitz and Bratt, 1994; UNAIDS, 2012). Costing guidelines to be used specifically for violence prevention programmes will be produced in 2015 by LSHTM. These guidelines will form an important resource for the 'What Works' programme and should be used in future evaluations that are supported in order to ensure that cost analyses are conducted in a transparent and consistent manner and that they allow for comparison of cost estimates, where appropriate.

3.1.2. Methodological considerations in cost analysis

Sources of variation in unit cost estimates may be related to costing methodology, the nature of the program or intervention being evaluated, or factors related to the context in which the intervention is implemented.

Programme scale

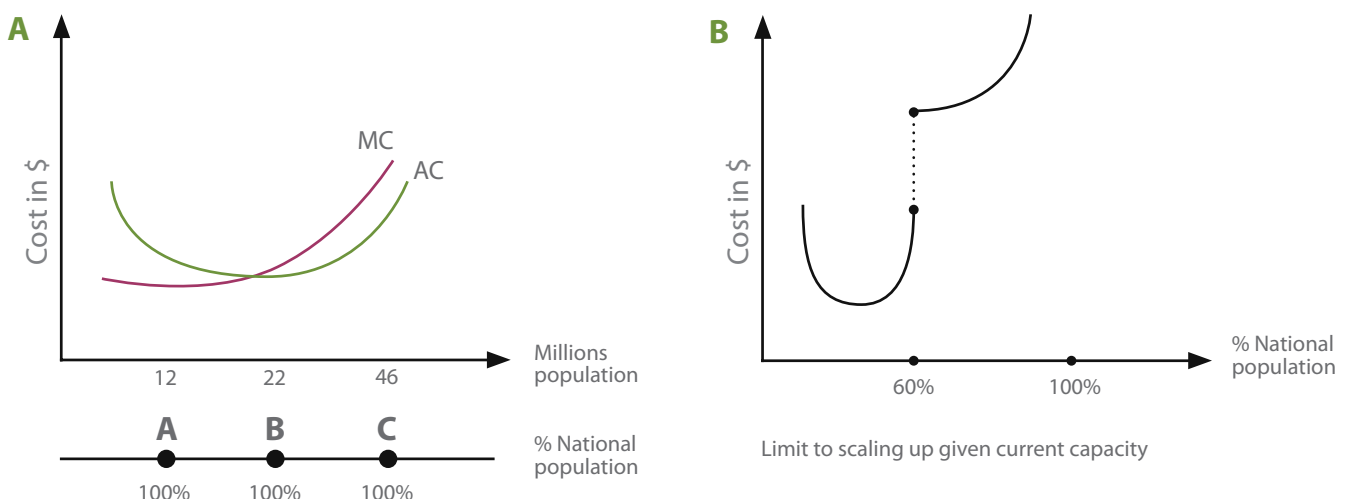
Unit cost estimates included in economic evaluations are commonly calculated by taking the total cost of a programme and dividing this by some measure benefit such as outputs or impact measures. Outputs may include the number of beneficiaries or number of activities conducted and impact measures relate to cases of violence prevented or DALYs averted. The final average unit cost estimate is then a point estimate relating to costs and benefits accumulated over the course of a project, representing a snapshot of the relationship between cost and benefit at a particular point in time and for a particular volume or scale of service delivery (see Figure 6). In addition to average costs, marginal costs, or the cost of expanding service delivery by one additional unit (for example, the cost of seeing one more client) are estimated.

Scale is a major determinant of intervention or programme unit costs; therefore the more outputs among which to spread the fixed costs of an intervention, the lower the average cost will be. Evidence from health interventions corroborates this scale effect, with 26-70 per cent of the variation in unit costs being explained by variation in scale (Kumaranayake, 2008; Guinness et al., 2005). However, after

a certain point (where marginal cost (MC) exceeds average cost (AC) in Figure 6, panel a) so-called diseconomies of scale are observed, as it becomes more expensive to reach the remaining hard-to-reach populations or as systems reach their capacity and require large new investments (in infrastructure, human resources, equipment, etc) in order to be able to serve more people (Kumaranayake, 2008; Guinness, Kumaranayake and Hanson, 2007).

As programmes may operate at different scales, similar programmes may be delivered using different combinations of inputs to produce the same (or similar) outputs. In economic terms, the process by which inputs are transformed into outputs (or outcomes) is known as technical efficiency. A technically efficient production process uses the least amount of inputs to produce the maximum possible improvement in a specific health outcome (Shiell et al., 2002b). In practice, implementers may use a different mix of inputs (for example, paid staff or volunteers) or deliver interventions at different levels of intensity. As programmes mature, staff may become more comfortable or competent in their roles, which can lead to more efficient use of time and resources. Such variations in technical efficiency are a common source of variation on unit cost estimates across settings (Adam et al., 2004).

Figure 6. Cost implications for scaling up interventions



Source: Kumaranayake

Programme context

Just as unit cost estimates are a snapshot of the relationship between cost and benefit at a particular point in time or scale of service delivery, estimates are also a reflection of a myriad of factors related to the context in which the programme or intervention is delivered. These may include geographical location, prices of inputs and complementarities with other activities. For example, interventions operated in rural areas programme participants may be more difficult to reach or programming may need to be scheduled around rainy seasons or agricultural activities. In terms of the price of inputs, shortages of foreign exchange or import duties may lead to variation the price of imported inputs, such as equipment or supplies. Even the cost of domestically sourced items such as labour may vary across settings either due to differences in wages or availability of volunteer labour.

Similar to the issue of scale, unit cost estimates may vary as a result of economies of scope. Economies of scope occur where the cost of producing two or more outputs together is less than the cost of producing them separately. This may arise as a result of programme synergies or shared overhead and administrative costs. In their analysis of post rape care services provided at two sites in South Africa (Christofides et al., 2006b) noted that lower unit costs in one site may be explained by economies of scope realised in the site providing post-rape care, domestic violence and community empowerment services since these services utilised shared inputs and overheads.

In order to understand how average cost estimates change over time or as an intervention is expanded or scaled up, to identify variation in technical efficiency in service delivery or to identify the impact of economies of scope, multiple average cost estimates are often

required in order to plot an average cost curve and observe the changing relationship between cost, resource use and outputs. This approach requires either multiple cost analyses of an intervention as it expands over time, or costing multiple sites involved in implementing the same intervention at different scales. If a sufficient number of observations are available, econometric analysis may be used to identify variations in technical efficiency and estimate marginal costs which can provide insight into the likely change in costs as programmes are scaled up. To date, this type of analysis has not been conducted in the field of VAWG, likely in part due to a dearth of cost data and lack of comparable cost estimates. As VAWG programming expands, opportunities for this type of work may arise, providing valuable insight into the cost structure of different types of interventions, the potential for economies of scale associated with scale up, and gains (due to service synergies) that may be made from combining services.

3.1.3. Methodological considerations in cost-effectiveness analysis

Economic evaluations involves the comparison of alternative courses of action in terms of both costs and consequences (Drummond et al., 2005). Thus, the outputs of economic evaluations are commonly reported as cost-effectiveness ratios or benefit-cost ratios, whereby the difference in costs associated with a particular course of action are divided by the difference in benefits. Evidence from economic evaluations is meant to inform the operational prioritization of interventions representing the best value for money. Below we outline some of the key challenges in generating and comparing economic analyses and applying the results of such analyses across different settings.

Economic evaluations are driven by comparison. The most relevant comparison from a policy perspective is often the gold standard or current practice. However, where there are no established guidelines or no existing policies in place, interventions may be judged against a 'do nothing' scenario. In either case, both the comparator and the intervention must be adequately described in order for policymakers to determine the extent to which the results may be applied across settings. In the case of VAWG programming, policies and practices may vary dramatically across settings, presenting a challenge when comparing intervention impact. For example, in cases where cost-effectiveness analyses have used the same comparator in an area with a similar underlying prevalence of violence and associated risk factors, the results may vary as a result of differences in implementation, acceptability of the intervention among the target population or individual characteristics of participants. For example, the impact (and thus cost-effectiveness) of cash transfer programmes on outcomes such as early marriage practices or school attendance will be influenced by initial rates of early marriage and school attendance, as well as intervention coverage and acceptability - all of which are likely to vary across settings.

Economic analyses of health interventions tend to focus on CEA/CUA (Johannesson and Jonsson, 1991), thereby avoiding the need to make inherent value judgments about the monetary value of a statistical life year or a year free of violence, which are both controversial and context-specific, and the greatest disadvantage of CBA (Gold, 1996). When it comes to broader structural interventions that are likely to be required to prevent VAWG, CEA and CUA may adequately capture the cost of a year free of violence or the value of the related health DALYs averted (Birch and Donaldson,

1987; Birch and Gafni, 1992; Kahn et al., 2011; Moatti et al., 2008); but there is little sense of what represents good value for money in VAWG since so few analyses have been conducted and because it is unclear what society may be willing to pay for a year of violence being averted, for example. A further challenge is that DALYs estimates relate to lifetime exposure to violence and therefore they are not useful for estimating the benefit associated with preventing further exposure to violence for women and girls who may have already experienced violence. These approaches are also limited in terms of the effects captured, since they only incorporate health related benefits and ignore broader socio-economic outcomes.

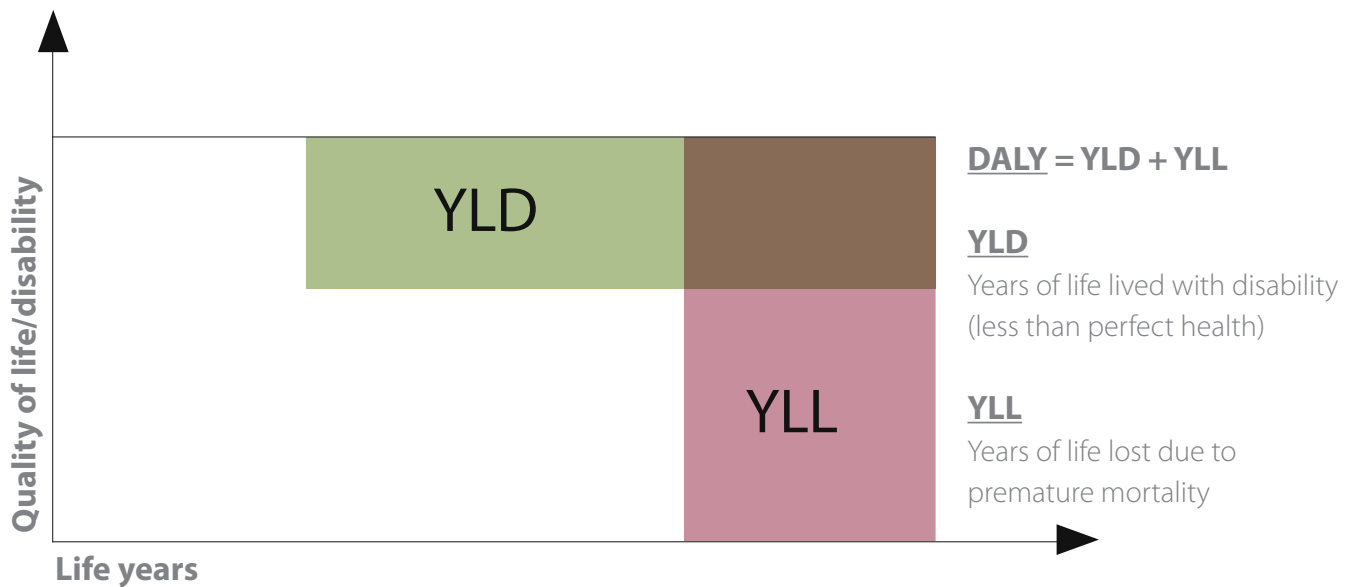
Prevention interventions are often evaluated using intermediate or process indicators, such as the number of clients reached or the number of services delivered. These effects may be valuable from a programmatic perspective. However, final outcomes such as DALYs averted or measures of net monetary benefit would be preferable for the economic evaluation of VAWG prevention as they enable broader comparison across interventions. Unfortunately final outcome measures are often unavailable² and analysts may be forced to rely on modelling exercises to estimate final outcomes based on intermediate measures such as person years free of violence (Kumaranayake et al., 2000). In the case of violence prevention programming, the time period of analysis may not be long enough to establish a clear link between programme activities and final outcomes or to observe how long a protective effect may last. This is critical for the calculation of both QALY and DALY estimates, since both require the analyst to make some assumptions about the link between intervention impact and future related morbidity and mortality (Figure 7). For example, an analysis that assumes that

²Comparison of outcome measures requires a counterfactual or base case scenario. For example, in order to conduct a cost-effectiveness analysis using the cost per case prevented as the outcome measure, data on the prevalence or incidence of violence in the absence of the intervention is required. These data may be readily available if the analysis is conducted alongside a randomised trial. However, measuring impact and generating the necessary outcome measures to conduct a full economic analysis can be difficult when conducting operational research.

intervention effects are sustained for 2 years or 5 years, after which participants' life course returns to a trajectory that matches those of individuals who did not receive the intervention (meaning that rates of violence are again

similar), then the QALYs gained/DALYs averted will be fewer than if intervention impacts were sustained until death or had an impact on long term survival.

Figure 7. Illustration of DALY calculation and long-term intervention impact



A well-documented limitation of the most widely used CEA/CUA tools with single-outcome analysis frameworks is their inadequacy when it comes to dealing with interventions that have multiple, cross-sectoral outcomes (Stillwaggon, 2009; Dhaliwal et al., 2011). The absence of a common outcome metric across sectors may cause problems for economic evaluation, and although there have been several efforts to develop more encompassing indices of well-being that incorporate the multiple attributes/benefits that people value, to date they have not become widely used in economic evaluation or prioritisation (Payne, McAllister and Davies, 2013).

In many cases, CEA and CBA calculations may seem straightforward, yet questions about the comparability or generalisability of cost-effectiveness and cost benefit ratios may make

it difficult for policy-makers to determine if investing in a particular programme represents good value for money (Drummond et al., 2009). In theory, the use of composite measures of benefit such as DALYs or QALYs should facilitate comparison of interventions in different health-related fields (allowing comparison of VAWG programming and immunisation programming from a health perspective, for example); but the lack of a standardised DALY measure specific to violence has made it difficult for researchers and advocates to make such comparisons.

Given this problem, CBA would be the recommended economic method for VAWG prevention interventions with multi-sectoral outcomes (Drummond and Stoddart, 1995)³, as it monetises all benefits of an intervention, thereby comparing costs and benefits in

³All these methods are rooted in welfare economics and the concept of Pareto-efficiency, whereby a resource distribution is considered Pareto-optimal when it is not possible to make anyone better off without making someone else worse off (Gold, 1996). The more realistic and less-restrictive potential Pareto-improvement criterion forms the basis for CBA in particular, as it shows that a programme is welfare-enhancing if the benefits exceed the costs and thus the gainers would potentially be willing to compensate the losers, bringing the equilibrium closer to the Pareto-optimum.

the same metric and allowing multi-sectoral outcomes to be considered (Drummond and Stoddart, 1995). This would, therefore, require a monetary valuation of intervention outcomes, such as a year of violence averted, to be made. This can be quite controversial and some may object to valuing such outcomes in monetary terms.

It is also worth pointing out that CBA for violence has often been misunderstood as only assessing resource savings made due to the intervention, such as savings in police service costs and health care costs that would have been incurred in dealing with a case of violence and injury. Indeed, a number of large studies have been done that quantify the economic cost of violence, or the cost to society of not intervening to address VAWG (Max et al., 2004; Yodanis, Godenzi and Stanko, 2000; Chan and Cho, 2010; Morrison and Biehl, 1999; Morrison and Orlando, 1999; Tjaden and Thoennes, 2000; Walby and Britain, 2004; Laurence and Spalter-Roth, 1996; Walby, 2009; Duvvury et al., 2009; Nectoux et al., 2010; Niebuhr, Salge and Brzank, 2012; Waters et al., 2005; Waters et al., 2004). However, this is not the direct benefit of the intervention (the societal value of averting violence is) and should actually be part of the estimates of net costs (Gold et al., 2011).

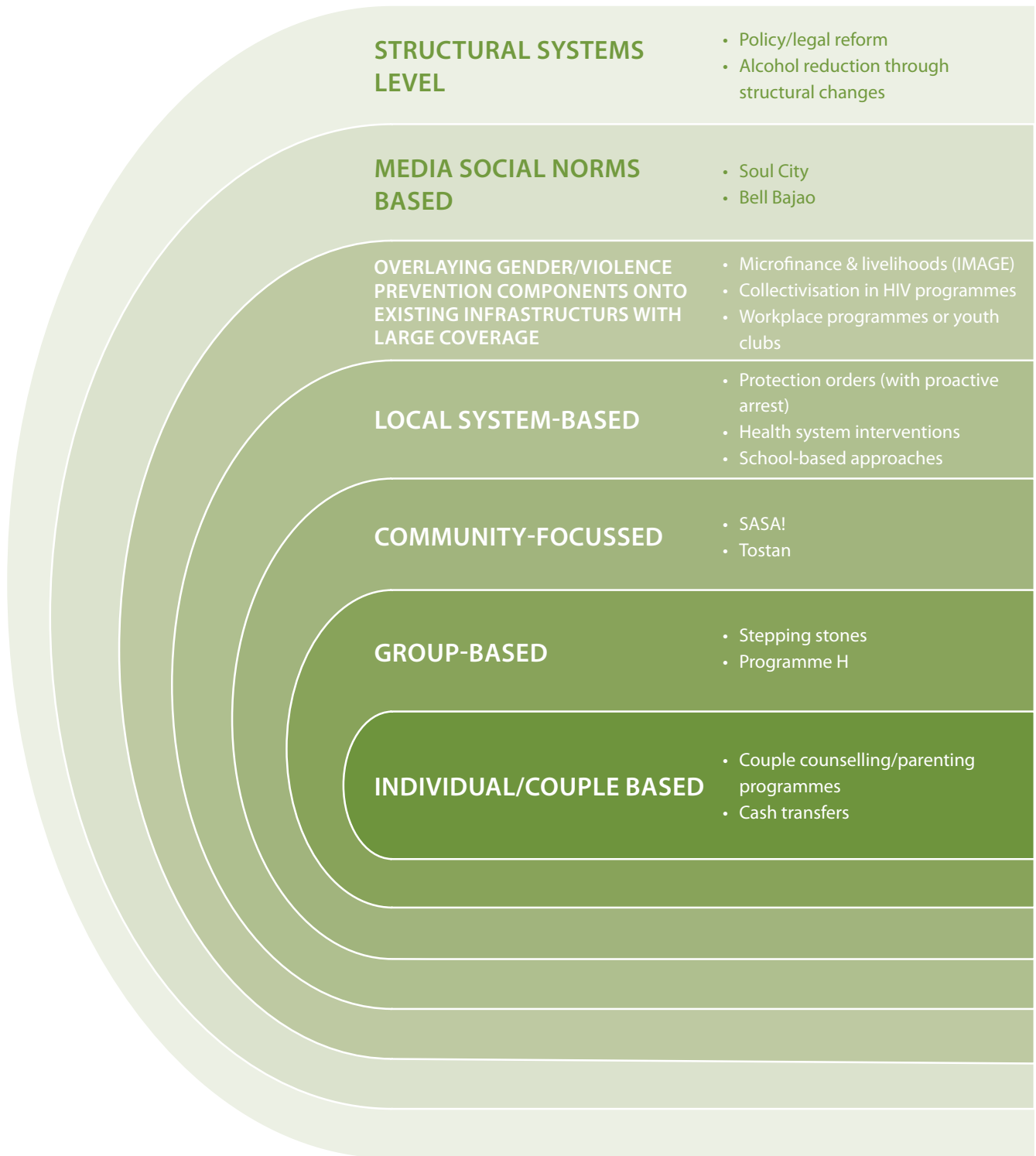
Combining this type of work with rigorous evaluation of VAWG interventions may provide new opportunities to estimate the overall societal impact of preventing and reducing violence and show the potential for associated cost savings, thus bolstering the case for investment in prevention efforts and interventions aimed at reducing violence against women and girls.

3.2. Synthesis and assessment of the evidence

3.2.1. Effective and replicable models

Effective prevention interventions may interrupt or mitigate various potential pathways to VAWG, from more proximal to more distal causes across the ecological framework (Heise 1998). Below we describe some of the models of intervention identified in our review, which have been replicated in more than one setting. These are grouped in terms of their different modes of delivery, as different approaches will have different cost implications and potential scale-up paths (see Figure 8). For a more detailed assessment of the evidence of the effectiveness of different types of violence prevention interventions, see Paper 2 in this series.

Figure 8. Intervention models according to the ecological framework



Individual level economic empowerment of women and their households

Interventions have been implemented that target individual women and men or their households, in order to address the drivers of violence. One example that is increasingly emerging as relevant is the cash transfer scheme - both conditional and unconditional. These have broader development objectives and no specific VAWG prevention component, but have been found to indirectly affect partner violence.

- **Conditional and unconditional cash and in-kind transfers** - social cash transfers, both conditional and unconditional, have been gaining momentum in Latin America and sub-Saharan Africa, as important poverty reduction interventions that have multiple health, education and economic benefits. Some evidence also points to their potential to empower women and shift intra-household power dynamics. There is, in general, mixed evidence of how women's access to cash or a higher income influenced partner violence (Heise, 2011), and despite the many schemes being piloted and/or implemented at scale for over a decade, few have been evaluated from a violence prevention angle (Haushofer and Shapiro 2013). Where this has been done, however, receipt of a cash transfer has been found to reduce physical partner violence by between 30-50 per cent in Mexico's well-established Oportunidades programme (Bobonis, González-Brenes and Castro, 2013; Angelucci, 2008), Kenya's pilot GiveDirectly unconditional cash transfer (Haushofer and Shapiro, 2013) and a cash, food and voucher transfer scheme piloted by the World Food Programme in Ecuador (Hidrobo, 2014).

Gender-transformative group education sessions with women and/or men

Common models for intervention delivery are individual or group level interventions (with women and/or men) that seek to change social norms and behaviour through small group participatory workshops that: challenge existing beliefs, build pro-social skills, promote reflection and debate, and encourage collective action. Such models of intervention that have been replicated in more than one setting include:

- **Stepping Stones** - a participatory small group intervention targeting both women and men of different ages and designed to build knowledge, risk awareness and communication skills regarding gender, HIV, violence and relationships. It involves at least 50 hours of intervention over 10 to 12 weeks, delivered in 15 sessions. Sessions are typically delivered to four gender-segregated and age-segregated groups that come together from time to time for full community dialogues. In some instances, Stepping Stones includes community mobilisation/engagement activities. A randomised controlled trial of this intervention in South Africa showed significant reductions in the levels of IPV perpetration reported by men, but not on women's experience of IPV (Jewkes et al., 2008). The model has been replicated in over 40 countries since the mid-nineties (Heise, 2011).
- **Programme H** - a community education intervention developed in Brazil to promote gender equitable attitudes and action among young men. Trained pro-social mentors facilitate small group sessions using a participatory curriculum during regular (often weekly) sessions over a period of four to six months. The approach has evolved from focusing on

workshops and community mobilisation into a multipronged strategy combining participatory training with advocacy and lifestyle social marketing, which is aimed at changing community norms. It was found to lead to positive changes in gender attitudes, partner communication, and partner violence. It has been replicated in India (Yaari-Dosti), Tanzania, Croatia, Vietnam and countries in Central America (Heise, 2011; Pulerwitz et al., 2010).

Community-focused interventions

Approaches to transform norms at the community level include a community mobilisation intervention aimed at transforming norms relating to violence and HIV, as described below:

- **SASA!** - a community mobilisation intervention in Kampala, Uganda aimed at preventing VAWG through changing the “community attitudes, norms and behaviours that underlie power imbalances between men and women and support both HIV risk behaviours and the perpetration of violence against women” (Abramsky, Devries, Kiss, Francisco, Nakuti, Musuya, Kyegombe, Starmann, Kaye, Michau et al., 2012; Abramsky, Devries, Kiss, Francisco, Nakuti, Musuya, Kyegombe, Starmann, Kaye and Michau, 2012: p. 4) The intervention is designed to take communities through four stages of change, beginning with identifying linkages between violence and HIV risk, followed by raising awareness, then supporting men and women affected by violence to change and then taking action to prevent violence. Intervention activities are conducted by community activists, community and institutional leaders, health care workers and police, all of whom are supported and mentored by SASA! staff and provided with bi-monthly training opportunities.

SASA! was evaluated using a community cluster randomised trial that ran over four years (2008-2011) and showed a 52 per cent reduction in the number of women who had experienced physical IPV in the 12 months preceding the end-line survey. The intervention has already been rolled out, both nationally and regionally, with approximately 80 sites using the materials by 2012.

Local systems level interventions

Interventions to prevent violence can be integrated into existing local systems, including health, education and legal systems. For example, a recent review of health sector responses to IPV in low-income and middle-income countries found a few models of integration that are being replicated in many settings, often focusing on service provision at a secondary or tertiary level of health care. These services are provided through accident and emergency or women’s health services, or at a primary level through reproductive or family-planning health services (Colombini, Mayhew and Watts, 2008; WHO and London School of Hygiene and Tropical Medicine, 2010).

- **Whole-school approaches** – A ‘whole school’ approach or holistic school-based intervention aims to make schools safer, more child-friendly and a better environment for children to learn, by engaging various stakeholders (at the school level, as well as in the local community and in government) in a range of activities. By targeting several different levels at once, this approach aims to bring about systemic, sustainable change, so that change in individuals’ attitudes and behaviour are reinforced by supportive community and governmental response mechanisms and legal frameworks. In general, the evidence is still weak there is an indication that violence can be reduced. A 2009 evaluation of the UNICEF

Child Friendly School global portfolio, that includes 150 child-friendly schools (as defined in the box ‘Examples of whole school approaches’) in six countries, found: that students generally felt safer and more supported in child-friendly schools; and that, on average, female students had more positive feelings about safety than male students (UNICEF, 2009). A 2008 review of the USAID Safe Schools program in Ghana and Malawi found positive shifts in knowledge and attitudes among teachers and students, and improved teacher understanding of how to report school-related Gender-based Violence (GBV) (USAID and DevTech, 2008).

Overlaying VAWG components to existing large-scale programmes

Another category of interventions are add-on VAWG programme components, such as group-based gender equity education and collectivisation/empowerment activities that are delivered alongside or on top of large scale economic or social services. These include the following examples:

- **Intervention with Microfinance for AIDS & Gender Equity (IMAGE)** - The IMAGE trial in South Africa combined a poverty-focussed microfinance initiative with a gender and HIV training curriculum called Sister for Life. The microfinance component was implemented by the NGO Small Enterprise Foundation with women above 18 years and living in the poorest households. Groups of 5 women served as guarantors for each other’s loans and all 5 had to repay their loans before the group could qualify for further credit. Loan centres of about 40 women met fortnightly to repay loans, apply for additional credit, and discuss business plans. These meetings served as avenues for introducing the Sister for Life participatory learning programme to address IPV and HIV,

starting with 10 one-hour training sessions that covered topics such as gender roles, cultural beliefs, relationships, communication, HIV and IPV. In a second phase, the programme encouraged wider community mobilisation, in order to engage both youth and men in the intervention communities, as a form of collective action. Women recognised as “natural leaders” by their peers undertook another week of training and then worked with their centres to address priority issues. The training curriculum was delivered alongside microfinance services by a separate team of trainers over a 12-month period (Kim et al., 2007). This approach reduced levels of IPV significantly (55 per cent) and improved household wellbeing, social capital and gender-equitable attitudes (Hargreaves et al., 2010; Kim, Ferrari et al., 2009). IMAGE is currently being scaled up in South Africa, reaching 15,000 additional participants as of 2011 (Hargreaves et al., 2011), and is being replicated in Tanzania and Peru.

- **Empowerment/collectivisation for Female Sex Workers (FSWs)** - Avahan, a large-scale HIV prevention intervention implemented in India, included a multi-layered district-wide component to prevent and address violence against the sex worker community; it involved policymakers, secondary stakeholders (police officers, human rights lawyers, journalists) and primary stakeholders. This violence prevention strategy was embedded in a broader community mobilisation and empowerment approach, consisting of the formation of self-help groups, drop-in centres, the formation of committees, strengthening of collective action, capacity building, mass events, advocacy and ensuring an enabling environment. An analysis of intervention impact in 13 districts suggests that it reduced the

experience of violence among FSWs in the past year (i.e. being beaten or raped) by 30 per cent (Beattie et al., 2010). This intervention builds on previous sex worker mobilisation interventions and is being further replicated in other regions.

Media social norms based models

The second type of replicable intervention models are large scale 'edutainment' or media campaign models that aim to transform social norms and behaviour at the macro level and which can be combined with community level efforts to maximise impact. Examples of these programmes include:

- **Soul City series** - The Soul City Institute for Health and Development in South Africa supports an ongoing 'edutainment' program through a weekly television drama that portrays characters confronting violence, HIV, alcohol abuse and other social problems. The typical series includes 13 one-hour episodes of primetime television series, 45 fifteen-minute radio drama episodes, three booklets distributed at the community level and an advertising campaign on a related topic. Series 4 dealt specifically with partner violence and promoted new norms and community behavioural responses to violence. An evaluation, in the form of a national survey, found a consistent association between exposure to the series and both support-seeking and support-giving behaviour in response to violence. The series has run for over 10 seasons in South Africa and the Institute is building regional capacity in delivering such programs for social change in other countries (Heise, 2011).
- **Bell Bajao** - The Indian women's rights NGO Breakthrough implemented the Bell Bajao campaign with a two-pronged approach to

shift norms and behaviours relating to IPV and women living with HIV. The campaign included multimedia (television, print, radio, Internet and a video van) coupled with grassroots community mobilisation (training sessions and workshops). A pre/post evaluation reported improvement in knowledge about women's rights under the domestic violence law and attitudes towards interrupting and taking action against domestic violence (Heise, 2011).

Based on the identified replicable models, there appear to be various types of effective interventions to consider for scale up (see Paper 2 in the series), as well as combined approaches that intervene at the individual and community level, or the community and macro level, to maximise programme impact and potentially optimise value for money. Participatory approaches that target groups of men and women are likely to be scalable through different models of replication than macro media campaigns that could reach larger populations by virtue of the medium they use. VAWG programme components that are added on to large scale programmes - to optimise synergies of addressing various economic and health needs of their beneficiaries, for example represent an opportunity to leverage existing investments and optimise programme efficiency.

3.2.2. Current evidence on the cost and cost-effectiveness of VAWG interventions

Studies on the economic cost of VAWG have primarily aimed to estimate the economic and social costs associated with the occurrence of VAWG (Max, et al., 2004; Yodanis, Godenzi, and Stanko, 2000; Chan and Cho, 2010; Morrison and Biehl, 1999; Morrison and Orlando, 1999; Tjaden and Thoennes, 2000; Walby and Britain, 2004; Laurence and Spalter-Roth, 1996; Walby 2009; Duvvury et al., 2009; Nectoux et al., 2010; Niebuhr, Salge and Brzank, 2012; Waters et al.,

2005; Waters et al., 2004), rather than the costs of intervening to prevent it. Given our focus on scaling up effective VAWG programmes, we contained the review to summarising and assessing intervention costs. That being said, economic and social costs of not preventing VAWG could be important inputs into value-for-money assessments, as discussed above.

There is a serious dearth of evidence on the cost and cost-effectiveness of VAWG interventions, and even more so for violence prevention interventions. Although our focus is on low-income and middle-income countries, a recent review of economic evaluations of interventions to reduce IPV and improve outcomes for survivors only identified 4 studies in high-income countries (Gold et al., 2011). Through a further search of more recent literature, we identified an additional 3 studies from high-income countries (Devine et al., 2012; Harris et al., 2009; Logan, Walker and Hoyt, 2012). Two studies in the UK evaluated the cost-effectiveness of domestic violence training and support programmes in primary health care settings, and found them to be cost-effective in terms of QALYs gained (Norman et al., 2010) and potential cost saving when considering societal costs (Devine et al., 2012). Another study from the United States analysed the cost of online training programmes for health professionals, concluding that they were substantial (US\$ 75 per physician reached) and would require investment in demand creation to improve their efficiency (Harris et al., 2009). A study from the United States found that an intervention targeting women with co-occurring mental and substance abuse disorders and a history of violence was effective at improving outcomes at no additional cost (Domino et al., 2005), while another study modelled the cost-effectiveness of a refuge shelter for victims of violence in the US, finding that it was cost-effective due to cost savings and improved health through prevented violence (Chanley, Chanley and Campbell, 2001). Two studies conducted cost-

benefit analyses of justice system policies and interventions, namely the 1994 Violence Against Women Act (Clark, Biddle and Martin, 2002) and civil protective orders (Logan, Walker and Hoyt, 2012) in the United States; the studies concluded that the benefits of such interventions to taxpayers outweigh their cost, when factoring in the value of violence prevented in terms of the health and justice system costs averted from needing to respond to violence.

Our review of studies from low-income and middle-income countries identified 8 studies, of which: 5 were for prevention interventions; 3 were for post-rape services (see Table 3). Two of the prevention studies are not yet in the public domain (one is in the publication stage and the other is being written up for journal submission). Given the extremely limited evidence base, we decided to include all identified studies and assess the quality and implications of their cost and economic evaluation data, in order to inform future scale up considerations.

Table 3. Summary of VAWG intervention cost and cost-effectiveness studies identified

Intervention, Study	Setting & Target population	Intervention description	Costing scope and methods	Total cost (2012 US\$)	Unit cost (2012 US\$)	VAWG effectiveness and cost-effectiveness ratios (2012 US\$)	Interpretation and limitations
IMAGE (Jan et al., 2011)	South Africa (rural) 12 loan centres 1. 855 poor women in initial 2-year trial phase 2. 2,598 poor women in 2-year scale-up phase	A gender and HIV training component was added to a microfinance intervention. The 'Sisters for Life' training curriculum consisted of 10 fortnightly one-hour training and discussion sessions addressing issues such as gender roles, cultural beliefs, relationships, communication, IPV and HIV.	Empirical incremental, economic costing Provider perspective Ingredients approach	1. \$44,222 2. \$40,320	1. \$51.77 per participant 2. \$15.56 per participant	1. \$855/ woman with IPV-free year gained \$9,262/ IPV-related DALY 2. \$256/ woman with IPV-free year gained \$2,779/ IPV-related DALY	<ul style="list-style-type: none"> Highly cost-effective Multiple outcomes not included in CER, i.e. reduction in HIV risk behaviours; increased reported condom use; increased household revenue; improved gender attitudes
Peer education to transform gender norms (Pulerwitz et al., 2006)	Brazil 2 NGO sites 258 young men 250 young men	Two intervention models: 1. Interactive group education sessions for young men, led by adult male facilitators. 2. Group education + community-wide "lifestyle" social marketing campaign to promote condom use, using gender-equitable messages.	Empirical, full financial costing Provider perspective Top-down approach	1. \$45,865 2. \$26,938	1. \$161 per participant 2. \$108 per participant 3. \$5.09 per participant per hour of group education (\$ 3.86 – 6.31)	At 6-months follow-up, agreement with inequitable gender norms items significantly decreased at both intervention sites, with 10 and 13 out of 17 items (on GEM scale) improving at the intervention sites, compared to 1/17 at the control site.	<ul style="list-style-type: none"> Cost-effectiveness ratios were not estimated in this study, so it is unclear if it is cost-effective Limitations: excludes the cost of condoms and other donated inputs, no sensitivity analysis
SASAI Michaels-Igbokwe (Michaels-Igbokwe, 2014). Manuscript in preparation	Uganda 8 communities in Kampala	A cluster randomised controlled trial of a community mobilisation intervention, aimed at changing community attitudes, norms and behaviours related to the power imbalance between men and women that contributes to VAW and increased HIV risk behaviour.	Empirical, full economic costing	<ul style="list-style-type: none"> US\$59,574 (four years) US\$137,605 (annual) 	<ul style="list-style-type: none"> US\$392.00 per activist supported per year US\$27-\$46 per activity 	Not yet available	<ul style="list-style-type: none"> Cost-effectiveness ratios have not been calculated at present, but the analysis is ongoing
Community mobilisation and gender empowerment for female sex-workers (Vassall et al., 2014)	India 2 districts: 1. Belgaum 2. Bellary 9,680 female sex workers	This comprehensive HIV prevention program for high-risk populations had an additional gender-transformative community mobilisation (CM) component, consisting of the formation of self-help groups, drop-in centres, the formation of committees, strengthening of collective action, capacity building, mass events, advocacy and ensuring an enabling environment.	Empirical, incremental economic costing Modelling of outcomes based on empirical condom use data Provider perspective Combined ingredients approach and top-down sensitivity analyses conducted for costs	<ul style="list-style-type: none"> \$312,942 \$602,982 	<ul style="list-style-type: none"> \$19 per FSW reached at least once a year \$21 per FSW reached at least once a year 9 – 19% of the HIV prevention program was spent on the community mobilisation component 	<ul style="list-style-type: none"> 30-50% less FSWs reported experiencing violence (Beattie et al., 2010) 	<ul style="list-style-type: none"> Cost-effectiveness was not analysed for the violence outcome Other outcomes: reduction in STI symptoms, increased consistent condom use, reduced HIV incidence (based on modelling)
Mass media edutainment for HIV/AIDS and GBV (Muirhead, Kumaranyake, and Watts, n.d.)	South Africa Black and coloured adult population (aged 15-49)	The Soul City 4th series was a multimedia edutainment program producing television drama, radio drama and print materials that were serialised in 10 national newspapers and booklets, which related to various themes, including HIV/AIDS and VAW.	Empirical, full economic costing National-level modelling Provider perspective	\$5,322,405	\$0.16; \$0.01 and \$0.10 per person reached by television, radio and print \$5.3 million per campaign (40% for VAW theme)	\$9.24 per item adjusted change in action in VAW \$154.16 per weighted effect on VAW-related action, if campaign is jointly produced with HIV/AIDS theme	<ul style="list-style-type: none"> Unclear if cost-effective, as CER not comparable to international standards 46% (television), 31% (radio) and 34% (print) of total unit cost is for VAW components

Intervention, Study	Setting & Target population	Intervention description	Costing scope and methods	Total cost (2012 US\$)	Unit cost (2012 US\$)	VAWG effectiveness and cost-effectiveness ratios (2012 US\$)	Interpretation and limitations
Health and psychosocial services for survivors of sexual assault (Christofides et al., 2006b)	South Africa 2 sites (public facility-based and NGO community-based) Sexual assault survivors	Both models of care provide health and psychosocial support, including a medico-legal examination, HIV testing and counselling, STD treatment, comfort kit, post-exposure prophylaxis therapy for HIV negative survivors. The protocol includes follow-up monitoring visits for counselling, HIV and pregnancy testing, and women are supported through the court process.	Empirical (1), modelling at national level (2) Economic full and incremental costing Provider perspective Mixed bottom-up and top-down costing Includes patient-level, site and central-level costs	\$131,956- \$225,029	1. \$833 per survivor (\$ 488 - 1,169) 2. US\$409 (full) 3. \$66 (incremental for PEP)	No violence prevention outcome	<ul style="list-style-type: none"> Not an economic evaluation with a violence outcome, only HIV outcome modelled
Comprehensive post-rape services (Kim, Askew et al., 2009b)	South Africa (rural) 1 public district hospital 409 rape survivors	Refentse model: five part intervention model, including the establishment of a sexual violence advisory committee, the formulation of a hospital rape management policy, a training workshop for service providers, designated examining room, and community awareness campaigns.	Empirical, incremental economic costing Provider perspective Mixed top-down (facility-level costs) and bottom-up (patient-level costs)	\$87,319	1. \$220 per case 2. \$63,666 per case (excl. start-up development costs)	Not available	<ul style="list-style-type: none"> Not a cost-effectiveness study
Comprehensive post-rape services (Kilonzo et al., 2009)	Kenya 3 public health centres 784 rape survivors (43% were children <15 years)	The standard of care included clinical evaluation and documentation, clinical management, counselling and referral mechanisms. Targeted training that was knowledge-, skills- and values-based was provided to clinicians, laboratory personnel and trauma counsellors and coordination mechanisms established with the local police.	Modelled (over 1 year) Financial costing (excludes start-up capital costs) Provider perspective Top-down	Not available	\$3061 per survivor	Not available	<ul style="list-style-type: none"> Not a cost-effectiveness study Limitations: modelled costs, excludes start-up and capital costs, no sensitivity analysis

- **Microfinance and gender training**

The IMAGE trial is the only VAWG prevention intervention with a rigorous economic evaluation (Jan et al., 2011) and violence impact measure. The economic cost of the microfinance component was considered to be null, because of the high rate of loan repayments (99.7 per cent), with interest fully offsetting the loan value and the NGO's administrative costs, making it financially sustainable and cost neutral.

The incremental cost of adding the gender/HIV training curriculum was estimated: at US\$ 52 per client in the trial phase (855 clients); at US\$ 16 per client in the initial scale up phase, when the client base tripled (2,598 clients). This suggests that large efficiency gains can be realised through economies of scale, as the fixed cost of developing training materials, and training and deploying facilitators is spread over more beneficiaries.

The economic evaluation assessed the cost-effectiveness of the trial using a DALY measure, to estimate the health benefits of averting the health impact of violence exposure; it did not attempt to put a value to the other potential benefits that may be associated with averting violence. Even using this relatively limited measure, the evaluation concluded that IMAGE was cost-effective in the trial phase (US\$ 9,262 per DALY) and highly cost-effective in the scale-up phase (US\$ 2,779 per DALY), using a South African cost-effectiveness threshold, and under the assumption that its effect on violence was preserved during scale up. The uncertainty regarding the trial effect estimates (due to the limited number of clusters enrolled in the trial) generated a wide range of cost-effectiveness estimates; but even for the lower bound estimate, the scaled-up intervention remained cost-effective in South Africa.

- **Community mobilisation**

SASA!, a community mobilisation intervention designed to prevent VAWG and HIV risk behaviour was implemented in Kampala, Uganda. The approach involved training and supporting community activists, community and institutional leaders, health care workers and the police. During the four years of implementation (2008-2011), approximately 351 activists were involved in delivering 12,037 – 20,223 activities over the trial period. The total cost of implementation was US\$ 553,252 or US\$ 138,598 annually. This amounted to an annual cost of US\$ 392 per activist supported per year (Michaels-Igbokwe 2014).

- **Gender-transformative peer education**

Promundo (Pulerwitz et al., 2006) implemented two intervention models through two NGOs in Brazil: an interactive group education session for young men led by adult male facilitators; and the same group education with an additional community-wide 'lifestyle' social marketing campaign to promote condom use, using gender-equitable messages. These were delivered at small scale, with 250 and 258 young men, respectively. A financial costing estimated that the group education model cost US\$ 108 per participant (US\$ 26,938 in total), while the combined model was US\$ 161 per participant (US\$ 45,865 in total). The combined model was therefore almost double the total cost of the group education model. On the effectiveness side, changes in gender norms did not appear to have been significantly greater in the combined intervention group, but they were for the HIV/STI reported behaviours.

- The group education sessions cost \$3.90 and \$6.30 per participant per

hour. Reducing the intensity of these sessions was suggested as a potential option to contain costs when replicated by resource-limited organisations. However, the costs may have been underestimated, as they do not include the cost of developing the behaviour change communication messages and materials, which are important start-up elements of such approaches – and almost 8 times the cost of what is considered under start-up costs in this analysis. However, the analysis did not factor in the many other young men and community members reached by the ‘lifestyle’ social marketing campaign that involved posters, billboards and other materials, which would reduce the unit cost.

- **‘Edutainment’**

A full economic evaluation was conducted of Series 4 of Soul City’s campaign in South Africa, implemented between 1997 and 2000. The total cost of delivering the campaign was estimated at US\$ 5.3 million, of which about 40 per cent could be allocated to the VAW theme (Muirhead, Kumaranayake and C. n.d). The program’s popularity and remarkable reach (82 per cent of a national sample) explains its low unit cost. Indeed, since nearly all provider costs were fixed, i.e. costs did not vary with the number of persons reached (except the print costs), the scale effect was significant.

The study also finds that the unit costs (of US\$ 0.16, \$0.01 and \$0.10) per person reached by television, radio and print media with the VAW theme were higher due to the joint media strategy (television, radio and print) rather than using only one medium. This appeared to enable more people to be reached (rather than the same people being reached multiple times) and may be a strategy to pre-empt

diseconomies of scale, by capturing those who may not be able to access television programs without significant investment (buying a television, for example).

- **Gender empowerment through community mobilisation for female sex workers**

An economic evaluation of the overall Avahan programme in Southern India was conducted, with a total cost of the programme of US\$ 4,178,910 from 2004-2011 (Vassall et al., in submission). In addition, a retrospective costing of the gender empowerment community mobilisation programme component was done. The findings suggest that the incremental cost of the gender empowerment activities was between US\$19 – 21 per FSW reached at least once a year, which represented about 9 - 19 per cent of the HIV prevention programme cost (Vassall et al., under preparation). The study of the entire programme cost found that scale explained most of the cost variation between sites (Chandrashekar et al., 2010). This is likely to be the case for this community mobilisation component as well because of the significant fixed costs. The significant fixed costs are illustrated by the fact that a large share of total costs (57-60 per cent) were incurred beyond the NGO/service level, by the centralised state-led partners and at the higher programme level. Personal communication with researchers suggests that an economic analysis of the cost of the violence-related components is ongoing, with the aim of completing this analysis by the end of 2015.

- **Integrated post-rape health care**

In South Africa, three models of post-rape care have been fully costed separately, with estimated economic costs per survivor of US\$ 220, US\$ 488 and US\$

1,167. In Kenya, the financial cost per survivor was US\$ 31 (Kilonzo et al., 2009). The large variation in unit cost of post-rape health care can be partially explained by: different models of delivery, i.e. facility-based and community-based; the degree of task-shifting from health professionals to community volunteers; the package of services provided (in particular with relation to the ARV prophylaxis regimen and monitoring); and the different price levels. Different costing methods also influence the results, as the Kenyan study only considered financial costs, whereas the South African studies incorporated the economic cost of donated inputs, such as volunteers' time. The considerable in-country variation, within the same study (Christofides et al., 2006a) does, however, suggest potential room for efficiency gains, provided that service quality was not compromised in the lower-cost model.

All but one of these 8 studies were taken from the grey literature (with another one being in submission with a peer-reviewed journal and one being under preparation). All of them contained empirical cost data and most (6) reported economic costs that corresponded to the opportunity cost of investing in the intervention, including donated inputs, such as volunteers' time. All studies estimated costs from a provider perspective, thus presenting the implementation costs to the government or NGO service provider.

This focus on a provider perspective could hide considerable patient/participant/community costs; therefore seemingly low-cost interventions may in fact have substantial costs for women and communities. Another important weakness of the cost data is that most estimates are from single sites and small-scale pilots, making it difficult to generalise and use them to inform scale up costs. Most provided a detailed cost breakdown of their

total and/or unit cost estimates, which allows for more in-depth analysis of resource use. Also, given the many assumptions made in the costing exercises, it is a limitation of the existing evidence base that only the IMAGE study (Jan et al., 2011) and the FSW collectivisation study (Vassall et al., in submission) conducted a sensitivity analysis of their costing assumptions.

Finally, only two of the studies reviewed for this report analysed cost-effectiveness for a violence outcome, rather than presenting a unit cost. A similar analysis is being planned for the SASA! trial. These two completed studies are currently the only ones identified that compare cost to an actual impact outcome (reduction in experience of violence in the past year), which illustrates the limitations of the current evidence base.

The variation in costing methods suggests the need for standardised costing guidelines, which could be systematically applied for VAWG intervention trials, in order to generate more economic evidence. In particular, consideration of economic costs and a broader societal perspective appears key for many VAWG interventions that rely extensively on community structures and volunteer labour, and which require substantial amounts of time to be committed by programme participants.

4. SCALING UP VAWG PROGRAMMES

4.1. Definitions of scaling up

Scaling up programmes generally refers to expanding programme implementation to reach more people. In the health sector, WHO indicates that scaling up can be applied to: inputs (financial, human, physical); outputs (access, scope, quality, efficiency); outcomes (coverage, utilisation); or impact (reducing morbidity or mortality) (World Health Organization, 2008). In

all cases, the implications of scale up must be carefully considered, as there may be a trade-off at some point between achieving scale on the one hand and sustainability, equity or quality on the other.

Increasing financial, human or infrastructure inputs is rarely enough for successful scale up, considering several other systemic constraints, such as unsupportive laws, weak management systems or limited demand. Scaling up therefore requires important strategic decisions and institutional adjustments, including the type and number of interventions to be scaled up, the role of various stakeholders and the financing, speed and sequencing of program expansion (World Health Organization, 2008).

A recent review of the concept of scale up in international health identifies similar issues, namely the cost of scaling up coverage, constraints to scaling up, equity and quality implications and key service delivery issues (Mangham and Hanson, 2010). Key service deliver issues include decisions on whether to adopt vertical or integrated approaches, as well as developing a sound understanding of an intervention's complexity, as a starting point to finding ways to overcome its specific scale-up constraints (such as human resources) or reaching out to non-state actors as partners in service delivery.

The conceptual framework developed by Uvin (1995) for scaling up development interventions distinguishes between the following four interrelated dimensions:

- **Quantitative** scaling up refers to the increased geographical spread of an intervention to reach more beneficiaries, either through replication in other locations or by increasing the beneficiary base in the same location. This can also be referred to as 'horizontal scaling up' or 'scaling out'. It is the most common use of the term.
- **Functional** scaling up entails expanding the scope of activity. It would involve an intervention or programme with a specific sector or functional focus to add components with other aims, such as a microfinance programme adding on gender and/or health components to provide a more comprehensive package of services to its beneficiaries. Some refer to such scaling up indirectly when considering options to 'overlay' certain services on to existing programmes or implementation platforms.
- **Organisational** scaling up involves the expansion of the implementing organisation, the involvement of other institutions/organisations, or the creation of new ones. A typical example would be the hand-over of an intervention or programme from an NGO to government.
- **Political** scaling up means expansion by influencing political interests and stakeholders, in order to protect programme gains and effect institutional change that enables interventions to be scaled up and sustained.

Given the various types, levels and intensity of VAWG prevention interventions, different dimensions of scaling up may be of relevance. Quantitative scaling up is the aim for all these interventions, but may be the most applicable in this case to public services such as cash transfers. Functional scaling up seems particularly relevant to IMAGE, for example, which was able to gain access to a vulnerable target group and maintain sustained contact for over a year, thanks to its concern with addressing the immediate economic priorities of participants through the underlying microfinance intervention (Kim, Ferrari et al., 2009). Organisational scaling up may be applicable to community mobilisation efforts led by local NGOs and CBOs, while political scaling up would be possible once clear policies are in place, which guarantee comprehensive post-rape services or criminalising domestic violence.

4.2. Approaches to scaling up

If a VAWG prevention intervention is deemed effective, replicable and scalable, various potential approaches could be considered for scaling it up. Hartmann & Linn (2008) present three institutional approaches and three organisational paths for scale-up (see Table 4). These are not mutually exclusive and a successfully scaled up programme is likely to combine elements of these approaches and paths.

The degree of transaction intensity and the degree of discretion influence the best approach to scaling up (Pritchett and Woolcock, 2004). For example, community-based approaches tend to be transaction-intensive and require context-specific information, making them better suited for relational approaches than top-down, hierarchical approaches. On the other hand, services with high transaction costs that do not require much context-specific information can be provided by establishing standardised rules and procedures (e.g. micro-finance, life skills education in schools). Interventions that are not transaction-intensive, but require technically competent decision makers, can rely on hierarchical top-down approaches, such as alcohol taxation (Hartmann and Linn, 2008).

Organisational paths will, similarly, depend on the type of intervention and the capacity and nature of the organisation that piloted it. A contextual model developed by a local CBO is most likely to be expanded through replication by other organisations, rather than by the original CBO with a very specific geographic focus (one or several communities) and accumulated community trust and credibility. Collectivisation for FSWs in India fits this case quite well, where a similar approach was delivered by several NGOs/CBOs (Guinness et al., 2005; Vassall et al., in submission). Akin to the franchise model in the private sector, the Avahan program had a central entity that

designed the intervention, supported and supervised its implementation by various NGOs across India, allowing it to reach several thousand FSWs (Vassall et al., in submission). On the other hand, a microfinance organisation or the public education system, for example, would be able to follow the expansion path and provide gender-equitable norms training to their large client base and their pupils.

The concept of spontaneous diffusion may be particularly relevant for social norm change and/or social diffusion models of VAWG prevention. It could work where a reasonable information and knowledge infrastructure is in place and is most relevant for: basic ideas and technologies, such as mobile phones or information about good practices (Hartmann and Linn, 2008); or where there is a deliberate focus by the intervention on diffusing new attitudes and models of behaviour – such as seen in the SASA! model (according to personal communication with the researchers).

Gericke and colleagues developed a framework to assess intervention complexity to inform scale up (Gericke et al., 2005), which analyses: the intervention's characteristics (including the degree to which it can be standardised and potential risks), characteristics of delivery (including requirements in terms of human resources' skills, facilities, transport and communication); requirements in terms of government capacity (including need for regulation, supervision and collaborative cross-sectoral action); and usage characteristics (including ease of use and pre-existing demand).

Although the framework is tailored to traditional health interventions and the delivery of health technologies, it provides useful elements for consideration in future programming on violence, such as: how adaptable an intervention is, what human resources does it require and are they available in various entry

platforms, what government support does it imply (policies, legal reform/enforcement, cross-sectoral coordination and referral), and how can demand for the intervention be created to optimise its coverage and scale. Such considerations could be factored into

costing evaluations of some of the main projects being evaluated under the 'What Works' programme, to ensure that learning about the potential scalability of interventions can be made, alongside learning about the costs of programmatic inputs.

Table 4. Approaches to scaling up development programmes

Institutional approaches	Hierarchical	Top-down planned programmes, often driven by strong central leadership.
	Individualistic	Bottom-up approach focussed on short-term targets, which can motivate long-term engagement and scaling up, based on the cumulative effect of individual interventions.
	Relational	Aim to promote the accumulation of social capital through decentralisation, participatory methods and empowerment techniques.
Organizational paths	Expansion	Scaling up a pilot within the organisation that developed it.
	Replication	Scaling up by organisations other than the one that developed the pilot (e.g. franchise model).
	Spontaneous diffusion	Involves the spread of practice/ intervention models, largely of their own accord.

Source: Adapted from Hartmann and Linn (2008)

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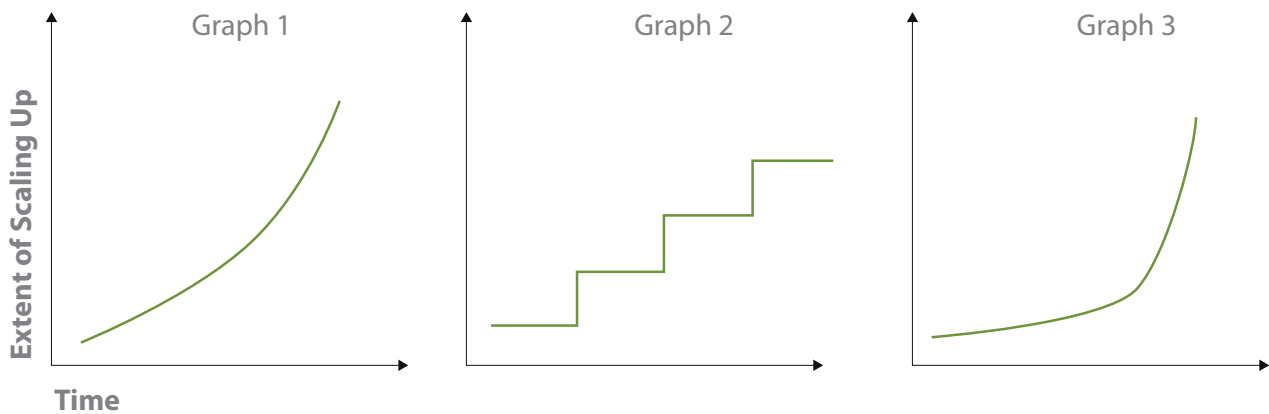
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Figure 9. Scaling up - smooth, stepped and great leap



Source: World Health Organization (2008)

Another useful mental device for thinking about VAWG programme scale up is illustrated in Figure 9 (World Health Organization, 2008). The first graph shows a gradual or smooth scale up process, which means that the organisation or system is able to cope with incremental increases in resources or activities – for example where a television series gains viewers through word-of-mouth. This could happen where excess capacity exists and some programme resources are not being used to their full capacity, allowing for incremental increases in scale without significant investment in additional resources. In the second scenario, there are a series of steps, or bundled increases in resources required to enable scale-up (such as the one-off training of new staff, the construction of a new building, or the provision of training and support to a new NGO), in order to deliver a proven intervention in a new community.

As for the third graph, for the great scale-up leap to be possible, a major block or barrier needs to be surmounted, such as legislation, or the widespread adoption of a new social norm.

4.3. The costs and economics of scaling up

The economic theory and literature on scale up can explain both the expected influence of scale on programme costs, as well as the actual costs associated with the process of scaling up programmes.

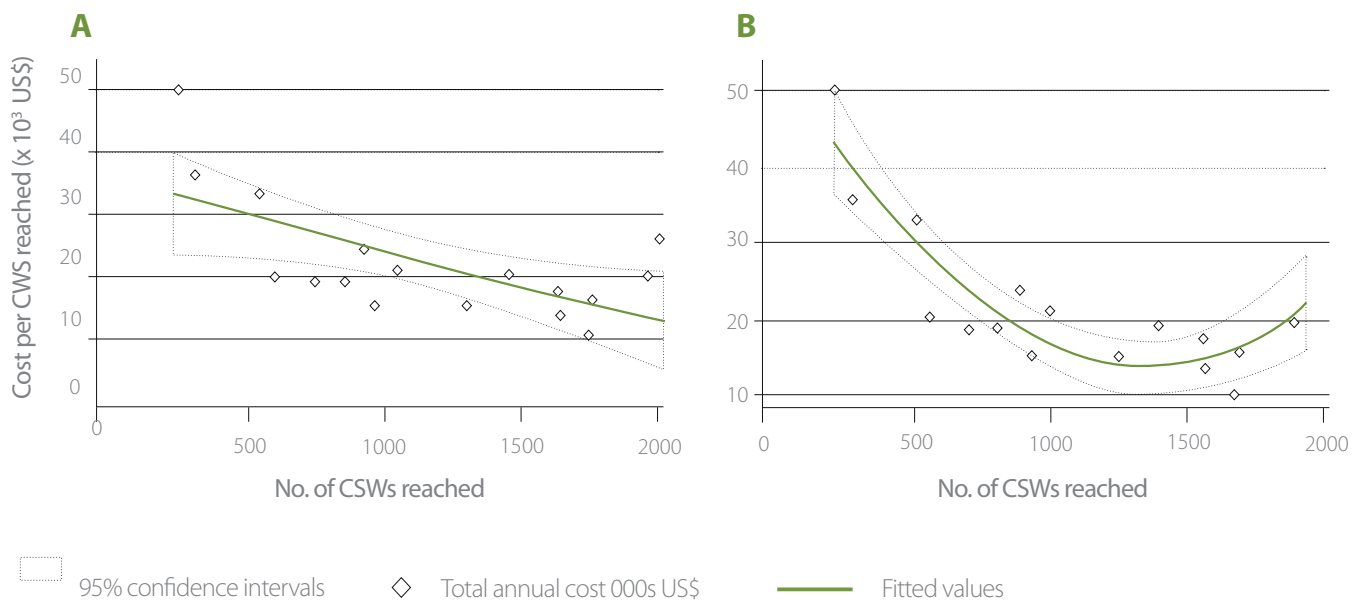
When considering models of scale up, it is important to consider the optimal scale of an intervention in its current form, and the degree to which activities can be sustained with increasing coverage. Commonly, there is an optimal scale at which programmes can operate and above which considerable

adjustments would need to be made to the model (Hartmann and Linn, 2008; Cooley and Kohl, 2005). If so, the costs of such adjustments would need to be factored in to the calculations.

The theory of economies and diseconomies of scale has been confirmed in practice when analysing the cost of HIV prevention interventions that target FSWs in India (Guinness et al., 2005). As can be observed in Figure 10, unit costs do seem to have a

quadratic function: they initially decrease as service outputs increase (or more beneficiaries are reached), but after a certain point, they start increasing again, as it becomes more expensive to reach the additional people. This demonstrates empirically that: there is an optimal scale of operation per NGO; and that beyond this scale, it may be more efficient for another organisation to replicate the intervention.

Figure 10. Fitted regressions: (a) linear and (b) quadratic forms of cost per unit of scale for HIV prevention interventions targeting FSWs



Source: Guinness et al. (2005)

In terms of the cost of intervention scale up, Johns et al. (2005) conducted a review for health interventions and found that although these are specific to the type or intervention and its setting, the following principles could be used as a guide for VAWG programmes, in order to generate the right type of data to inform future scale up (Johns and Torres, 2005):

1. Calculate separate unit costs for urban and rural populations;
2. Identify economies and diseconomies of scale, and separate the fixed and variable cost components;

3. Assess human resource availability and capacity (Vassall and Compernelle, 2006);
4. Include administrative costs, as they can represent a significant proportion of scale-up costs in the short run.

Based on the evidence identified regarding the cost of VAWG programmes, we have tried to analyse the costs with these components in mind (see Table 4).

Most of the VAWG interventions appear to have proportionally large fixed costs, which is an indication that, in principle, they could

become more efficient if delivered at larger scale, provided their quality and effectiveness is not compromised. After considerable start-up costs to develop training curricula and train facilitators, group education and community mobilisation aspects have a low variable cost. However, there will be a point at which one facilitator cannot train any additional beneficiaries or when new training materials need to be printed, requiring a stepped-up bundle of resources to expand the services. Nonetheless, the initial sunken investment in training development should not be required anymore, unless the materials need to be substantially adapted to new settings.

The multimedia campaign model, including Programme H's 'lifestyle campaign', are almost, by definition, largely composed of fixed costs. The few variable cost elements may be for print media that would need additional copies for every additional person reached. Moreover, if client costs had been considered in these cost analyses, they may have found variable costs that clients incur in order to have access to the different media, such as the purchase of a TV or radio set, the electricity/batteries and TV licence, and the time cost of watching/listening/reading the materials. When focusing only on provider costs, it is clear that the larger the coverage, the lower the unit cost is likely to be, which highlights the need for strong demand creation and advertising to increase the efficiency of such programs. Longer exposure may also be important to optimise meaningful behaviour change (Wakefield, Loken and Hornik, 2010).

Community mobilisation lies somewhere in between, in that most of the costs are fixed costs for running CBOs and conducting outreach, while the target population can be reached at a larger scale than small group education session, providing the opportunity to reap some economies of scale.

Health sector interventions in response to VAWG, such as these post-rape services, are likely to be most efficient when integrated into existing health care infrastructure and services, thereby realising economies of scope. This was the case with the Thutuzela programme, which remains relatively costly, but has proportionately lower fixed costs, likely as a result of shared overheads and joint resources provided by its integration in a secondary level hospital. While stand-alone OSCs have many positive benefits for survivors, they may not provide the most feasible or efficient approach to providing such services, particularly in areas with a low prevalence of violence or a low population density (UN Women, 2012). Integration of services through referrals may be more efficient.

Table 5. Summary of fixed and variable costs in the unit costs of VAWG interventions identified

Intervention	Unit Cost	Fixed Cost				Variable Costs		
		Capital - building, equipment (%)	Capital - training (%)	Capital - admin/other (%)	Recurrent - staff (%)	Recurrent -other (%)	Staff (%)	Supplies and other (%)
Training/education sessions								
IMAGE: Gender and HIV training add-on to microfinance								
Trial	US\$ 43/participant	1	83			15		1.5
Scale-up	US\$ 18/participant	7	93	0	0	0		0
Promundo: Gender-transformative peer education for men								
Group education + 'lifestyle' social marketing campaign	US\$ 161/participant/site		6		21		33	18
Interactive group education sessions for young men	US\$ 108/participant/site		10		2.9			32
Community mobilisation								
Avahan: Collectivisation activities for FSWs								
Belgaum district	US\$ 19/person reached at least once a year	54.2			18.3			27.5
Bellary district	US\$ 21/person reached at least once a year	46.0			16.5			37.5
SASA!: Community mobilisation								
Intervention	US\$ 394/activist/year	2.1	0.2	1.0	43.7		47.0	5.4
Mass media								
Soul City: 'Edutainment'								
Multimedia campaign	US\$ 5.3 million			13.1			87	

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Intervention	Unit Cost	Fixed Cost					Variable Costs		
		Capital - building, equipment (%)	Capital - training (%)	Capital - admin/ other (%)	Recurrent - staff (%)	Recurrent - other (%)	Staff (%)	Supplies and other (%)	
Post-rape services									
Refentse: Integrated post-rape health care package									
Including facility and patient-level costs	US\$ 220 per patient	7	33		35	22		3	
Excluding once-off development costs	US\$ 64 per patient	20.5				69.5		11.2	
South Africa: Post-rape services									
Thutuzela program	US\$ 1,169 per survivor		0.2	1.6	24.9	3.1	16.6	53.6	
Thohoyandou program	US\$ 488 per survivor	1.5	0.4		64.9	7.2	10.7	15.3	
Kenya: Integrated post-rape care services									
Three districts in Kenya	US\$ 31 per patient			16			23	61	

The IMAGE costing presents a clear case of economies of scale that were realised as the intervention started a quantitative scale up, going from an initial 855 client base to 2,598, thereby spreading fixed resources over more outputs and bringing unit costs down from about US\$ 43 to US\$ 13 (in 2004 USD) - see Table 2. Personnel and consultancy costs were the largest cost category in both phases, i.e. 77 per cent for the trial training cost, 95 per cent for the cost of developing training materials, and 81 per cent for scale-up training costs. This underscores the importance of assessing the availability of human resources when planning to scale up such an intervention, either by using existing staff in the implementing organisation who are underutilised (excess capacity), or by recruiting new staff. If the intervention does not require high-skilled

labour, then it may be less challenging to recruit additional facilitators in rural communities with more social capital and possibly lower expectations of remuneration, than facilitators based in urban settings, for example. This may be particularly important if existing Sisters for Life intervention staff would need to be trained during scale up, as the underlying assumption that they have additional time to allocate to such activities would need to be validated. During the scale-up of IMAGE, this did in fact emerge as a problem (Hargreaves et al., 2011). The IMAGE intervention has now been scaled up further. Based upon our preliminary discussions with other donors, it is likely that a further economic analysis will be conducted. The findings of this research will provide important new information on how costs increase with scale.

Table 6. IMAGE trial and scale-up costs

	Trial	Scale-up
Fixed costs (2004 US\$)		
Buildings	110	110
Equipment	115	115
Vehicles	150	3,281
Development costs		
Training - trial	26,707	26,707
Manuals	3,254	3,254
Training - scale up ^a		13,520
Variable costs (2004 US\$)		
Operational staff ^b	5,429	
Supplies ^a	52	
Transport ^a	425	
Vehicle operating and maintenance ^a	37	
Building operating and maintenance ^a	32	
Total costs (2004 US\$)	36,706	33,467
Per capita cost (2004 US\$)	42,93	12,88
Baseline risk of IPV in previous 12 months (%)	11	11
Relative risk reduction (effect estimate from trial) (%)	55	55
Absolute risk reduction (%)	6,05	6,05
Cost per woman with an IPV-free year gained	710	213
DALY/woman experiencing IPV past 12 months	0,0923	0,0923
Cost per DALY averted (2004 US\$)	7,688	2,307

^aThese costs are fixed in the scale up phase. ^bThese were costs were incurred when establishing the operations (as opposed to the development and training) and incurred only in the trial phase.

Source: Adapted from Jan et al. (2011)

Table 7. VAWG intervention models and evidence related to their potential scale up

Model of intervention	Cost of evidence	Forms of inputs required	Potential economies of scale and/or scope	Potential scale up approach
Group-based education models	Start-up costs to design training materials are proportionally significant	Specialised labour (expert consultants) to initially design training materials and possibly adapt them to new settings Ongoing supervision required from local systems/ structures	Considerable potential for economies of scale	Quantitative scale-up through replication Functional scale-up by overlaying these activities on large-scale programs
Community-focussed models	Materials and activities could reach many beneficiaries, but it is difficult to assess coverage/ scale	Volunteers required from the communities to conduct activities and facilitate model diffusion Ongoing supervision required from local systems/ structures	Considerable potential for economies of scale	Relational scale-up Organisational replication Spontaneous diffusion
Local system-based models	Range of labour costs, depending on level of task-shifting and facility-based or community-based provision	High-skilled health personnel or lower cadre personnel with more intensive supervision	Considerable potential for economies of scale and scope	Hierarchical functional scale-up of health system interventions
Overlaying gender/ violence prevention components	Start-up costs to design training materials are proportionally significant	Excess staff capacity required in large-scale programmes to be trained to provide additional (training, screening) components Ongoing supervision required from local systems/ structures	Large potential for economies of scale and scope	Hierarchical functional scale-up
Media/social norms based models	Large fixed costs Marketing/ advertising important to optimise reach	Experts to develop messages and write screenplays, conduct marketing/ advertising research and delivery	Large potential economies of scale	Quantitative or organisational expansion scale-up
Structural systems level	Not available	Not available	Large potential economies of scale	Hierarchical political scale-up

5. Platforms for VAWG programme functional scale up

Given how common and pervasive VAWG is globally and in all societies, it is best addressed through a multi-sectoral approach whereby various platforms and service delivery points are leveraged to expand effective prevention interventions and transform norms at all levels (World Health Organization and London School of Hygiene and Tropical Medicine, 2013; Heise, 2011). In this section, we explore the most feasible entry platforms through which the identified interventions could be added and thus functionally scaled up. Approaches that intervene at the macro level are more likely to achieve widespread coverage, followed by community level and group-based interventions, which tend to target the structural determinants of violence.

5.1 Schools and life skills programs

Reaching hundreds of millions of children around the world, primary and secondary schools are a major entry point for group education programmes aimed at changing social norms relating to violence and increasing girls' self-efficacy. Such interventions (with the broader objective of transforming gender norms and relationships) are already being implemented as part of in-school life skills and sexual education classes. In sub-Saharan Africa, the gender lens has often been brought in together with the HIV lens (Cornman and Spratt, 2011). In Latin America, Programme H, and its female-focussed incarnation, Programme M, have used schools as delivery platforms to provide educational sessions and youth-led campaigns, often in a context where schools were not willing or able to address sexuality education, gender and violence. Whole of school approaches appear to show the most promise and whilst few robust experimental studies exist on the 'whole school approach', evaluations have identified some

key findings and examples of good practice, including the importance of:

- Having clear policies in place to address violence in schools;
- Promoting training and open discussion among school staff and management; and
- Basing work on grounded, context-specific research (particularly qualitative studies) and involving young people in this research (where possible).

5.2 Poverty alleviation programmes

5.2.1 Cash transfers

Cash transfer programmes are currently estimated to be reaching between 750 million and 1 billion people globally (UK Department for International Development, 2011). Although initially piloted and evaluated in Latin America, 37 African countries now have national social protection schemes or are testing pilot transfer schemes. Moreover, China, India and Indonesia also have large scale programmes in operation, reaching millions of vulnerable households. Tweaking these programmes to optimise their impact on VAWG would be an efficient approach to further increase their large scale impact. Depending on the context, this could entail specifying the sex of the household member that who receives the cash, finding ways to target women with the lowest gender-equitable norms (as the impact on violence has been found to be most significant amongst them (Hidrobo, 2014), or designing any conditionalities with violence prevention in mind.

5.2.2 Microfinance

Microfinance is increasingly viewed as an entry point for providing an array of services and achieving multi-dimensional development objectives, including poverty reduction and better health. With an impressive record of loan repayment rates in excess of 95 per cent,

microfinance has emerged as a financially viable mechanism for expanding access to much-needed financial capital. Given their target groups and means of operation, microfinance services represent a largely untapped opportunity to provide beneficiaries with additional services, in order to optimise health-related positive externalities (Pronyk, Hargreaves and Morduch, 2007). Over the past three decades, microfinance has provided millions of poor households with the financial boost they needed to start a business and pull themselves out of the poverty trap. After its large-scale success in Asia and Latin America, microfinance has reached sub-Saharan Africa, where less than 10 per cent of the 300 million economically active population has access to some kind of formal financial services. Home-grown financial services have been filling this gap, in the form of moneylenders, community savings groups and credit unions. More structured and flexible microfinance institutions are now being established and offer more diverse and sophisticated financial products to the poor (CARE, 2009). In 2010, nearly 500 microfinance institutions reported providing services to over 8 million people in sub-Saharan Africa, for example.⁴ And since not all institutions report on their activities, this is likely to be an underestimate. Nevertheless, coverage remains limited at about 1.5 per cent of the adult population (Vassall, Remme and Watts, 2012).

With its explicit and strategic targeting of women, microfinance has been a powerful means for deeper social transformation, as it appears to have contributed to women's empowerment, exemplified by increased reported self-confidence and independence (CARE, 2009). However, due to prevailing gender norms and inequalities, some have pointed to the risk of increased IPV towards female microfinance beneficiaries by men who feel challenged as the household provider, based on their norms of masculinity (Ahmed, 2008; Heise, 2011).

Microfinance alone cannot be the panacea for the complex process and transformation required for women's empowerment and gender equality, but it can serve as a critical ingredient. Adding a gender-focused training component to the financial dimension of microfinance could catalyse broader empowerment benefits, while diminishing the risk of gender-related conflict (Kim et al., 2007).

5.2.3 Livelihood programs that target both men and women

In much of sub-Saharan Africa, South Asia and Latin America, agriculture represents a major economic sector and the basis of rural livelihoods. Migration, urbanisation, conflict and the HIV epidemic have led to increasing feminisation of agriculture in certain countries. Low yields and high food prices over the past few years have further exacerbated food security and left millions of people undernourished (FAO, 2010). Limited access to improved agriculture technologies, inputs, credit and extension are key barriers to improved productivity (Denning et al., 2009). Agricultural extension and advisory services have a critical role to play in transferring technological knowledge, stimulating adoption of improved practices and enabling farmers to become fully embedded in the agriculture knowledge system. Several governments and NGOs are implementing agricultural livelihood programmes, in order to provide skills and start-up inputs for poor households, to enable them to exit the poverty trap.

One example is the Farmer Field School (FFS), an innovative, participatory and interactive extension model that was initiated in Asia and subsequently replicated across the world. Its objective is to build farmers' capacity to analyse their production systems, identify problems, test solutions and eventually adapt the practices most suitable to their farming system (Braun et al., 2006). A typical FFS consists of 9 to 12 half-day

⁴The MIX MARKET™ is a global, web-based microfinance information platform that was launched by the UN Conference on Trade and Development and expanded by the Consultative Group to Assist the Poor (CGAP).

sessions of hands-on farmer experimentation and non-formal training to a group of 20-25 farmers during a single crop-growing season (Anandajayasekeram, Davis and Workneh, 2007). The approach has been used with a wide range of crops and has been expanded to include topics such as livestock, community forestry, water conservation, soil fertility management, food security, nutrition, health, HIV and gender. Such a training programme provides an entry point to reach men and women with gender group education sessions and to address norms that condone VAWG.

5.3 Maternal and child health and sexual and reproductive health services

Maternal and child health services, and sexual and reproductive health services could be valuable platforms by which to reach women of reproductive age and in relationships. Globally, from 2000-2008, 78 per cent of pregnant women had at least one antenatal visit (but fewer than half received the recommended four visits). Nonetheless, in low-income countries, 39 per cent of pregnant women received four or more antenatal visits during the same period (World Health Organization 2013), which represents a sizeable group that could be reached during a particularly vulnerable time in terms of IPV (Devries et al., 2010). Moreover, contraceptive prevalence in the developing world (excluding China) was 54 per cent in 2010 (31 per cent in Africa, 67 per cent in Asia, 73 per cent in Latin America and the Caribbean) (Alkema et al., 2013), suggesting that a considerable proportion of sexually active women are accessing such services through a health service delivery point. These service points, which women access on a regular basis, could be tapped to provide information on domestic conflict and violence prevention.

5.4 Community mobilisation

Communities and community-based organisations play a key role in providing services to community

members and in shaping norms. The importance of community mobilisation in achieving health and development objectives has been highlighted by the global HIV response (Rodriguez-García et al., 2013). Despite low levels of funding (between US\$ 15,000 and US\$ 17,000 per CBO in Kenya and Nigeria), community mobilisation has relied on volunteers and been able to achieve significant impact on HIV-related knowledge and behaviour, health service uptake and even HIV incidence (Rodriguez-García et al., 2013). Such community-based HIV interventions have already been used as platforms to functionally expand VAWG prevention programmes, such as the model from India, integrating violence prevention in the collectivisation and empowerment intervention for FSWs. Beyond HIV, community organisations could serve as invaluable resources to replicate effective VAWG prevention models that do not require specialised labour and benefit from volunteers that are embedded in communities and can translate group education models into locally-relevant content, as was the case with SASA! (Abramsky, Devries, Kiss, Francisco, Nakuti, Musuya, Kyegombe, Starmann, Kaye, Michau et al., 2012).

5.5 Workplace programmes

Although formal sector employment remains limited in many low-income countries - and even in certain middle-income countries - millions of men and women could potentially be reached with low-cost incremental VAWG prevention programme components, delivered through small group education in workplaces. Programme H, for example, has targeted workplace programmes in Brazil to expand its reach (according to personal communication). This is particularly worth considering in order to reach more men, who generally have lower health-seeking behaviour and are less involved in community-based organisations (Galdas, Cheater and Marshall, 2005).

5.6 Mass media

In 2012, 72 per cent of the population in the developing world owned a television and therefore reached more people than other ICT services (International Telecommunication Union, 2013). In SSA, radio ownership ranged from 12 per cent in Cameroon to 46 per cent in Sudan (Myers, 2008). These are important media to harness when aiming to reach individuals at scale and transform macro-social norms relating to gender and VAWG. Households that own television sets may differ from those that own radios (as suggested by the Soul City evaluation (Muirhead, Kumaranayake and C. n.d; Goldstein et al., 2005)), hence the importance of multimedia campaign strategies to optimise targeting efficiency (Bautista-Arredondo et al., 2008). That being said, despite the potential to reach high rates of population coverage, sufficient investment is required for advertising in order to create the initial demand for the programmes and sustain it, as was done with Soul City's television series.

5.7 Policies and legal reform

Promoting policy change and legal reform has been central in the response to VAWG, through advocacy at various levels, as well capacity building of various stakeholders, in order to ensure that, where they exist, legal instruments are used to protect women and prevent violence through deterrence (Heise, 2011). New policies and legal reform can be vital catalysts to enable the scale-up of certain interventions or uptake of messages that were previously counteracted or weakened by prevailing laws and policies, such as the legal provision for marital rape (which was not considered as rape in many countries) (Andinkrah, 2011).

Similarly, macro-level economic policies can be effective at preventing VAWG indirectly, by interrupting certain pathways that lead to violence, such as hazardous alcohol use

among men, which has been found to be associated with the perpetration of IPV and the victimisation of women (WHO and London School of Hygiene and Tropical Medicine, 2010). Regulating financial accessibility to alcohol through taxation is the most effective, yet least popular, policy intervention (Chisholm et al., 2004; WHO, 2005). Such interventions are challenging to implement, due to the preponderance of homemade alcohol and resistance from the beverage industry. However, global analyses have established that taxation is the most cost-effective intervention to prevent hazardous alcohol use in populations with moderate to high levels of drinking (Chisholm et al., 2004). With price elastic demand and a very low incremental cost, increased taxation of alcohol could be used as a national-level intervention to prevent VAWG, in addition to several other negative externalities of hazardous drinking (e.g. traffic accidents, sexually transmitted diseases, etc.) (Vassall, Remme and Watts, 2012).

6. Recommendations

The following recommendations arise from this review:

IMPROVE UNDERSTANDING OF THE PATHWAYS TO INTERVENTION IMPACT

There is a need to better understand more about the pathways to intervention impact, as this could help inform the current understanding of key programmatic elements to scale up (see Paper 1 in this series). Simplified models of intervention that have rationalised their components to only include the most effective elements are likely to be more adaptable and replicable, and also more efficient to scale up. Related to this, it would be important to determine what design tweaks could be made to existing large scale interventions that do not have an explicit violence prevention objective, such as cash transfers, in order to optimise their impact on VAWG.

EVALUATE NEW MODELS AND EXISTING MODELS

Grants should consider both and evaluation of new models of intervention and also the replication of existing models, as this will both add to the weight of the current evidence and provide insight into the generalisability of findings across settings.

INVEST IN UNDERSTANDING WHAT DIFFERENT INTERVENTION MODELS COST, AND HOW THESE CHANGE WITH SCALE

Cases for the expansion of VAWG programming would be enhanced by a greater understanding both about what different intervention models cost, and how these change with scale. As described above, we would hypothesise that different models of intervention delivery will have different cost structures, and so have very different changes

in unit costs as programmes are scaled up. Potential opportunities to cost interventions at scale, and where feasible, econometric analyses could be used to understand more the underlying cost structures of different models of intervention. Where projects have not already begun, there may be potential to add IPV-related questions into routine data collection on projects that are not already collecting these data. Where implementation has already begun, opportunities for adding IPV related data collection into end-line or follow-up data collection may be explored. Costing of these projects may then provide a rich set of unit costs for IPV related outcomes, which could be analysed, in order to obtain insight into: the range of unit costs for similar types of programmes, how unit costs vary with scale, and potential for change in unit costs as projects are scaled up.

DOCUMENT MULTIPLE HUMAN RIGHTS, SOCIAL, HEALTH AND ECONOMIC OUTCOMES OF PREVENTION PROGRAMMES

Assessing the value for money of VAWG prevention programmes would be best served by documenting multiple human rights, social, health and economic outcomes of these programmes, in order to make the case for their prioritisation, scale up and possible co-financing.

STANDARDISE VAWG OUTCOMES

There is an urgent need for standardised VAWG outcomes to be considered and used to translate outcomes into society's or policymakers' willingness to pay for such benefits. The first step, which is an ongoing effort, would be to estimate how many DALYs would be averted from a year free of violence. This would allow for violence interventions to at least be considered alongside health interventions. However, the next step would be

to explore methods of estimating society and decision makers' willingness to pay for a year-free of violence, based on the range of direct and indirect benefits across sectors.

CONSIDER THE POTENTIAL COST AND SCALABILITY OF MODELS WHEN DECIDING WHAT TO EVALUATE

When prioritising interventions to be evaluated, consideration should be given to the potential cost and scalability of the model under evaluation. In terms of research investment, alongside consideration of the potential validity and plausibility of impact of the intervention model, priority should be given to intervention models that, by their very nature, have the potential to reach large numbers of people, and /or have greater potential for scale-up.

EVALUATE INTERVENTIONS EMBEDDED IN STRUCTURES THAT ALLOW LARGE SCALE DELIVERY

There are a number of important entry platforms that provide opportunities for large scale delivery of violence prevention programming. Evaluate interventions that are embedded within these structures across different sectors, as this may provide the greatest opportunities for future scale up of effective interventions.

CONSIDER OPPORTUNITIES TO COST EXISTING PROGRAMMES

Given the limited evidence base on the cost of VAWG prevention programmes, large research grants should consider opportunities to cost existing programmes. Priority should be given to intervention models that have been implemented in multiple settings and/or at scale, to help inform future resource projections. Moreover, intervention trials should include costing components and economic evaluations. These would be most useful to the violence field, if they used the standardised

guidelines that are under development, for the sake of comparability and building a critical mass of economic evidence. It is recommended that such costing analyses collect, analyse and present economic costs from a societal perspective, as well as separate fixed costs and variable costs, as a starting point for analysing potential economies of scale and scope.

SUPPORT OPERATIONAL RESEARCH

It is important that research programmes support operational research that can help provide insight into ways to ensure that violence prevention can be delivered at low cost (e.g. by the use of new technologies, by comparing short versus longer training programmes, etc.) and that include diffusion components along with core training activities.

LINK INTERVENTION COSTING WORK WITH STUDIES ON THE ECONOMIC AND SOCIAL COSTS OF VIOLENCE

The evidence generated will provide critical input into societal cost-benefit analyses that seek to incorporate intervention costs and cost savings in the cost-benefit equation.

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